

Appendix AOC11

Soil HHERA for AOC 11 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC11 SOIL HHERA FOR AOC 11 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular areas, creating a complex, angular form that extends from the bottom edge towards the top right corner.

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ACRONYMS AND ABBREVIATIONS

µg/dL	microgram per deciliter
µg/kg	microgram per kilogram
AOC	Area of Concern
Arcadis	Arcadis U.S., Inc.
As	arsenic
B(a)PEQ	benzo(a)pyrene equivalent
BAF	bioaccumulation factor
BTAG	Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
BTV	background threshold value
CDI	chronic daily intake
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CrVI	hexavalent chromium
CSM	conceptual site model
DDE	dichlorodiphenyldichloroethylene
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EcoSSL	Ecological Soil Screening level
EPC	exposure point concentration
ERA	ecological risk assessment
FOD	frequency of detection
ft bgs	feet below ground surface
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
I-40	Interstate 40

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ILCR	incremental lifetime cancer risk
KM	Kaplan-Meier
LMW	low molecular weight
LOAEL	lowest observed adverse effects level
LOE	line of evidence
mg/kg	milligram per kilogram
mg/kg bw-day	mg/kg body weight per day
NA	not applicable
NOAEL	no observed adverse effects level
OCS	outside the compressor station
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas & Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
RFI/RI	Resource Conservation and Recovery Act Facility Investigation/ Remedial Investigation
SUF	site use factor
SWMU	Solid Waste Management Unit
T&E	threatened and endangered
TCDD	tetrachlorodibenzo-p-dioxin
TCS	Topock Compressor Station
TEQ	toxicity equivalent
TEQ human	dioxin toxicity equivalent for humans
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	Undesignated Area
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

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WOE	weight-of-evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern 11 (AOC 11) potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 11 potential exposure area, shown on Figure AOC11-1.1, is approximately 5.8 acres in total and includes sample locations shown in Table AOC11-1.1 of this appendix. Available soil data from the AOC 11 potential exposure area were used to conduct a quantitative HHERA as presented herein. A summary of the human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are presented in Sections 5 and 6, respectively of the Soil Human Health and Ecological Risk Assessment Report (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the AOC 11 potential exposure area and the HHERA methodologies are provided in the main report and the Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and the results of the HHERA risk characterization for soil in the AOC 11 potential exposure area. Tables and figures specific to the HHERA for the AOC 11 potential exposure area are also presented in this appendix.

1.1 Summary of Site Use

AOC 11, also referred to as the Topographic Low Areas. Low areas 11a, 11b, 11c, and 11d are located on Havasu National Wildlife Refuge property and one low topographic area (AOC11e) is on Pacific Gas & Electric Company (PG&E) property. The primary source of contamination to AOC 11 is runoff from surrounding areas.

Multiple storm drains discharge to this area, and several former TCS storm drains are believed to have discharged to this area in the past. In addition, portions of AOC 11 receive discharge from the station access road. An employee reported that a burn area formerly existed in the southern portion of this AOC near the station access road. AOC 11 also includes the topographic low area (AOC11e) is north of the plant access road near the Old Route 66 sign. This area receives run-off from the access road. A stormwater pipe that captures runoff from Interstate 40 (I-40) and National Trails Highway also discharges into AOC 11 north of AOC 11a immediately south of the I-40 overcrossing. Stormwater runoff from I-40 could have resulted in the release of total petroleum hydrocarbons (TPHs) and metals to this area (CH2M 2013).

The primary source of contamination to AOC 11 is runoff from the TCS, the access road to the TCS, potential railroad debris below the station access road (asphalt, a metal sign, refractory bricks, ceramic plates, glass resistors, and concrete were observed during 2008 field activities), the Transwestern Meter Station area, and I-40. Additionally, stormwater runoff from the TCS could have entered the stormwater drains that discharge to AOC 11.

If released, volatile organic compounds (VOCs) in surface soils would be expected to have been degraded by heat and light and are likely not present in significant quantities. Potential sources of dioxins and furans in the

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vicinity of the TCS may include historical industrial activities as well as other sources unrelated to TCS activities (i.e., unauthorized dumping and burning; regional wildfires; combustion of diesel and leaded gas; and exhaust from cars, trucks, and trains) (CH2M 2017a).

As a result of employee interviews conducted in late 2009/early 2010 and subsequent additional site reconnaissance, two new topographic low areas, a potential burn area, and a small new white powder area were identified.

- Two new topographic low areas that may receive runoff from the TCS were identified. Subarea 11f consists of the drainage area beginning near the current decontamination pad and Transwestern Meter Station and extending downslope to the low area across from AOC 11b. It captures a portion of runoff originating from the TCS that flows down the TCS access road. The other topographic low area (Subarea 11g) is located between the TCS access road and the Colorado River west of the Route 66 sign. This area may have also received runoff from the access road.
- According to interviews with former PG&E employees, fire training exercises were conducted near the location of the current decontamination pad and Transwestern Meter Station and involved burning primarily scrap wood. Fire drills were also held and reportedly expanded to include extinguishing diesel fires in a 55-gallon drum. This potential burn area is located in the potential drainage area for Subarea 11f.
- A small new white powder area was identified upslope of AOC 11e following the January 2010 rain event. Located on the steep slope below the northeastern portion of the compressor station, this area is not accessible by equipment. This white powder may represent a native mineral evaporite deposit. The white powder is no longer present.

The primary source medium for AOC 11 is surface soil. From surface soil, contaminants could have migrated to shallow and deeper soils. Shallow soils may act as a secondary source medium to subsurface soil, and subsurface soil may act as a secondary source medium to groundwater.

After storm events, water pools in AOC 11a (the largest topographic low area) and does not readily infiltrate. Historically, water may have also pooled behind the two check berms in AOC 11c and AOC 11e; while these structures have been breached and no longer retain water, accumulated fine-grained soils are present behind the berm at AOC 11c. Laterally, contaminants in soil would generally be expected to be limited to the area along the topographic drainages. With the exception of subarea 11g, all of the low points within this unit are terminal low points, and flow cannot exit AOC 11. At these low points, contaminants could potentially be driven deeper and potentially could reach groundwater.

Runoff down the station access road periodically reaches Subarea 11g. It is possible some flow during extreme storm events may result in runoff over the 11g bank and down the slope toward the Colorado River. However, there would be minimal contribution from the station to run-off flow under these extreme storm conditions.

Another potential source of contamination to AOC 11 may also include contaminated windblown dust. Contaminated surface soil (either within AOC 11 or from the adjacent TCS) may have been eroded by wind and deposited at the ground surface within AOC 11.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 11 potential exposure area HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 11 potential exposure area.

All soil sampling locations at the AOC 11 potential exposure area are presented on Figure AOC11-1.1 and in Table AOC11-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Draft Resource Conservation and Recovery Act Facility Investigation/ Remedial Investigation (RFI/RI) Report Volume 3 (currently being prepared by Jacobs).

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. All available soil data for the AOC 11 potential exposure area are presented in Attachment AOC11-A1. For the AOC 11 potential exposure area, soil data are available from 193 samples, of which soil data from 179 samples from 0 to 10 feet below ground surface (ft bgs) were considered for use in the HHERA. Because potential soil contact does not extend below 10 ft bgs, deeper soil data (i.e., greater than 10 ft bgs) from 14 samples were excluded from the HHERA, as noted in Table AOC11-1.1.

Within this dataset, one polycyclic aromatic hydrocarbon (PAH) sample did not meet data quality criteria; therefore, nondetect results were rejected with an “R” data qualifier (will be discussed in the forthcoming Draft RFI/RI Report [currently being prepared by Jacobs]). This occurred for all PAHs in one sample (AOC11e-6-6172). Additionally, 1,2,3,7,8-pentachlorodibenzofuran results were rejected in one sample (SD-11-02).

Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] PAHs, benzo(a)pyrene equivalent [B(a)PEQ], polychlorinated biphenyls [PCBs], and dioxin/furan toxicity equivalents [TEQ]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 11 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 11 potential exposure area) presented in Attachment AOC11-A1. Inorganic compounds, LMW PAHs, HMW PAHs, B(a)PEQ, and dioxin TEQ were above background levels in AOC 11 potential exposure area soil (0 to 10 ft bgs), and therefore, are included as COPCs and/or COPECs in the baseline exposure depths evaluated in the HHERA. When B(a)PEQ was detected above the background level, carcinogenic PAHs (i.e., benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, and indeno(1,2,3-cd)pyrene) associated with B(a)PEQ are also selected as COPCs in the HHERA for the evaluation of the noncancer endpoint for each individual PAH. All other detected organic constituents in AOC 11 potential exposure area soil in the baseline exposure depths are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios evaluated in the HHERA for the AOC 11 potential exposure area are summarized in Tables AOC11-2.1a through AOC11-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 11 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 11 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC11-A2. The summary statistics for these AOC 11 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP documents, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to potential ecological receptors (i.e., hazard quotient [HQ] > 1 for any COPEC). For the AOC 11 potential exposure area, area-weighted EPCs were deemed necessary for either the HHRA or the ERA, and therefore, were calculated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC11-A3.

In some cases, the area-weighted EPCs are greater than the depth-weighted EPCs in the AOC 11 potential exposure area, such as for hexavalent chromium, total chromium, and lead in surface soil. In these cases, the depth-weighted EPCs are based on an upper confidence limit (UCL) method, Land's H-statistic UCL (Land 1975) that can produce unstable results. Depending on the underlying data distribution, Land's H-statistic UCL values can overestimate or underestimate the true expected UCL value (United States Environmental Protection Agency [USEPA] 2015). The UCL method used to calculate the area-weighted EPC (bias-corrected and accelerated (i.e., BCA) bootstrap interval is resistant to such effects and provides a more reliable estimate of the UCL. This issue is discussed in further detail in Section 5.6.3.4 of the main report.

If the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset.

Soil summary statistics for constituents measured at the AOC 11¹ potential exposure area and depth- and area-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the four exposure depths listed above are presented in Table AOC11-3.1. These tables also present the basis of the calculated depth- and area-weighted EPCs, including if the EPC is based on the maximum detected concentration.

¹ The list of constituents shown in the main report Section 3 tables is based on analytes that were detected at least once at the site (including all potential exposure areas inside or outside the TCS) and measured at AOC 11.

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 11 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the AOC 11 potential exposure area are presented in Attachment AOC11-B.

Risks/hazards estimated for an individual AOC/Solid Waste Management Unit (SWMU)/Undesignated Area (UA) potential exposure area like AOC 11 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risk/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in AOC 11 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the AOC 11 potential exposure area. The potential receptors and exposure pathways evaluated for the AOC 11 potential exposure area included:

- **Short- and Long-Term Maintenance Worker** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Recreational User (child and/or adult campers, hikers, hunters, and off-highway vehicle [OHV] riders)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal User** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 11 potential exposure area were selected in accordance with the RAWP documents (Arcadis 2008, 2009, 2015) and as described in Section 3.4 of the main report. The COPC selection process using soil data encompassing all relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for the AOC 11 potential exposure area) are presented in Attachment AOC11-A. COPCs for the four exposure depths and one scenario (baseline) evaluated for the HHRA for the AOC 11 potential exposure area are summarized in Table AOC11-4.1 (details are presented in Tables AOC11-2.1a through AOC11-2.1d).

COPCs included metals (arsenic, hexavalent chromium, total chromium, copper, lead, mercury, and zinc), one VOC (methyl acetate), PAHs, pesticides (4,4-dichlorodiphenyldichloroethylene [DDE], alpha-chlordane, dieldrin, and gamma-chlordane), PCBs, TPH as diesel, TPH as motor oil, and dioxin TEQ in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC11-A. Depth- and area-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables AOC11-4.2a through AOC11-4.2h and Tables AOC11-4.3a through AOC11-4.3f, respectively, for the four exposure depths evaluated.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Worker** – surface, shallow, subsurface I, and subsurface II soil
- **Recreational User (child and/or adult campers, hikers, hunters, and OHV riders)** – surface and shallow soil
- **Tribal User** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values using depth-weighted EPCs are presented in Tables AOC11-B1.1a through AOC11-B1.1g (carcinogenic effects) and Tables AOC11-B1.2a through AOC11-B1.2g (noncarcinogenic effects) in Attachment AOC11-B1 for the potential receptors evaluated. The calculated EC and CDI values using area-weighted EPCs are presented in Tables AOC11-B2.1a through AOC11-B2.1d (carcinogenic effects) and Tables AOC11-B2.2a through AOC11-B2.2d (noncarcinogenic effects) in Attachment AOC11-B2 for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to the California Department of Substance Control (DTSC) 2015 guidance. Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the AOC 11 potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC's point of departure for risk management decision of 1×10^{-6} . Risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (USEPA 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC11-4.4 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the AOC 11 potential exposure area, calculated using depth-weighted EPCs. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC11-B1.3a through AOC11-B1.3g) and noncancer hazard calculations (Tables AOC11-B1.4a through AOC11-B1.4g) are presented in Attachment AOC11-B1.

Risk and hazard estimates for the AOC 11 potential exposure area are summarized in the tables and discussed below. Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated cumulative ILCRs and/or HIs for each receptor potentially exposed to COPCs in soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively, for the short-term maintenance worker, hunter, and tribal user. Risk estimates for potential soil contact limited to the AOC 11 potential exposure area for lifetime exposure are above *de minimis* levels but within the acceptable risk

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management range for the long-term maintenance worker and certain recreational users (campers, hikers, and OHV riders).

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	8E-07	NA	0.1	NA
	Shallow	8E-07	NA	0.1	NA
	Subsurface I	1E-06	NA	0.1	NA
	Subsurface II	8E-07	NA	0.1	NA
Long-Term Maintenance Worker	Surface	8E-06	As (5E-06) CrVI (5E-07) TEQ human (2E-06)	0.4	NA
	Shallow	8E-06	As (5E-06) CrVI (5E-07) TEQ human (2E-06)	0.4	NA
	Subsurface I	9E-06	As (5E-06) CrVI (1E-06) TEQ human (3E-06)	0.4	NA
	Subsurface II	8E-06	As (5E-06) CrVI (6E-07) TEQ human (3E-06)	0.4	NA

Notes:

As = arsenic

CrVI = hexavalent chromium

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

NA = not applicable

TEQ human = dioxin toxicity equivalents for humans

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated cumulative ILCRs for the short-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are at or below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions (Table AOC11-B1.3a).

For the long-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil, the depth-weighted estimated cumulative ILCRs are above the point of departure for risk management decisions of 1×10^{-6} , but within the risk management range of 1×10^{-6} and 1×10^{-4} . For this potential receptor, risk estimates above *de minimis* levels were primarily attributed to arsenic and dioxin TEQ in soil via the dermal contact and soil ingestion pathways and to hexavalent chromium in soil via the inhalation of particulates pathway (Table AOC11-B1.3b). The majority (i.e., approximately 80%) of the ILCRs for arsenic

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for the long-term maintenance worker (5×10^{-6}) is attributed to background concentrations of arsenic in soil (i.e., background cancer risk of 4×10^{-6} based on a background UCL of the mean of 4.5 milligrams per kilogram [mg/kg]).

Elevated concentrations of hexavalent chromium and dioxin TEQ appear in a few samples (in AOC11E-6-6172 and AOC11c-SS-2-6073 for hexavalent chromium; and AOC11e-4-6160, AOC11e-4-6161, and PA-12-01 for dioxin TEQ) in few areas of the AOC 11 potential exposure area. Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for hexavalent chromium and dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted estimated cumulative ILCRs for the long-term maintenance workers were estimated, as discussed below in Section 4.6.2.

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated cumulative HIs for the short- and long-term maintenance workers (Tables AOC11-B1.4a and AOC11-B1.4b, respectively) potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are below an HI of 1. The depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the AOC 11 potential exposure area are not expected to result in an increase in blood lead levels above the California Office of Environmental Health Hazard Assessment's (OEHHA's) benchmark value of 1 microgram per deciliter ($\mu\text{g}/\text{dL}$) in the fetus of a short- or long-term maintenance worker (Tables AOC11-B1.5a and AOC11-B1.5b, respectively).

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	3E-06	As (2E-06) TEQ human (8E-07)	0.6	NA
	Shallow	3E-06	As (2E-06) TEQ human (1E-06)	0.6	NA
Hiker	Surface	6E-06	As (4E-06) TEQ human (2E-06)	1	NA
	Shallow	6E-06	As (4E-06) TEQ human (2E-06)	1	NA
Hunter	Surface	9E-07	NA	0.06	NA
	Shallow	9E-07	NA	0.06	NA
OHV Rider	Surface	3E-06	As (2E-06) TEQ human (9E-07)	0.2	NA
	Shallow	3E-06	As (2E-06) TEQ human (1E-06)	0.3	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

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The depth-weighted estimated cumulative ILCRs for the hunter potentially exposed to COPCs in surface and shallow soil in the AOC 11 potential exposure area are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions. However, assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and/or shallow soil are above the point of departure for risk management decisions of 1×10^{-6} , but within the risk management range of 1×10^{-6} and 1×10^{-4} . For these potential receptors, risk estimates above *de minimis* levels were primarily attributed to arsenic and dioxin TEQ in soil via the soil ingestion pathway (Tables AOC11-B1.3c thru AOC11-B1.3f).

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated HIs for the camper, hiker, and hunter, OHV rider (Tables AOC11-B1.4c through AOC11-B1.4f, respectively) potentially exposed to COPCs in surface and shallow soil under the baseline scenario are at or below an HI of 1.

A substantial proportion of the estimated risks above *de minimis* levels are attributable to background concentrations of arsenic in soil. Specifically, the majority of the ILCRs for arsenic for the camper (1.6×10^{-6} of 2×10^{-6} or approximately 80%), hiker (3.1×10^{-6} of 4×10^{-6} or approximately 78%), and OHV rider (1.7×10^{-6} of 2×10^{-6} or approximately 85%) is attributed to background concentrations of arsenic in soil. Considering the substantial contribution of background arsenic in soil to the estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to surface and shallow soil, it is likely that incremental risks for site-related COPCs in soil are at or slightly above the lower end of the risk management range of 1×10^{-6} and 1×10^{-4} .

As previously discussed, elevated concentrations of dioxin TEQ appear in a few samples in a few areas of the AOC 11 potential exposure area. Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider were estimated, as discussed below in Section 4.6.2.

The depth-weighted EPCs for lead in surface and shallow soil at the AOC 11 potential exposure area are not expected to result in an increase in blood lead levels above OEHHA's benchmark value of $1 \mu\text{g/dL}$ for child recreational users or the fetus of a hunter (Tables AOC11-B1.5c through AOC11-B1.5i).

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	6E-09	NA	0.0006	NA
	Shallow	6E-09	NA	0.0006	NA

Note:

ILCR and HI drivers are presented only for ILCRs above 1×10^{-6} and HIs above 1.

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for the tribal user potentially exposed to COPCs in surface and shallow soil (Tables

AOC11-B1.3g and AOC11-B1.4g, respectively) are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions and HI of 1, respectively.

4.6.2 Risk Characterization for Exposure to Soil (Baseline Scenario and Area-Weighted EPCs)

Table AOC11-4.5 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the AOC 11 potential exposure area in the baseline scenario, calculated using area-weighted EPCs, for receptors where the depth-weighted estimated cumulative ILCRs and/or HIs were above 1×10^{-6} and 1, respectively. Therefore, area-weighted ILCRs and HIs were provided for the long-term maintenance worker and recreational users (campers, hikers, and OHV riders). The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC11-B2.3a through AOC11-B2.3d) and noncancer hazard calculations (Tables AOC11-B2.4a through AOC11-B2.4d) are presented in Attachment AOC11-B2.

The baseline scenario area-weighted estimated cumulative ILCRs and HIs for each potential receptor selected for evaluation are summarized in the tables and discussed below. In general, the area-weighted approach resulted in a small difference in the risk or hazard estimates compared to the depth-weighted estimates.

Maintenance Workers

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Long-Term Maintenance Worker	Surface	7E-06	As (5E-06) CrVI (1E-06) TEQ human (9E-07)	0.4	NA
	Shallow	8E-06	As (5E-06) CrVI (1E-06) TEQ human (1E-06)	0.4	NA
	Subsurface I	8E-06	As (5E-06) CrVI (1E-06) TEQ human (2E-06)	0.4	NA
	Subsurface II	8E-06	As (5E-06) CrVI (1E-06) TEQ human (1E-06)	0.4	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the area-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are above the point of departure for risk management decisions of

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1×10^{-6} , but within the risk management range of 1×10^{-6} and 1×10^{-4} . For this potential receptor, risk estimates above *de minimis* levels were primarily attributed to arsenic and dioxin TEQ in soil via the dermal contact and soil ingestion pathways, and to hexavalent chromium in soil via the inhalation of particulates pathway (Table AOC11-B2.3a). As discussed earlier, approximately 80% of the ILCRs for arsenic is attributed to background concentrations of arsenic in soil.

As stated earlier, the area-weighted estimated cumulative ILCRs for the long-term maintenance worker are not materially different than the depth-weighted cumulative ILCRs for all exposure depths.

The area-weighted estimated cumulative HIs for the long-term maintenance worker (Table AOC11-B2.4a) potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil at the AOC 11 potential exposure area are below an HI of 1. The area-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the AOC 11 potential exposure area are not expected to result in an increase in blood lead levels above OEHHHA's benchmark value of 1 µg/dL in the fetus of a long-term maintenance worker (Table AOC11-B2.5a).

Recreational Users

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	3E-06	As (2E-06) TEQ human (4E-07)	0.6	NA
	Shallow	3E-06	As (2E-06) TEQ human (5E-07)	0.6	NA
Hiker	Surface	5E-06	As (4E-06) TEQ human (7E-07)	1	NA
	Shallow	5E-06	As (4E-06) TEQ human (1E-06)	1	NA
OHV Rider	Surface	3E-06	As (2E-06) CrVI (6E-07) TEQ human (4E-07)	0.2	NA
	Shallow	3E-06	As (2E-06) CrVI (6E-07) TEQ human (5E-07)	0.2	NA

Note:

ILCR and HI drivers are presented only for ILCRs above 1×10^{-6} and HIs above 1.

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the area-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soil (Tables AOC11-B2.3b through AOC11-B2.3d) are above the point of departure for risk management decisions of 1×10^{-6} , but within the risk management range of 1×10^{-6} and 1×10^{-4} . For the camper and hiker,

estimated risks above *de minimis* levels were primarily attributed to arsenic, hexavalent chromium and/or dioxin TEQ in soil via the soil ingestion pathway. For the OHV rider, estimated risks above *de minimis* levels were primarily attributed to arsenic and dioxin TEQ, via dermal contact with soil, and to hexavalent chromium via inhalation of soil particulates. As previously noted, approximately 80%, 78%, and 85% of the ILCRs for arsenic for the camper, hiker, and OHV rider, respectively are attributed to background concentrations of arsenic in soil.

As demonstrated by comparing the values, the area-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider are not materially different than the depth-weighted estimated cumulative ILCRs for all exposure depths. Considering the substantial contribution of background arsenic in soil to the estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to surface and shallow soil, it is likely that incremental risks for site related COPCs in soil are at or only slightly above the lower end of the risk management range of 1×10^{-6} and 1×10^{-4} .

The area-weighted estimated cumulative HIs for the camper, hiker, and OHV rider (Tables AOC11-B2.4b through AOC11-B2.4d) potentially exposed to COPCs in surface and shallow soil at the AOC 11 potential exposure area are at or below an HI of 1. The area-weighted EPCs for lead in surface and shallow soil at the AOC 11 potential exposure area are not expected to result in an increase in blood lead levels above OEHHHA's benchmark value of 1 µg/dL for recreational users (Tables AOC11-B2.5b through AOC11-B2.5g).

4.6.3 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 11 potential exposure area are discussed in detail below.

Additional uncertainties for the AOC 11 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC11-3.1.

For the AOC 11 potential exposure area, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: one metal (mercury), PAHs (acenaphthene, acenaphthylene, fluorene, and naphthalene), and pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane)
- Shallow soil: one metal (mercury), one VOC (methyl acetate), PAHs (1-methylnaphthalene, acenaphthene, acenaphthylene, fluorene, and naphthalene), and pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane)

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- Subsurface I soil: one metal (mercury), one VOC (methyl acetate), PAHs (1-methylnaphthalene, acenaphthene, acenaphthylene, fluorene, and naphthalene), and pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane)
- Subsurface II soil: one metal (mercury), one VOC (methyl acetate), PAHs (1-methylnaphthalene, acenaphthene, acenaphthylene, fluorene, and naphthalene), and pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane).

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs listed above may not appropriately represent exposures and resulting risks/hazards. This approach to estimating EPCs does not materially impact the results of the HHRA because the AOC 11 potential exposure area COPCs with low frequency of detection (FOD) and/or fewer than eight observations are not risk drivers at the site.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach; presents the COPECs, EPCs, dose, and risk tables for the ERA for the AOC 11 potential exposure area; and characterizes potential risk to potential ecological receptors exposed to COPECs in soil at the AOC 11 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the ERA for the AOC 11 potential exposure area based on risk calculations conducted using depth-weighted and area-weighted EPCs are presented in Attachment AOC11-C and described below.

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), ecological risks were also calculated using maximum depth-weighted concentrations and are presented in Attachment AOC11-D. Risks estimated using maximum depth-weighted concentrations are considered overly conservative and generally are used for screening-level purposes. The use of maximum concentrations is not recommended for making risk management decisions at the AOC 11 potential exposure area, where the area has been adequately characterized and data are available to estimate UCLs. Therefore, the risk results based on maximum depth-weighted concentrations are presented (Attachment AOC11-D), but are not discussed in this section.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for the following potential receptors exposed to COPECs in soil at the AOC 11 potential exposure area. These potential receptors included plants, invertebrates, and small home-range receptors:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow, and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, and/or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammalian indicator receptors evaluated in this ERA for the AOC 11 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations exposed to surface, shallow and/or subsurface I soil (incidental and through biota uptake)
 - **Desert Shrew** – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, and/or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the AOC 11 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake)
 - **Gambel's Quail** – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are described in Section 6.3 of the main report.

Potential large home-range receptors (i.e., desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs/investigation areas) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the AOC 11 potential exposure area were estimated and characterized as part of the evaluation of all AOCs/investigation areas outside the compressor station (OCS) and AOCs outside the compressor station excluding BCW and AOC4 (OCSxBCW+AOC4); please see Appendix OCS and Appendix OCSxBCW+AOC4 for risk estimates for these large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Although potential habitat exists for special-status² species at or near the site, none have been recorded as observed at the AOC 11 potential exposure area. The primary vegetation present at the AOC 11 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal or state-listed threatened and endangered (T&E) or candidates for listing were found at the site, including the AOC 11 potential exposure area.

Several species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). However, no federal or state-listed T&E wildlife species or candidates for listing were observed at the AOC 11 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical potential receptors at the site within that group, use of no-effects-based toxicity values) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 11 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 11 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC11-A1.

Because a potential ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario. Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate), are not typically evaluated in ERAs and were not

² Special-status species include both state- and federal-listed fully protected T&E species, state/federal species of concern, and traditional culturally significant plants. Protection at the no-observed adverse effects level (NOAEL) is warranted only for fully protected species.

selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC11-5.1.

COPECs included metals (arsenic, hexavalent chromium, total chromium, copper, lead, mercury, and zinc), one VOC (methyl acetate), LMW PAHs, HMW PAHs, pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane), PCBs, dioxin TEQ (for potential wildlife receptors only), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) (for ecological communities only). TPHs were also identified as COPECs; however, due to lack of appropriate toxicity values to evaluate TPHs for potential ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs), when detected, were used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. For the AOC 11 potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs and area-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC11-A2, while area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC11-A3.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in Section 6.4 and shown on Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each potential receptor are presented in Table AOC11-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these potential receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table AOC11-5.3 and the representative soil and/or biota EPCs identified for the risk calculations are bolded in this table. Of the COPECs identified at the AOC 11 potential exposure area, methyl acetate was not detected in surface soil, and therefore, exposure to this COPEC by potential receptors only exposed to surface soil was not estimated. These potential receptors include soil invertebrates, invertivorous small mammals (desert shrew), and insectivorous birds (cactus wren). Although methyl acetate was detected in shallow and subsurface I soil, uptake into biota is considered negligible for VOCs (assumed to be zero for the

risk calculations³), and therefore, exposure through diet is considered incomplete for granivorous birds. For plants, only direct exposure to soil was considered a complete pathway for VOCs.

Similarly, area-weighted soil EPCs and biota tissue EPCs calculated from area-weighted soil EPCs are presented in Table AOC11-5.4. The representative soil and/or biota EPCs identified for the risk calculations are bolded in this table.

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), risk calculations based on both the maximum depth-weighted concentration and the UCL for each COPEC are required. As mentioned earlier in this section, using the maximum depth-weighted concentrations result in overly conservative risks and is not recommended for risk management decisions. The estimated risks based on maximum depth-weighted concentrations are presented in Attachment AOC11-D, but results are not discussed in this appendix or the main report.

5.4 Estimation of Exposure Concentration or Dose

Exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (e.g., in mg/kg). Exposures for wildlife (mammals and birds) are quantified as doses (e.g., in mg/kg body weight per day [mg/kg bw-day]). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g. 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the AOC 11 potential exposure area for the baseline scenario and are presented in Table AOC11-5.3. Area-weighted EPCs for the baseline scenario are presented in Table AOC11-5.4.

For wildlife, doses were calculated using the exposure parameters and equations presented in Section 6.4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the AOC 11 potential exposure area, as presented in Table AOC11-5.3 for the depth-weighted risk evaluations, and area-weighted soil and biota tissue EPCs as presented in Table AOC11-5.4 for the area-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC11-C. Dose calculations using area-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are also presented in Attachment AOC11-C. Dose calculations using maximum depth-weighted concentrations for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC11-D.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to potential

³ VOCs have low bioaccumulation potential (octanol-water partition coefficient is low [$\log K_{ow} < 2$]) and uptake into biota is considered negligible for these constituents.

ecological receptors potentially exposed to COPECs in soil and biota tissue at the AOC 11 potential exposure area.

For plants and soil invertebrates, screening values are discussed in Section 6.3 and presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the NOAEL)-based TRVs and lowest-observed-adverse-effects-level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop USEPA's Ecological Soil Screening Levels (EcoSSLs; USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (ORNL; Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-TRVs⁴ based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009) were also used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in Tables 6-7 and 6-8 of the main report, respectively.

Plant screening values are not available for 2,3,7,8-TCDD, total chromium, and methyl acetate. Soil invertebrate screening values are not available for methyl acetate. Avian TRVs are not available for methyl acetate. Therefore, risks to these potential receptors from exposure to these specific COPECs could not be estimated. In addition, appropriate screening values and TRVs are not available for TPHs; therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the AOC 11 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimation (HQs) involved integrating exposure profiles with the exposure-effects information. For each potential receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are discussed below for interpreting the risk results and identifying potential unacceptable risk to potential ecological receptors. Uncertainties specific to the AOC 11 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC with respective screening values and these HQs were compared to the target HQ of 1. Following USEPA (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach using multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

⁴ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily the LOELs. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

- COPECs with HQs less than or equal to 1 are considered to have *de minimis* risk (i.e., negligible risk) to plants and invertebrates.
- COPECs with HQs greater than 1 indicate that unacceptable risk to plants and invertebrates is possible. However, exceedances of the screening values (which are conservative and are generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as FOD, site use history, and confidence in the screening values was used to reduce uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: 1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOEs to support a conclusion of no unacceptable risk); or 3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs previously identified in the RAWP documents (Arcadis 2008, 2009, 2015). HQs based on LOAEL-based TRVs selected in the RAWP documents are referred to as “LOAEL-based HQs.” HQs based on NOAEL-based TRVs selected in the RAWP documents are referred to as “NOAEL-based HQs.” Additionally, NOAEL-based and LOAEL-based HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The NOAEL-based BTAG TRVs are considered very conservative, resulting in a wide range of risk estimates for wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at the AOC 11 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of potential wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1, but LOAEL-based HQ less than or equal to 1, pose no unacceptable risks to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study and the nature and magnitude of the effects, if any, that may occur at exposures between these values is unknown. In such cases, a WOE approach, including multiple LOEs, were used to reduce uncertainty for characterizing potential risk to individual potential wildlife receptors.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of potential wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach (including an alternate

target HQ of 10 for dioxin TEQ)⁵ was used to reduce uncertainty for characterizing potential risk to wildlife populations at the AOC 11 potential exposure area, as described in the preceding bullet.

- NOAEL-based HQs greater than 1 are considered one LOE in assessing potential risk to sensitive species, if present in the AOC 11 potential exposure area. Evaluation of T&E species for the AOC 11 potential exposure area is characterized in Section 5.1.1 of this appendix.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE:

- 1) unacceptable risk to wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs);
- 2) unacceptable risk to wildlife is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or 3) unacceptable risk to wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each potential receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOE in reaching the WOE conclusions.

For the AOC 11 potential exposure area, evaluations were completed for the following scenarios and are discussed in this section:

- Baseline scenario using depth-weighted EPCs
- Baseline scenario using area-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables AOC11-5.5a through AOC11-5.6b; however, risk results for only a subset of the COPECs are discussed in the evaluations using area-weighted EPCs. For plants and soil invertebrates, COPECs with HQs greater than 1 based on the depth-weighted EPC are discussed in the evaluations using area-weighted EPCs. For wildlife (i.e., mammals and birds), COPECs with NOAEL-based HQs greater than 1 based on the depth-weighted EPC and species- and site-specific site use factor (SUF) are discussed in the area-weighted EPC evaluations. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community-/population-level risk was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs).

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) for the baseline scenario using depth-weighted EPCs are summarized in this section. As mentioned earlier in Section 5.4, ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. Detailed risk calculations for plants and soil invertebrates (Table AOC11-C.1) and detailed dose and risk calculations for wildlife (Tables AOC11-C.2 through AOC11-C.5) are presented in Attachment AOC11-C. COPECs identified at the AOC 11 potential

⁵ For dioxin TEQ, the selected bioaccumulation factors (BAFs) and TRVs result in significant overestimation of risk for key wildlife receptors, primarily for invertivorous small mammals and insectivorous birds. Due to the compounded conservatism in the risk estimates for dioxin TEQ, HQs greater than 10 were considered to pose unacceptable risk. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are presented in Sections 6.4.3 and 6.5.2 of the main report, respectively. These alternate BAFs and TRVs are based on current understanding of uptake and toxicity of TEQ mixtures and represent an additional LOE considered for dioxin TEQ. As a result, a target LOAEL-based HQ of 10 for dioxin TEQ was used. Uncertainty in the risk estimates for dioxin TEQ is discussed in detail in Section 6.7.6.

exposure area for the baseline scenario include seven metals, LMW and HMW PAHs, one VOC (methyl acetate), TPHs, pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane), PCBs, dioxin TEQ (for potential wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) (Table AOC11-5.1). Potential risk to potential receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table AOC11-5.5a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 11 potential exposure area for the baseline scenario using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are greater than 1 for hexavalent chromium and HMW PAHs based on the highest EPC value from the shallow, surface, and subsurface I depth intervals. HQs for remaining COPECs are less than 1 for plants, indicating *de minimis risk* to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, HQs are greater than 1 for hexavalent chromium, mercury, zinc, alpha-chlordane, and gamma-chlordane based on exposure to surface soil only. HQs for remaining COPECs are less than 1 for soil invertebrates, indicating *de minimis risk* to soil invertebrates from exposure to these COPECs. As mentioned earlier in Section 5.3 of this appendix, methyl acetate was not detected in surface soil, and therefore, risks to soil invertebrates, which are only exposed to surface soil, were not estimated.

For hexavalent chromium, the HQ for plants and soil invertebrates was greater than 1. The depth-weighted EPC from surface soil (0 to 0.5 ft bgs) was used to evaluate potential risk to soil invertebrates and the depth-weighted EPC from subsurface I soil (0 to 6 ft bgs) was used to evaluate potential risk to plants from exposure to hexavalent chromium in soil. Hexavalent chromium was frequently detected at the AOC 11 potential exposure area (at 26 of 52 surface soil locations, and 36 of 53 subsurface I soil locations). Depth-weighted concentrations were greater than background concentrations (background threshold value [BTV] = 0.83 mg/kg) in nine of the 52 total surface soil (0 to 0.5 ft bgs) locations and 13 of the 53 total subsurface I soil (0 to 6 ft bgs) locations. Depth-weighted concentrations were less than 10 times the BTV at surface soil locations and greater than 10 times the BTV in one subsurface I soil location. The depth-weighted EPC for hexavalent chromium in surface soil (0.81 mg/kg) is just below the BTV and the depth-weighted EPC for hexavalent chromium in subsurface I soil (2.18 mg/kg) is above the BTV (i.e., the depth-weighted EPC exceeded the BTV by approximately 2.5 times in subsurface I soil). The screening values for plants and soil invertebrates are based on a limited number of studies, most of which were conducted in artificial test systems with species unlikely to be present in the AOC 11 potential exposure area. Efroymson et al. (1997a, b) indicates that there is low confidence in these screening values and their ability to predict toxicity to plants and soil invertebrates. In addition, the invertebrate screening value for hexavalent chromium (0.4 mg/kg) is less than the BTV (0.83 mg/kg), indicating uncertainty associated with the risk estimates for this COPEC at the AOC 11 potential exposure area. Based on the risk results and discussion above, unacceptable risk to plants and soil invertebrate communities from exposure to hexavalent chromium is considered uncertain.

For HMW PAHs, the HQ for plants was greater than 1. The depth-weighted EPC from surface soil (4.83 mg/kg) was used to evaluate potential risk to plants from exposure to HMW PAHs in soil, but EPCs decreased in the lower depth intervals (e.g., the depth-weighted EPC for subsurface I soil [0 to 6 ft bgs] was less than half the concentration of surface soil [0 to 0.5 ft bgs]). HMW PAHs were detected in most of the locations in surface soil (FOD = 98%). Depth-weighted concentrations for HMW PAHs were greater than the

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SOIL HHERA FOR AOC 11 EXPOSURE AREA

BTV (BTV = 0.038 mg/kg) in 51 of 52 total surface soil locations, but exceeded the plant screening level (1.2 mg/kg) at only nine locations. The plant screening level (1.2 mg/kg) cited in USEPA (1999) for benzo(a)pyrene and benzo(b)fluoranthene is based on a reported chronic no-effects concentration (Sims and Overcash 1983). Reduced stem growth was observed in summer wheat at 6.254 mg/kg, but no effects were seen on rye plants at this concentration. The plant toxicity data cited in Sims and Overcash (1983) were not included in the plant EcoSSL; no sufficient studies were identified by USEPA to calculate a plant EcoSSL for HMW PAHs (USEPA 2007a). As such, there is low confidence in the selected plant screening value to predict toxicity to plants exposure to mixtures of HMW PAHs at the site. Additionally, the most important source of PAHs for plants is the atmosphere where they enter via the gaseous phase or deposit bound to particles on the plant surface (Sims and Overcash 1983; USEPA 2007a). Thus, the relevance of the soil exposure pathway for plants at the AOC 11 potential exposure area is uncertain. Based on the risk results and discussion above, unacceptable risk to plant communities from exposure to HMW PAHs is considered uncertain.

For mercury, the HQ for soil invertebrates was greater than 1. Mercury was detected in only one of 52 locations in surface soil (FOD = 2% in 0 to 0.5 ft bgs), and the maximum depth-weighted concentration (0.18 mg/kg) was used as the depth-weighted EPC. In addition, the magnitude of the HQ is low. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Mercury was not detected in the background dataset, and therefore, a background value could not be developed for comparison. The screening value for soil invertebrates (0.1 mg/kg) is based on a limited number of studies and is based on different forms of mercury. Based on the two studies available, which use different systems and earthworm species, it was not possible to evaluate the relative toxicity of forms of mercury. Efroymsen et al. (1997b) indicates that there is low confidence in the screening value and the ability to predict toxicity to soil invertebrates. Based on the risk results and uncertainty discussed above, unacceptable risk to soil invertebrate communities from exposure to mercury is considered unlikely.

For zinc, the HQ for soil invertebrates was greater than 1. Zinc was detected in 100% of surface soil samples (0 to 0.5 ft bgs) and depth-weighted concentrations for zinc were greater than the BTV (BTV = 58 mg/kg) in 23 of the 52 total surface soil locations, but exceeded the soil invertebrate screening value (120 mg/kg) at only eight locations. The depth-weighted EPC for zinc is considered elevated compared with background concentrations (i.e., the depth-weighted EPC exceeded the BTV by approximately 3 times in surface soil). The soil invertebrate screening level (120 mg/kg) is based on multiple studies and test species representing various soil exposure conditions (USEPA 2007b5). The screening value is also greater than the BTV. There is, therefore, confidence in the ability of the screening level to predict risk to soil invertebrate communities. Based on the risk results and discussion above, unacceptable risk to soil invertebrate communities from exposure to zinc is considered uncertain.

For alpha-chlordane and gamma-chlordane, the HQs for soil invertebrates were greater than 1. These pesticides were detected in only one of 10 surface oil sample locations (FOD = 10%), and the maximum depth-weighted concentrations for alpha-chlordane (12 micrograms per kilogram [$\mu\text{g/kg}$]) and gamma-chlordane (13 $\mu\text{g/kg}$) were used as the depth-weighted EPCs. Because UCLs could not be estimated due to the low FOD, comparison of the depth-weighted mean concentrations for surface soil (1.65 $\mu\text{g/kg}$ for alpha-chlordane and 1.75 $\mu\text{g/kg}$ for gamma-chlordane based on the Kaplan-Meier [KM] mean) to screening levels would result in HQs less than 1. The screening value for soil invertebrates (4.3 $\mu\text{g/kg}$) is based on total chlordane and was used to evaluate potential risk of soil invertebrates exposed to alpha- and gamma-

chlordane. As stated in Van de Plassche et al. (1994), the method used to derive the maximum permissible concentration for soil based on direct effects leads to relatively low values. The screening value is based on studies with insects and collembola, which belong to relatively sensitive taxonomic groups. As such, there is moderate confidence in the screening level based on the potential for overestimation of risk to soil invertebrates. Based on the risk results and uncertainty discussed above, unacceptable risk to soil invertebrate communities from exposure to alpha- or gamma-chlordane is considered unlikely.

For TPH mixtures, individual constituents were used to characterize potential risks to plants and invertebrates. BTEX were not detected in any samples (Attachment AOC11-A1) and HQs for PAHs for soil invertebrates are less than 1, indicating no unacceptable risk for soil invertebrates from TPHs. For plants, the LMW PAH HQ is less than 1, but the HQ for plants exposed to HMW PAHs is greater than 1. As discussed above for HMW PAHs, unacceptable risk to plants due to exposure to PAHs is considered uncertain, some of which are likely associated with TPH mixtures. Therefore, unacceptable risk is not expected for communities of soil invertebrates, but unacceptable risk to plants from exposure to TPHs at the AOC 11 potential exposure area is uncertain.

Based on the risk results and WOE, unacceptable risk to plant communities from exposure to hexavalent chromium, HMW PAHs, and TPH mixtures are uncertain. For soil invertebrate communities, hexavalent chromium, mercury, zinc, alpha-chlordane, and gamma-chlordane in soil at the AOC 11 potential exposure area have HQs greater than 1, although unacceptable risk from mercury, alpha-chlordane and gamma-chlordane is unlikely based on the low FOD. Unacceptable risk to soil invertebrate communities from exposure to hexavalent chromium is considered uncertain based on the discussion above, and no unacceptable risk based on exposure to TPHs is expected.

No unacceptable risks to plant and invertebrate communities are expected from remaining inorganic COPECs (arsenic, total chromium, copper, and lead) and organic COPECs (LMW PAHs, 4,4,-DDE, dieldrin, PCBs, and 2,3,7,8-TCDD). Based on the risk estimates and potential uncertainties associated with the baseline risk using depth-weighted EPCs, hexavalent chromium and HMW PAHs for plants, and hexavalent chromium, mercury, zinc, alpha-chlordane, and gamma-chlordane for soil invertebrates were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

5.6.1.2 Small Mammals

For the AOC 11 potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF equal to 1

Risks Evaluated Using the Selected TRVs

Table AOC11-5.5a summarizes HQs estimated for small mammals at the AOC 11 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. HQs for this potential receptor are less than 1 for all individual COPECs, indicating *de minimis* risk to individuals and populations of granivorous mammals.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous small mammals from exposure to TPHs is expected.
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this potential receptor are less than 1 for all COPECs, except for HMW PAHs and dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For HMW PAHs, the NOAEL-based HQ is greater than 1, and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous small mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. HMW PAHs were frequently detected in surface soil (FOD = 96% in 0 to 0.5 ft bgs) with 51 of the 53 locations having depth-weighted concentrations exceeding the BTV (BTV = 0.038 mg/kg); however, the magnitude of the NOAEL-based HQ was low. In addition, a wide range of toxicity information is available for PAHs. For the selected TRVs for HMW PAHs, there is moderate confidence in ability to predict toxicity to small mammals. While the selected TRVs are based on EcoSSL data from multiple studies representing at least three small mammal species and five individual HMW PAHs (USEPA 2007a), the data were derived for individual PAHs (not mixtures) and the geometric mean NOAEL TRV is nearly 20 times greater than the selected NOAEL TRV value. For HMW PAHs, the NOAEL-based BTAG TRV (1.31 mg/kg bw-day) is twice the EcoSSL-based TRV (0.65 mg/kg bw-day). Alternate HMW PAH TRVs, as discussed in Section 6.5 of the main report, also suggest that adverse effects would not be observed until concentrations greater than the selected EcoSSL NOAEL-based TRV. Based on the low HQs and variability of the toxicity information, unacceptable risk to the shrew from exposure to HMW PAHs is considered to be uncertain in this scenario.
 - For dioxin TEQ for mammals, the NOAEL- and LOAEL-based HQs are greater than 1, indicating potential unacceptable risk to individuals and populations of invertivorous small mammals. As described in Section 6.7.6 of the main report, the mammal TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. Conservative assumptions were used to estimate the HQs, including use of bioaccumulation factors based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. As a

result, the HQs are considered to be overestimated. Confidence in the ability of the mammalian dioxin TEQ TRV to predict risk is moderate. Dioxin TEQ was detected at all 26 locations in surface soil (FOD = 100% in 0 to 0.5 ft bgs), with 13 of 26 surface soil locations having depth-weighted concentrations above the BTV (BTV = 5.58 nanograms per kilogram). Concentrations exceeding 10 times the BTV are limited to four locations along the TCS fenceline (PA-10, PA-11, PA-12, and SD-11A). Unacceptable risk to the shrew from exposure to dioxins is considered uncertain in this scenario.

- For TPH mixtures, individual constituents were used to characterize potential risks to plants and invertebrates. BTEX were not detected in any samples (Attachment AOC11-A1) and HQs for LMW PAHs are less than 1. The NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1 for HMW PAHs, indicating that no unacceptable risk to populations of invertivorous small mammals is expected; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ LOE. As discussed above, unacceptable risk from HMW PAH concentrations is uncertain based on the supporting LOEs, and unacceptable risk from TPHs is also considered to be uncertain.
- NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 for the remaining COPECs indicating *de minimis* risk to individual and populations of invertivorous small mammals for the remaining COPECs.

Based on the risk estimates and potential uncertainties associated with the baseline risk from HMW PAHs and dioxin TEQ for invertivorous mammals, these COPECs were further evaluated using site-specific SUFs and area-weighted EPCs, as discussed below in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC11-5.5a also summarizes HQs estimated for small mammals at the AOC 11 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – The NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal)** – NOAEL-based HQs for lead, zinc, and HMW PAHs are greater than 1 and the LOAEL-based HQs are less than 1 for these COPECs, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for these COPECs. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating *de minimis* risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

The table below summarizes all HQ estimates for mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1.

Hazard Quotient Summary for Small Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	4E-02	2E-02	2E-01	7E-04	5E-01	2E-01	2E+00	9E-03
Zinc	1E-01	2E-02	8E-01	2E-02	1E+00	3E-01	1E+01	2E-01
HMW PAHs	1E-01	2E-02	6E-02	2E-03	4E+00	8E-01	2E+00	8E-02
TEQ Mammals	6E-01	6E-02	--	--	2E+02	2E+01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table AOC11-5.5b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the AOC 11 potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUF was estimated as 1 for these potential receptors (i.e., their home range is less than or equal to the size of the potential exposure area). Therefore, the risk results using selected TRVs and BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Small Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for small mammals exposed to COPECs in soil at the AOC 11 potential exposure area using selected TRVs⁶, depth-weighted EPCs, and a species- and site-specific SUF (SUF equal to 1), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammal), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous mammals.
- For desert shrew (invertivorous small mammal), the LOAEL-based HQs are less than or equal to 1 for all COPECs except dioxin TEQ. For dioxin TEQ, potential unacceptable risk to invertivorous small mammal populations at the AOC 11 potential exposure area is uncertain. Although conservative assumptions, uptake factors, and toxicity values were used that likely result in overestimation of risk. In addition, locations with depth-weighted concentrations more than 10 times the BTV are limited spatially. COPECs indicative of uncertain risks based on the HQ (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included HMW PAHs. For the remaining COPECs at the AOC 11 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1 indicating *de minimis* risk to individuals and populations of invertivorous small mammals.

⁶ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

Based on the risk estimates and potential uncertainties associated with the baseline risk to invertivorous small mammals from HMW PAHs and dioxin TEQ, these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

5.6.1.3 Birds

For the AOC 11 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF equal to 1

Risks Evaluated Using the Selected TRVs

Table AOC11-5.5a summarizes HQs estimated for birds at the AOC 11 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Gambel's quail (granivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soil (0 to 6 ft bgs) through its diet. NOAEL- and LOAEL-based HQs in soil are less than 1 for all individual COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous birds from exposure to TPHs is expected.
- **Cactus wren (insectivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this potential receptor are less than or equal to 1 for most COPECs except for mercury, total PCBs, and dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. However, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ LOE. Mercury was detected in only one of 52 locations in surface soil (FOD = 2% in 0 to 0.5 ft bgs), and therefore, the EPC is based on the maximum depth-weighted concentration. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Mercury was not detected in the background dataset, and therefore, a background value could not be developed for comparison. The reporting limits (0.049 to 0.065 mg/kg) for this metal also result in

NOAEL-based HQs greater than 1, indicating that the TRVs, which are based on methylmercury (DTSC 2009), likely overestimate risk for this COPEC. In this scenario, unacceptable risk to the individual cactus wren is considered unlikely.

- For total PCBs, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. However, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ LOE. PCBs were frequently detected in surface soil (FOD = 53% in 0 to 0.5 ft bgs). The magnitude of the NOAEL-based HQ is low. The avian TRVs for PCBs are considered conservative because they are based on data for chickens, which are known to be highly sensitive to PCBs, as discussed in Section 6.5 of the main report. Risks are likely overestimated, as most tested bird species do not have high sensitivity to PCBs (Farmahin et al. 2012; Eng et al. 2014). T&E birds have not been observed in this area. Unacceptable risk to the individual cactus wren is considered unlikely in this scenario.
- For dioxin TEQ, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. However, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Dioxin TEQ was frequently detected in surface soil (FOD = 100% in the 0 to 0.5 ft bgs interval) with 11 of the 26 total surface soil locations having depth-weighted concentrations exceeding the BTV (BTV = 5.98 mg/kg). As described in Section 6.7.5 of the main report, the avian TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. As discussed above for small mammals, elevated concentrations are limited in spatial extent and the HQs are low in magnitude. Additionally, T&E birds have not been observed in this area. Unacceptable risk to the individual cactus wren is considered unlikely in this scenario.
- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples. The NOAEL- and LOAEL-based HQs for LMW and HMW PAHs are less than one, indicating that no unacceptable risks to individuals or populations of insectivorous birds from exposure to TPHs is expected.
- The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk from mercury, PCBs, and dioxin TEQ for insectivorous birds, these COPECs were further evaluated using site- and species-specific SUFs, as discussed below.

Risks Evaluated Using the BTAG TRVs

Table AOC11-5.5a also summarizes HQs estimated for birds at AOC11 using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – NOAEL-based HQ for lead is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC. The risks from lead are likely overestimated due to the conservative avian TRV. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report. NOAEL- and LOAEL-based HQs for other COPECs

in soil are less than 1 indicating *de minimis* risk to individuals and populations of granivorous birds for the remaining COPECs.

- **Cactus wren (insectivorous bird)** – NOAEL-based HQs for lead, mercury, zinc, 4,4-DDE, and PCBs are greater than 1 and the LOAEL-based HQs are less than 1, indicating no unacceptable risks to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for these COPECs. EPCs for mercury and 4,4-DDE are based on the maximum depth-weighted concentration. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating *de minimis* risk to populations of insectivorous birds from these COPECs.

The table below summarizes all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1.

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	9E-02	5E-02	1E+01	2E-02	1E+00	7E-01	2E+02	3E-01
Mercury	2E-01	4E-02	2E-01	4E-02	3E+00	5E-01	3E+00	5E-01
Zinc	6E-02	2E-02	2E-01	2E-02	1E+00	5E-01	5E+00	5E-01
4,4-DDE	4E-04	4E-05	1E-02	2E-04	1E-01	1E-02	3E+00	4E-02
Total PCBs	2E-02	2E-03	2E-02	2E-03	3E+00	2E-01	3E+00	2E-01
TEQ Avian	2E-02	2E-03	--	--	6E+00	6E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC11-5.5b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.2, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs. *De minimis* risk to individuals and populations of granivorous birds is expected when accounting for site use at the AOC 11 potential exposure area.
- **Cactus wren (insectivorous bird)** – Based on the AOC 11 potential exposure area and home range for cactus wren, the SUF was estimated as 1 for this potential receptor (i.e., the home range is less than or

equal to the size of the potential exposure area). Therefore, the risk results using selected TRVs for this evaluation are the same as discussed above for the generic SUF of 1.

Based on the risk estimates and potential uncertainties associated with the baseline risk from mercury, PCBs, and dioxin TEQ for insectivorous birds (as presented above in Section 5.6.1.3.1), these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC11-5.5b also summarizes HQs estimated for birds at the AOC 11 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.2, which reduced the NOAEL-based HQ for lead, but the NOAEL-based HQ is still greater than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report. NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 indicating *de minimis* risk to populations of or individual granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – Based on the AOC 11 potential exposure area and home range for cactus wren, the SUF was estimated as 1 for this potential receptor (i.e., the home range is less than or equal to the size of the potential exposure area). Therefore, the risk results using BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report.

For the COPECs with NOAEL-based HQs greater than 1 using a SUF of 1 (using the selected TRV or BTAG TRV), the table below summarizes HQ estimates using the species- and site-specific SUF for birds.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.2)				Cactus Wren (SUF = 1)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	2E-02	8E-03	2E+00	3E-03	1E+00	7E-01	2E+02	3E-01
Mercury	3E-02	7E-03	3E-02	7E-03	3E+00	5E-01	3E+00	5E-01
Zinc	1E-02	4E-03	4E-02	4E-03	1E+00	5E-01	5E+00	5E-01
4,4-DDE	7E-05	7E-06	2E-03	2E-05	1E-01	1E-02	3E+00	4E-02
Total PCBs	4E-03	2E-04	4E-03	2E-04	3E+00	2E-01	3E+00	2E-01
TEQ Avian	4E-03	4E-04	--	--	6E+00	6E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.3 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 11 potential exposure area using selected TRVs⁷, depth-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- **Gambel's quail (granivorous bird)** – The NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs.
- **Cactus wren (insectivorous bird)** – No unacceptable risk to populations was identified because the LOAEL-based HQs are less than 1 for all COPECs. COPECs indicative of uncertain risks to individual potential receptors based on the HQ (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included mercury, PCBs, and dioxin TEQ. For the remaining COPECs at the AOC 11 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1 indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk results and potential uncertainties associated with the baseline risk to insectivorous birds from mercury, PCBs, and dioxin TEQ at the AOC 11 potential exposure area, these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

5.6.2 Risk Characterization (Baseline Scenario and Area-Weighted EPCs)

Based on the risk characterization of COPECs in the baseline scenario using depth-weighted EPCs (Section 5.6.1, above), risks were characterized for all COPECs using area-weighted EPCs. For those COPECs identified for further evaluation in the depth-weighted evaluation, the results of the area-weighted risk are presented below. These included:

- Hexavalent chromium and HMW PAHs/TPHs for plants
- Hexavalent chromium, mercury, zinc, alpha- and gamma-chlordane for soil invertebrates
- HMW PAHs and dioxin TEQ for invertivorous small mammals
- Mercury, PCBs, and dioxin TEQ for insectivorous birds.

Potential risks to potential receptors from the COPECs listed above were characterized for the baseline scenario using area-weighted EPCs as discussed in this section. Detailed risk calculations for plants and soil invertebrates (Table AOC11-C.6) and detailed dose and risk calculations for wildlife for all COPECs (Tables AOC11-C.7 through AOC11-C.10) are presented in Attachment AOC11-C.

5.6.2.1 Plants and Soil Invertebrates

Table AOC11-5.6a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 11 potential exposure area for the baseline scenario using area-weighted EPCs for all COPECs; however, only the COPECs identified above in Section 5.6.1.1 for further evaluation using area-weighted EPCs are discussed here.

⁷ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

APPENDIX AOC11

SOIL HHERA FOR AOC 11 EXPOSURE AREA

Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. HQs were based on the highest EPC from the surface, shallow, and subsurface I depth intervals. Plant HQs using area-weighted EPCs are greater than 1 for hexavalent chromium based on the highest EPC value from the shallow, surface, and subsurface I depth intervals. For plants, the magnitude of the HQ for HMW PAHs was reduced in this evaluation and is equal to 1; therefore, unacceptable risk to plant communities is not expected for HMW PAHs.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). Soil invertebrate HQs using area-weighted EPCs are greater than 1 for hexavalent chromium, mercury, alpha-chlordane, and gamma-chlordane. For soil invertebrates, the magnitude of the HQ for zinc was reduced in this evaluation and is less than 1; therefore, unacceptable risk to soil invertebrate communities is not expected for zinc.

For hexavalent chromium, the HQs for plants and soil invertebrates based on the area-weighted EPC are also greater than 1. Similar to the depth-weighted evaluation, the area-weighted EPC from surface soil (0 to 0.5 ft bgs) was used to evaluate potential risk to soil invertebrates and the area-weighted EPC from subsurface I soil (0 to 6 ft bgs) was used to evaluate potential risk to plants from exposure to hexavalent chromium in soil. For plants, the area-weighted EPC for subsurface I soil (2.05 mg/kg) is slightly less than the depth-weighted EPC (2.18 mg/kg) because area-weighting had little effect for this dataset. Hexavalent chromium was frequently detected at the AOC 11 potential exposure area (at 26 of 52 locations in the 0 to 0.5 ft bgs interval, and 36 of 53 locations in the 0 to 6 ft bgs interval). However, for surface soil, the area-weighted EPC (1.88 mg/kg) increased relative to the depth-weighted EPC (0.81 mg/kg) due to the difference in the UCL calculation method (see Section 3, above), resulting in an HQ about two times higher than in the depth-weighted evaluation. As noted above in Section 5.6.1.1, although hexavalent chromium was frequently detected at the AOC 11 potential exposure area, exceedances of the BTV were infrequent (i.e., in nine of the 52 surface soil [0 to 0.5 ft bgs] locations and 13 of the 53 subsurface I soil [0 to 6 ft bgs] locations). High concentrations (greater than 10 times above the BTV) are limited to one location (16 mg/kg at AOC11e-6). Additionally, there are uncertainties associated with screening values for plants and soil invertebrates, as discussed above in Section 5.6.1.1, and there is low confidence in the ability of the screening levels to predict risk to plant and soil invertebrate communities. The HQs are low for both plants and soil invertebrates. Based on the risk results and discussion above, unacceptable risk to plants and soil invertebrate communities from exposure to hexavalent chromium is considered unlikely.

For mercury, the HQ for soil invertebrates is greater than 1 and is unchanged from the depth-weighted evaluation presented above in Section 5.6.1.1 because the EPC is based on the maximum depth-weighted concentration due to low FOD. Mercury was detected in only one of 52 surface soil locations (FOD = 2% in 0 to 0.5 ft bgs), and the maximum depth-weighted concentration (0.18 mg/kg) was used as the area-weighted EPC. For areas where a constituent is largely not detected, the use of a maximum concentration as the EPC may not appropriately characterize risk. Because a UCL could not be estimated due to the low FOD, comparison to the mean concentration in surface soil (0.0515 mg/kg based on the KM mean) to the screening value results in an HQ less than 1 for soil invertebrates. Mercury was not detected in the background dataset, and therefore, a background value could not be developed for comparison and the magnitude of the HQ is low. The uncertainties associated with the soil invertebrate screening values are discussed above in Section 5.6.1.1 and indicate low confidence in the ability of the screening level to predict risk to soil invertebrate communities. Based on the risk results and uncertainty discussed above, unacceptable risk to soil invertebrate communities from exposure to mercury is considered unlikely.

For alpha-chlordane and gamma-chlordane, the HQs for soil invertebrates are the same as the depth-weighted HQs and are greater than 1. These pesticides were detected in only one of 10 locations in surface soil (FOD = 10%), and the maximum depth-weighted concentrations were used as the area-weighted EPCs for alpha-chlordane (0.012 mg/kg) and gamma-chlordane (0.013 mg/kg). The magnitude of the HQ is low. For areas where a constituent is largely not detected, the use of a maximum concentration as the EPC may not appropriately characterize risk. Because UCLs could not be estimated due to the low FOD, comparison to the mean concentrations in surface soil (0.0017 mg/kg for alpha-chlordane and 0.00018 mg/kg for gamma-chlordane based on the KM mean) results in HQs less than 1 for soil invertebrates. The screening values for soil invertebrates (0.0043 mg/kg) is based on chlordane and was used to evaluate potential risk of soil invertebrates exposed to alpha- and gamma-chlordane. The uncertainties associated with the soil invertebrate screening values are discussed above in Section 5.6.1.1. Based on the risk results and uncertainty discussed above, unacceptable risk to soil invertebrate communities from exposure to alpha- or gamma-chlordane is considered unlikely.

Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). Over a hundred different vascular plant species have been observed within the survey area that includes AOC 11 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013, CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

Risk Summary and Potential Drivers for Ecological Communities

Risk drivers were identified for unacceptable ecological community-level risk predicted using the most refined exposure and effects assumptions (i.e., area-weighted EPCs) and additional LOEs supporting the conclusion of no unacceptable risk.

For plants, no unacceptable risk was identified for HMW PAHs and TPHs and unacceptable risk was considered unlikely for hexavalent chromium. No risk-driving COPECs were identified at the AOC 11 potential exposure area using area-weighted EPCs based on an HQ greater than 1 and supporting WOE.

For soil invertebrates, unacceptable risk was considered unlikely for mercury, hexavalent chromium, alpha-chlordane, and gamma-chlordane. No risk-driving COPECs were identified at the AOC 11 potential exposure area for the baseline scenario using area-weighted EPCs and supporting WOE.

No unacceptable risk to plant and soil invertebrate communities is expected from any COPECs at the AOC 11 potential exposure area.

5.6.2.2 Small Mammals

For the AOC 11 potential exposure area, baseline risks were estimated for small mammals using area-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF

- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.2.1 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC11-5.6a summarizes HQs estimated for small mammals at the AOC 11 potential exposure area using the selected TRVs, area-weighted EPCs, and a SUF equal to 1. Table AOC11-5.6b summarizes HQs estimated for small mammals at the AOC 11 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1 as the home range for small mammals is less than or equal to the size of the AOC 11 potential exposure area) for all COPECs. However, only the COPECs identified above in Section 5.6.1.2 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. *De minimis* risk to individuals and populations of granivorous small mammals was identified using depth-weighted EPCs, and the conclusions are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The COPECs identified above in Section 5.6.1.2 for further evaluation using area-weighted EPCs were HMW PAHs and dioxin TEQ.
 - For HMW PAHs, the magnitude of the NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis, and the NOAEL-based HQ is equal to 1 using an area-weighted EPC. The LOAEL-based HQ is also less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals exposed to HMW PAHs in soil.
 - For dioxin TEQ, the magnitude of NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis but are still greater than 1 indicating potential unacceptable risks are possible for individuals and populations of invertivorous small mammals based on the HQ. Conservative assumptions were used to estimate the HQs, including use of bioaccumulation factors based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. The magnitude of the HQs is low (less than 10) and the spatial extent of concentrations exceeding ten times the BTV is limited to four locations along the TCS fenceline (PA-10, PA-11, PA-12, and SD-11A). As a result, the HQs are considered to be overestimated and the LOAEL-based HQ would likely be reduced to less than 1 when adjusted for compounded conservatism in the risk estimates for this COPEC (see Section 6.7.6 of the main report. T&E species with small home ranges have not been observed at the AOC 11 potential exposure area. Based on the LOEs, unacceptable risk to individuals and populations of invertivorous small mammals is considered to be unlikely.
 - NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 indicating *de minimis* risk to individuals and populations of invertivorous small mammals for the remaining COPECs.

Risks Evaluated Using the BTAG TRVs

Table AOC11-5.6b also summarizes HQs estimated for mammals at the AOC 11 potential exposure area using the BTAG TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1). Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – The NOAEL- and LOAEL-based HQs using area-weighted EPCs also resulted in HQs less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal)** – The NOAEL-based HQ for HMW PAHs was reduced to less than 1, indicating *de minimis* risk to individuals or populations of invertivorous small mammals for this COPEC. NOAEL-based HQs for lead and zinc using the area-weighted EPCs are similar to the HQs in the depth-weighted evaluation and are greater than 1. The LOAEL-based HQs are less than 1 for lead and zinc, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for these COPECs. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating *de minimis* risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

The table below summarizes the NOAEL- and LOAEL-based HQs for mammals for COPECs identified above in Section 5.6.1.2 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species- and site-specific SUF (if applicable for a potential receptor):

Hazard Quotient Summary for Mammals (Site-Specific SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	5E-02	3E-02	2E-01	1E-03	7E-01	4E-01	3E+00	1E-02
Zinc	7E-02	2E-02	6E-01	1E-02	1E+00	3E-01	9E+00	2E-01
HMW PAHs	4E-02	8E-03	2E-02	8E-04	1E+00	3E-01	6E-01	3E-02
TEQ Mammals	3E-01	3E-02	--	--	9E+01	9E+00	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.2.2 Baseline Risk Summary for Small Mammals Using Area-Weighted EPCs

To summarize, based on the risks characterized for populations of small mammals exposed to COPECs in soil at the AOC 11 potential exposure area using selected TRVs⁸, area-weighted EPCs, and a site-specific

⁸ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

SUF (SUF equal to 1 because the home ranges are less than or equal to the size of the potential exposure area), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammal), the area-weighted NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals. As potential risk is *de minimis* from all COPECs at the AOC 11 potential exposure area for granivorous small mammals, no further evaluation is necessary.
- For the desert shrew (invertivorous small mammal), the area-weighted NOAEL- and LOAEL-based HQs are greater than 1 for dioxin TEQ. Unacceptable risk to invertivorous small mammals from exposure to dioxin TEQ is unlikely based on the following LOE: 1) low magnitude of the HQs (LOAEL-based HQ is less than 10), and likely reduced to 1 or less if adjusted for compounding uncertainties associated with the conservative assumptions; these include diet (dietary composition assumes 100% of a single item diet, uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by 10 times), and conservative TRVs (based on the lowest available NOAEL and LOAEL doses; 2) spatial extent of elevated concentrations were limited to four locations along the TCS fenceline (PA-10, PA-11, PA-12, and SD-11A); and 3) T&E species with small home ranges have not been observed in AOC 11 potential exposure area.
- For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than or equal to 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals.

Potential Risk Drivers for Small Mammals at AOC 11 Potential Exposure Area

No risk-driving COPECs for small mammals were identified at AOC 11 as no unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1 [or LOAEL-based HQs greater than 10 for dioxin TEQ]) was predicted from HQs calculated using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional supporting WOE.

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified at AOC 11 (dioxin TEQ). However, the additional LOEs support the conclusions that unacceptable risk to individual receptors from exposure to this COPEC is unlikely.

5.6.2.3 Birds

For the AOC 11 potential exposure area, baseline risks were estimated using area-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.3.1 Risks Evaluated Using Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC11-5.6a summarizes HQs estimated for birds at the AOC 11 potential exposure area using the selected TRVs, area-weighted EPCs, and a SUF equal to 1. However, this section only discusses the area-weighted HQs using the selected TRVs and site-specific SUF. Table AOC11-5.6b summarizes HQs estimated for birds at the AOC 11 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-

specific SUF (SUF = 0.2 for Gambel's quail and 1 for cactus wren) for all COPECs. Only the COPECs identified above in Section 5.6.1.3 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soil (0 to 6 ft bgs) through its diet. *De minimis* risk to granivorous birds was identified using depth-weighted EPCs, and the results are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).
- **Cactus wren (insectivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The COPECs identified above in Section 5.6.1.3 for further evaluation using area-weighted EPCs were mercury, PCBs, and dioxin TEQ. Additionally, lead is also discussed below, as the area-weighted EPCs is higher than the depth-weighted EPC and results in an HQ greater than 1.
 - For lead, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is equal to 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ LOE. Lead was frequently detected in surface soil (FOD = 100% from 0 to 0.5 ft bgs) with 29 of the 52 total surface soil locations having depth-weighted concentrations exceeding the BTV (8.39 mg/kg). The elevated EPC is due primarily to two locations with concentrations more than 10 times greater than the BTV (220 mg/kg at AOC11-7 and 150 mg/kg at PA-09). There is moderate confidence in the TRVs. The NOAEL TRV is considered conservative, as the EcoSSL is based data for lead acetate, a highly bioavailable form of lead unlikely to be present in soil (see Section 6.5 of the main report). The EcoSSL is based on the highest bounded NOAEL below the lowest bounded LOAEL, is below the geometric mean NOAEL value for reproduction and growth endpoints, and was calculated from a dataset representing at least six bird species. The magnitude of the HQ is low, even when using conservative assumptions for this potential receptor in the ERA (such as 100% invertebrate diet and uptake factors based on earthworms). In addition, site-specific bioavailability of lead is not accounted for in the EPC estimates and conservatively is assumed to be 100%. Further, T&E species with small home ranges have not been observed at the AOC 11 potential exposure area, and therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted. Although the NOAEL-based HQ is greater than 1, based on the HQ and supporting LOEs, unacceptable risk is considered unlikely for individual insectivorous birds exposed to lead in soil at the AOC 11 potential exposure area and is not expected for populations of insectivorous birds.
 - For mercury, the magnitude of the NOAEL- and LOAEL-based HQ remained the same as using the depth-weighted EPC because the area-weighted EPC is based on the maximum depth-weighted concentration due to the low FOD and the SUF is equal to 1. The NOAEL-based HQ is greater than 1 and the LOAEL-based AOC is less than 1, indicating no unacceptable risk to populations of insectivorous birds. Unacceptable risks to individual potential receptors is uncertain based on the HQ; however, additional LOEs (i.e., low FOD, low HQ, and conservative assumptions, as discussed above for invertivorous mammals) support the conclusion that unacceptable risk is not expected for individual potential receptors and unlikely for populations of insectivorous birds.

- For PCBs, the magnitude of the NOAEL- and LOAEL-based HQ was reduced from the depth-weighted EPC analysis, and the NOAEL-based HQ is equal to 1 using an area-weighted EPC. *De minimis* risk to individuals and populations of insectivorous birds is expected.
- For dioxin TEQ, the magnitude of NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis. Using an area-weighted EPC, the LOAEL-based HQ is still less than 1 and the NOAEL-based HQ is still greater than 1. The results indicate no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The magnitude of the NOAEL-based HQ is low. Conservative assumptions were used to estimate the HQs, including the use of bioaccumulation factors based on the uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. As a result, the HQs are considered to be overestimated. Additionally, T&E species have not been observed at the AOC 11 potential exposure area, as described above in Section 5.1.1. Therefore, unacceptable risk to individual insectivorous birds is considered to be unlikely and is not expected for populations of insectivorous birds.

Risks Evaluated Using the BTAG TRVs

Table AOC11-5.6b also summarizes HQs estimated for birds at AOC11 using the BTAG TRVs, area-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.2. The NOAEL-based HQ for lead increased slightly from the depth-weighted EPC analysis and is greater than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain. NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 indicating *de minimis* risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this potential receptor is 1. NOAEL-based HQs using depth-weighted EPCs were greater than 1 for lead, mercury, zinc, 4,4,-DDE, and total PCBs. Using area-weighted EPCs, the NOAEL-based HQ for PCBs was reduced from the depth-weighted analysis and is equal to 1, indicating *de minimis* risk to individuals and populations of insectivorous birds exposed to PCBs. The NOAEL-based HQ for zinc was reduced from the depth-weighted EPC analysis, but the NOAEL-based HQ was still greater than 1. NOAEL-based HQs for mercury and 4,4,-DDE remained the same because mercury and 4,4,-DDE were based on the maximum detected concentration in surface soil (0 to 0.5 ft bgs). The NOAEL-based HQ for lead increased. LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for lead, mercury, zinc, and 4,4-DDE. The uncertainties associated with the BTAG TRVs are discussed in Section 6.5 of the main report.

NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating *de minimis* risk to individuals and populations of insectivorous birds from these COPECs.

The table below summarizes NOAEL- and LOAEL-based HQs for birds for COPECs identified above in Section 5.6.1.3 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species- and site-specific SUF.

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Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.2)				Cactus Wren (SUF = 1)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	2E-02	1E-02	3E+00	4E-03	2E+00	1E+00	2E+02	4E-01
Mercury	3E-02	7E-03	3E-02	7E-03	3E+00	5E-01	3E+00	5E-01
Zinc	7E-03	3E-03	3E-02	3E-03	1E+00	4E-01	4E+00	4E-01
4,4-DDE	7E-05	7E-06	2E-03	2E-05	1E-01	1E-02	3E+00	4E-02
Total PCBs	2E-03	1E-04	2E-03	1E-04	1E+00	8E-02	1E+00	8E-02
TEQ Avian	2E-03	2E-04	--	--	3E+00	3E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.3.2 Risk Summary for Birds Using Area-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 11 potential exposure area using selected TRVs⁹, area-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- Gambel's quail (granivorous bird) – The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating de minimis risk to individuals and populations of granivorous birds. Potential risk is de minimis from all COPECs at the AOC 11 potential exposure area for granivorous birds and no further evaluation is necessary.
- Cactus wren (insectivorous bird)** – LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to insectivorous bird populations. COPECs indicative of uncertain risks to individual potential receptors based on the HQs (i.e., where the NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) include lead, mercury, and dioxin TEQ. For these COPECs, unacceptable risk to individual potential receptors is considered unlikely based on supporting LOEs, including the low magnitude of the HQs, conservative assumptions used in the risk estimates, no observations of T&E species at the AOC 11 potential exposure area, and low FOD (for mercury). For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1 indicating de minimis risk to individuals and populations of insectivorous birds.

⁹ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

Potential Risk Drivers for Birds at AOC 11 Potential Exposure Area

No risk-driving COPECs were identified at AOC 11 for the baseline scenario using area-weighted EPCs as no unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) were predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional supporting LOEs.

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for the AOC 11 potential exposure area (i.e., lead, mercury, and dioxin TEQ); however, the WOE supports the conclusion that unacceptable risk to individual potential receptors from exposure to these COPECs is unlikely.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for potential human receptors were estimated, as presented above in Section 4. For potential ecological receptors, potential risks were estimated as presented in Section 5, above. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Sections 5.6 and 6.5 of the main report, and uncertainties specific to the AOC 11 potential exposure area are discussed in this appendix. For the AOC 11 potential exposure area, the HHRA and ERA were conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario was evaluated (baseline [no scouring]). For this evaluation, risks were estimated for various potential receptors using depth-weighted EPCs and area-weighted EPCs.

At the AOC 11 potential exposure area, the COPCs/COPECs identified for the HHRA include metals (arsenic, hexavalent chromium, total chromium, copper, lead, mercury, and zinc), one VOC (methyl acetate), HMW PAHs, LMW PAHs, PAHs, pesticides (4,4-DDE, alpha-chlordane, dieldrin, and gamma-chlordane), PCBs, TPH as diesel, TPH as motor oil, and dioxins and furans. A summary of these results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the AOC 11 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 11 potential exposure area using depth- and area-weighted EPCs under the baseline scenario were estimated. Assuming lifetime soil contact is limited to the AOC 11 potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface I	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface II	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Long-Term Maintenance Worker	Surface	7×10^{-6} (As, CrVI, and dioxin TEQ)	7×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1
	Shallow	8×10^{-6} (As, CrVI, and dioxin TEQ)	8×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 11 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Long-Term Maintenance Worker	Subsurface I	9×10^{-6} (As, CrVI, and dioxin TEQ)	8×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1
	Subsurface II	8×10^{-6} (As, CrVI, and dioxin TEQ)	8×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1
Camper	Surface	3×10^{-6} (As and dioxin TEQ)	3×10^{-6} (As and dioxin TEQ)	≤ 1	---
	Shallow	3×10^{-6} (As and dioxin TEQ)	3×10^{-6} (As and dioxin TEQ)	≤ 1	---
Hiker	Surface	6×10^{-6} (As and dioxin TEQ)	5×10^{-6} (As and dioxin TEQ)	≤ 1	---
	Shallow	6×10^{-6} (As and dioxin TEQ)	5×10^{-6} (As and dioxin TEQ)	≤ 1	---
Hunter	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
OHV Rider	Surface	3×10^{-6} (As and dioxin TEQ)	3×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1
	Shallow	3×10^{-6} (As, CrVI, and dioxin TEQ)	3×10^{-6} (As, CrVI, and dioxin TEQ)	≤ 1	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---

Note:

--- = area-weighted (area-wt) estimate not calculated because depth-weighted (depth-wt) estimates for the potential receptor was below *de minimis* levels

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including: Short- and Long-Term Maintenance Worker, Camper, Hiker, Hunter, and OHV Rider
- **ILCR $\leq 1 \times 10^{-6}$** – Short-Term Maintenance Worker (all soil depths), Hunter (surface and shallow soil), and Tribal User (surface and shallow soil).

Potential exposures that are above the *de minimis* levels of an HI > 1 and within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Camper (surface and shallow soil) and OHV Rider (surface and shallow soil)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Long-Term Maintenance Worker (all soil depths) and Hiker (surface and shallow soil)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the depth-weighted estimated risks and hazards above *de minimis* levels for the long-term maintenance worker, camper, hiker, and OHV rider were due to arsenic, hexavalent chromium, and/or dioxin TEQ. Therefore, potential risks and hazards for these four potential receptors were evaluated using area-weighted EPCs and are provided below.

Area-Weighted

Potential exposures that are at or below the *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – Long-Term Maintenance Worker, Camper, Hiker, and OHV Rider
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – None.

Potential exposures that are above the *de minimis* level of an HI > 1 and within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Camper (surface and shallow soil), Hiker (surface and shallow soil), and OHV Rider (surface and shallow soil)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Long-Term Maintenance Worker (all soil depths)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR $> 1 \times 10^{-4}$ – None.**

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the AOC 11 potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil using depth-weighted EPCs for the short-term maintenance worker, hunter, and tribal user are below 1×10^{-6} and 1, respectively. The cumulative ILCRs estimated using the depth- and area-weighted EPCs for the camper and OHV rider were above the point of departure for risk management decisions of 1×10^{-6} , but below 5×10^{-6} . The cumulative ILCRs estimated using the depth- and/or area-weighted EPCs for the long-term maintenance worker and hiker were above 5×10^{-6} , but below 1×10^{-5} . These values are within the risk management range of 1×10^{-6} and 1×10^{-4} . The cumulative HIs estimated using the depth- and area-weighted EPCs for the long-term maintenance workers, campers, hikers, and OHV riders were at or below HI of 1.

As demonstrated by comparing the values, the area-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider are not materially different than the depth-weighted cumulative ILCRs for all exposure depths. Approximately 78 to 85% of the estimated ILCRs for arsenic are attributed to background concentrations of arsenic in soil. Considering the substantial contribution of background arsenic in soil to the estimated cumulative ILCRs for all the receptors potentially exposed to AOC 11 potential exposure area soil, it is likely that incremental risks for site-related COPCs in soil are at or only slightly above 1×10^{-6} , but below 5×10^{-6} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} .

The depth- and area-weighted EPCs for lead in the AOC 11 potential exposure area soil at all exposure depths are not expected to result in an increase in blood lead levels above OEHHA's benchmark value of $1 \mu\text{g/dL}$ in the fetus of a short- or long-term maintenance worker, fetus of a hunter, or child recreational user.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like AOC 11 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risk/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in AOC 11 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 11 potential exposure area, seven metals (arsenic, hexavalent chromium, total chromium, copper, lead, mercury, and zinc), VOCs (methyl acetate), LMW PAHs, HMW PAHs, pesticides (4,4-DDE, alpha-

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chlordane, gamma- chlordane, and dieldrin), PCBs, dioxin TEQ (for potential wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) were identified as COPECs. TPHs (as diesel and as motor oil) were also identified as COPECs. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted and area-weighted EPCs. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and invertebrates).
- COPECs with HQs greater than 1 could indicate unacceptable risk to ecological communities. A WOE approach was used to characterize potential risk to plants and soil invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risks to wildlife populations; however, the potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual potential receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors based on the HQ.

The risk estimates (HQs) represent only one LOE for risk characterization. A qualitative WOE approach, incorporating other LOE and uncertainties, was used to characterize possible risk to wildlife populations at the AOC 11 potential exposure area.

HQs for all the COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are summarized in Table AOC11-6.1. The HQs/LOAEL-based HQs based on depth-weighted EPCs were greater than 1 for the following COPECs:

- Plant Communities – Hexavalent chromium and HMW PAHs/TPHs
- Soil Invertebrate Communities – Hexavalent chromium, mercury, zinc, and alpha- and gamma-chlordane
- Small Mammals – None for granivorous small mammals; HMW PAHs and dioxin TEQ for invertivorous small mammals
- Birds – None for granivorous birds; mercury, total PCBs, and dioxin TEQ for insectivorous birds.

HQs were also calculated for all the COPECs using area-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs and are presented in Table AOC11-6.1. For COPECs with HQs/LOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions (i.e., area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs), a WOE assessment was used to draw risk conclusions and identify potential risk drivers for the AOC 11 potential exposure area. The various LOEs considered in the WOE assessment and risk conclusions are presented in Table AOC11-6.2.

Based on the ecological risk characterization for the AOC 11 potential exposure area, using area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs, the following conclusions were made:

6.2.1 Plant Communities

Overall, no unacceptable risk was identified for plants, including special-status species. Conclusions for the baseline scenario evaluations are as follows:

- No federal or state-listed T&E plants or candidates for listing were found at the site, including the AOC 11 potential exposure area.
- Potential risks to plants are *de minimis* from exposure to all COPECs except hexavalent chromium. The HQ for HMW PAHs was reduced to 1 in the area-weighted evaluation, indicating *de minimis* to plant communities from HMW PAHs (and TPHs) at the AOC 11 potential exposure area.
- The HQ for hexavalent chromium remained the same as in the depth-weighting evaluation and still greater than 1. Unacceptable risk to plants from exposure to hexavalent chromium is unlikely based on the following LOEs: 1) low magnitude of the HQ; 2) although frequently detected, concentrations were below the BTV in many of the locations; 3) low confidence in the plant screening value in predicting toxicity (screening level is less than the BTV); and 4) elevated concentrations (greater than 10 times the BTV) were limited to a single location (AOC11e-6).
- Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). Over a hundred different vascular plant species have been observed within the survey area that includes AOC 11 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013, CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

6.2.2 Soil Invertebrate Communities

Overall, no unacceptable risks to soil invertebrates are expected. Conclusions for the baseline scenario evaluations are as follows:

- Potential risks to soil invertebrates are *de minimis* from exposure to arsenic, total chromium, copper, lead, zinc, PAHs, TPHs, 4,4-DDE, dieldrin, PCBs, and 2,3,7,8-TCDD at the AOC 11 potential exposure area. The HQ for zinc was reduced to less than 1 from the depth-weighting evaluation, indicating *de minimis* to soil invertebrate communities from zinc as well at the AOC 11 potential exposure area.
- The HQs for mercury, alpha- and gamma-chlordane remained the same as in the depth-weighted evaluation. Unacceptable risks to soil invertebrates from exposure to these COPECs are unlikely because of the following LOEs: 1) low FOD; 2) EPCs based on the maximum depth-weighted concentrations; 3) for areas where a constituent is largely not detected, use of a maximum concentrations as the EPC may not

appropriately characterize HQs; 4) low magnitude of HQs; and 5) low confidence in the screening values to predict toxicity to soil invertebrate communities.

- The area-weighted HQ for hexavalent chromium increased from the depth-weighting evaluation and is greater than 1. The impact of area-weighting on these COPECs is discussed in Section 5.6.3 of the main report and in Section 4 of this appendix. Unacceptable risk to soil invertebrate communities is considered unlikely for hexavalent chromium based on these supporting LOEs: 1) low magnitude of the HQ; 2) very conservative screening level (less than the BTVs); and 3) low confidence in the invertebrate screening value and its ability to predict risk.

6.2.3 Small Mammals

Overall, no unacceptable risks to populations of granivorous and invertivorous small mammals exposed to COPECs in soil are expected except for dioxin TEQ for invertivorous small mammals. Conclusions for the baseline scenario evaluations are as follows:

- Several species of mammals have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, no T&E species with small home ranges were observed at the AOC 11 potential exposure area. Therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Merriam's kangaroo rat (granivorous small mammal) – NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, which is the same as in the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous small mammals at the AOC 11 potential exposure area.
- For the desert shrew (invertivorous small mammal) – Potential risk is *de minimis* from exposure to all COPECs, except dioxin TEQ. The NOAEL-based HQ for HMW PAHs was reduced to 1 in the area-weighted evaluation, indicating *de minimis* risk to invertivorous small mammals from HMW PAHs (and TPHs) at the AOC 11 potential exposure area.

NOAEL- and LOAEL-based HQs for dioxin TEQ were reduced from the depth-weighted evaluation but are still greater than 1. Unacceptable risk to invertivorous small mammals from exposure to dioxin TEQ is unlikely based on the following LOE: 1) low magnitude of the HQs (LOAEL-based HQ is less than 10), and likely reduced to 1 or less if adjusted for compounding uncertainties associated with the conservative assumptions (see Section 6.7.6 of the main report); these include diet (dietary composition assumes 100% of a single item diet; see Section 6.7.3 of the main report), uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by 10 times; see Section 6.7.4 of the main report), and conservative TRVs (based on the lowest available NOAEL and LOAEL doses; see Section 6.7.5 of the main report); 2) spatial extent of elevated concentrations were limited to four locations along the TCS fenceline (PA-10, PA-11, PA-12, and SD-11A); and 3) T&E species with small home ranges have not been observed in AOC 11 potential exposure area.

6.2.4 Birds

Overall, no unacceptable risks to bird populations (granivorous and insectivorous) exposed to COPECs in soil are expected. Conclusions for the baseline scenario evaluations are as follows:

- Several species of birds have been observed at or near the site (Tables 2-2 and 2-4); however, no T&E species with small home ranges were observed at the AOC 11 potential exposure area. Therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Gambel's quail (granivorous bird) – NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, which is the same as in the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous birds at the AOC 11 potential exposure area.
- For the cactus wren (insectivorous bird) – Potential risk is *de minimis* from exposure to all the COPECs except for lead, mercury, and dioxin TEQ. The NOAEL-based HQ for PCBs was reduced to 1 from the depth-weighting evaluation, indicating *de minimis* risk to insectivorous birds from PCBs at the AOC 11 potential exposure area.

The area-weighted NOAEL-based HQ for lead increased from the depth-weighting evaluation and is greater than 1. The impact of area-weighting on this COPECs is discussed above in Section 5.6.2.3. The area-weighted NOAEL-based HQ for mercury remained the same as in the depth-weighted evaluation and is greater than 1. The area-weighted NOAEL-based HQ for dioxin TEQ was reduced from the depth-weighting evaluation and is still greater than 1.

COPECs with HQs indicative of uncertain risk to individual potential receptors include lead, mercury, and dioxin TEQ. Unacceptable risk to individual potential receptors is unlikely for these COPECs based on the following LOEs: 1) low magnitude of the HQs; 2) low FOD for mercury; 2) for areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk; 3) conservative assumptions in the risk estimates (not accounting for site-specific bioavailability of lead, assuming 100% of invertebrate diet; see Section 6.7 of the main report); 4) low confidence in the TRVs for mercury as they are unlikely to reflect the species of mercury present at the AOC 11 potential exposure area; and 5) no observations of T&E species with small home ranges at the AOC 11 potential exposure area.

No COPECs had LOAEL-based HQs greater than 1, indicating unacceptable risk to populations of insectivorous birds is not expected at the AOC 11 potential exposure area.

6.2.5 Potential Risk Drivers for the AOC 11 Potential Exposure Area

As presented in Table AOC11-6.2, risk drivers were identified for the AOC 11 potential exposure area based on unacceptable community-/population-level risk (i.e., HQ greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds [or LOAEL-based HQs greater than 10 for dioxin TEQ]) predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk. The risk drivers for potential ecological receptors in the AOC 11 potential exposure area are also summarized in the table below.

APPENDIX AOC11
SOIL HHERA FOR AOC 11 EXPOSURE AREA

Scenario	Potential Receptors and Risk Drivers at the AOC 11 Potential Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's kangaroo rat)	Insectivorous Mammals (desert shrew)	Granivorous Birds (Gambel's quail)	Insectivorous Birds (cactus wren)
Baseline	None	None	None	None	None	None

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TABLES



Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
300b-103-1080	04/06/11	AOC11g-OS1	0	0.5	0.5	0-0.5	--
300b-103-1081	04/06/11	AOC11g-OS1	2.5	3	3	0-03	--
300b-103-1082	04/06/11	AOC11g-OS1	5.5	6	6	0-06	--
300b-103-1083	04/06/11	AOC11g-OS1	8.5	9	9	0-10	--
AOC11-1-6100	01/05/16	AOC11-1	0	1	0.5	0-0.5	--
AOC11-1-6101	01/05/16	AOC11-1	0	1	0.5	0-0.5	--
AOC11-1-6102	01/05/16	AOC11-1	2	3	3	0-03	--
AOC11-1-6103	01/05/16	AOC11-1	5	6	6	0-06	--
AOC11-1-6104	01/05/16	AOC11-1	9	10	10	0-10	--
AOC11-2-6105	01/05/16	AOC11-2	0	1	0.5	0-0.5	--
AOC11-2-6106	01/05/16	AOC11-2	2	3	3	0-03	--
AOC11-2-6107	01/05/16	AOC11-2	5	6	6	0-06	--
AOC11-2-6108	01/05/16	AOC11-2	9	10	10	0-10	--
AOC11-2-6109	01/05/16	AOC11-2	9	10	10	0-10	--
AOC11-3-6110	01/05/16	AOC11-3	0	1	0.5	0-0.5	--
AOC11-3-6111	01/05/16	AOC11-3	2	3	3	0-03	--
AOC11-3-6112	01/05/16	AOC11-3	5	6	6	0-06	--
AOC11-3-6113	01/05/16	AOC11-3	9	10	10	0-10	--
AOC11-3-6114	01/05/16	AOC11-3	9	10	10	0-10	--
AOC11-4-6115	01/05/16	AOC11-4	0	1	0.5	0-0.5	--
AOC11-4-6116	01/05/16	AOC11-4	2	3	3	0-03	--
AOC11-4-OS1-D1	06/11/14	AOC11-4-OS1	0	0	0	0-0.5	--
AOC11-4-OS1-D2	06/11/14	AOC11-4-OS1	2	3	3	0-03	--
AOC11-4-OS3-D1	06/11/14	AOC11-4-OS3	0	0	0	0-0.5	--
AOC11-4-OS3-D2	06/11/14	AOC11-4-OS3	2	3	3	0-03	--
AOC11-4-OS3-D99	06/11/14	AOC11-4-OS3	2	3	3	0-03	--
AOC11-4-OS4-D1	06/11/14	AOC11-4-OS4	0	0	0	0-0.5	--
AOC11-4-OS4-D2	06/11/14	AOC11-4-OS4	2	3	3	0-03	--
AOC11-4-OS4-D3	06/11/14	AOC11-4-OS4	5	6	6	0-06	--
AOC11-4-OS5-D1	06/11/14	AOC11-4-OS5	0	0	0	0-0.5	--
AOC11-4-OS5-D2	06/11/14	AOC11-4-OS5	2	3	3	0-03	--
AOC11-4-OS5-D99	06/11/14	AOC11-4-OS5	5	6	6	0-06	--
AOC11-4-OS6-D1	06/11/14	AOC11-4-OS6	0	0	0	0-0.5	--
AOC11-4-OS6-D2	06/11/14	AOC11-4-OS6	2	3	3	0-03	--
AOC11-5-6119	02/03/16	AOC11-5	0	0.5	0.5	0-0.5	--
AOC11-5-6120	02/03/16	AOC11-5	2	3	3	0-03	--
AOC11-5-6121	02/03/16	AOC11-5	5	6	6	0-06	--
AOC11-5-6122	02/03/16	AOC11-5	9	10	10	0-10	--
AOC11-6-6123	01/06/16	AOC11-6	0	1	0.5	0-0.5	--
AOC11-6-6124	01/06/16	AOC11-6	2	3	3	0-03	--
AOC11-6-6125	01/06/16	AOC11-6	5	6	6	0-06	--

Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

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Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC11-6-6126	01/06/16	AOC11-6	9	10	10	0-10	--
AOC11-7-6127	01/06/16	AOC11-7	0	1	0.5	0-0.5	--
AOC11-7-6128	01/06/16	AOC11-7	2	3	3	0-03	--
AOC11-7-6129	01/06/16	AOC11-7	5	6	6	0-06	--
AOC11-8-6131	12/06/15	AOC11-8	0	1	0.5	0-0.5	--
AOC11-8-6132	12/06/15	AOC11-8	2	3	3	0-03	--
AOC11-9-6135	12/06/15	AOC11-9	0	1	0.5	0-0.5	--
AOC11-9-6136	12/06/15	AOC11-9	2	3	3	0-03	--
AOC11a-1-6001	09/21/08	AOC11a-1	0	0.5	0.5	0-0.5	--
AOC11a-1-6002	09/21/08	AOC11a-1	2	3	3	0-03	--
AOC11a-1-6003	09/21/08	AOC11a-1	5	6	6	0-06	--
AOC11a-1-6004	09/21/08	AOC11a-1	9	10	10	0-10	--
AOC11a-2-6005	09/21/08	AOC11a-2	0	0.5	0.5	0-0.5	--
AOC11a-2-6006	09/21/08	AOC11a-2	2	3	3	0-03	--
AOC11a-2-6007	09/21/08	AOC11a-2	5	6	6	0-06	--
AOC11a-2-6008	09/21/08	AOC11a-2	9	10	10	0-10	--
AOC11a-3-6009	09/20/08	AOC11a-3	0	0.5	0.5	0-0.5	--
AOC11a-3-6010	09/20/08	AOC11a-3	2	3	3	0-03	--
AOC11a-3-6011	09/20/08	AOC11a-3	2	3	3	0-03	--
AOC11a-3-6012	09/20/08	AOC11a-3	5	6	6	0-06	--
AOC11a-3-6013	09/20/08	AOC11a-3	9	10	10	0-10	--
AOC11a-4-6014	09/20/08	AOC11a-4	0	0.5	0.5	0-0.5	--
AOC11a-4-6015	09/20/08	AOC11a-4	2	3	3	0-03	--
AOC11a-4-6016	09/20/08	AOC11a-4	5	6	6	0-06	--
AOC11a-4-6017	09/20/08	AOC11a-4	9	10	10	0-10	--
AOC11a-5-6018	09/21/08	AOC11a-5	0	0.5	0.5	0-0.5	--
AOC11a-5-6019	09/21/08	AOC11a-5	2	3	3	0-03	--
AOC11a-5-6020	09/21/08	AOC11a-5	5	6	6	0-06	--
AOC11a-5-6021	09/21/08	AOC11a-5	5	6	6	0-06	--
AOC11a-5-6022	09/21/08	AOC11a-5	9	10	10	0-10	--
AOC11a-SS-1-6055	09/21/08	AOC11a-SS1	0	0.5	0.5	0-0.5	--
AOC11a-SS-1-6056	09/21/08	AOC11a-SS1	2	3	3	0-03	--
AOC11a-SS-1-6057	09/21/08	AOC11a-SS1	5	6	6	0-06	--
AOC11a-SS-1-6058	09/21/08	AOC11a-SS1	9	10	10	0-10	--
AOC11a-SS-2-6059	09/21/08	AOC11a-SS2	0	0.5	0.5	0-0.5	--
AOC11a-SS-2-6060	09/21/08	AOC11a-SS2	2	3	3	0-03	--
AOC11a-SS-3-6063	09/20/08	AOC11a-SS3	0	0.5	0.5	0-0.5	--
AOC11a-SS-3-6064	09/20/08	AOC11a-SS3	2	3	3	0-03	--
AOC11a-SS-3-6065	09/20/08	AOC11a-SS3	5	6	6	0-06	--
AOC11a-SS-3-6066	09/20/08	AOC11a-SS3	9	10	10	0-10	--
AOC11b-1-6023	09/17/08	AOC11b-1	0	0.5	0.5	0-0.5	--

Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC11b-1-6024	09/17/08	AOC11b-1	0	0.5	0.5	0-0.5	--
AOC11b-1-6025	09/17/08	AOC11b-1	2	3	3	0-03	--
AOC11b-1-6026	09/17/08	AOC11b-1	5	6	6	0-06	--
AOC11b-1-6027	09/17/08	AOC11b-1	9	10	10	0-10	--
AOC11b-2-6028	09/17/08	AOC11b-2	0	0.5	0.5	0-0.5	--
AOC11b-2-6029	09/17/08	AOC11b-2	2	3	3	0-03	--
AOC11b-2-6030	09/17/08	AOC11b-2	5	6	6	0-06	--
AOC11b-2-6031	09/17/08	AOC11b-2	9	10	10	0-10	--
AOC11c-1-6032	09/21/08	AOC11c-1	0	0.5	0.5	0-0.5	--
AOC11c-1-6033	09/22/08	AOC11c-1	2	3	3	0-03	--
AOC11c-1-6034	09/22/08	AOC11c-1	2	3	3	0-03	--
AOC11c-1-6035	09/22/08	AOC11c-1	5	6	6	0-06	--
AOC11c-1-6036	09/22/08	AOC11c-1	9	10	10	0-10	--
AOC11c-2-6037	09/21/08	AOC11c-2	0	0.5	0.5	0-0.5	--
AOC11c-2-6038	09/22/08	AOC11c-2	2	3	3	0-03	--
AOC11c-2-6039	09/22/08	AOC11c-2	5	6	6	0-06	--
AOC11c-2-6040	09/22/08	AOC11c-2	9	10	10	0-10	--
AOC11c-3-6139	02/03/16	AOC11C-3	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC11c-3-6140	02/03/16	AOC11C-3	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
AOC11c-3-6141	02/03/16	AOC11C-3	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
AOC11c-4-6146	01/28/16	AOC11c-4	0	1	0.5	0-0.5	--
AOC11c-4-6147	01/28/16	AOC11c-4	2	3	3	0-03	--
AOC11c-4-6148	01/28/16	AOC11c-4	5	6	6	0-06	--
AOC11c-4-6149	01/28/16	AOC11c-4	9	10	10	0-10	--
AOC11c-4-6150	01/28/16	AOC11c-4	9	10	10	0-10	--
AOC11c-4-6151	02/02/16	AOC11c-4	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC11c-4-6152	02/02/16	AOC11c-4	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
AOC11c-SS-1-6067	09/21/08	AOC11c-SS1	0	0.5	0.5	0-0.5	--
AOC11c-SS-1-6068	09/22/08	AOC11c-SS1	2	3	3	0-03	--
AOC11c-SS-1-6069	09/22/08	AOC11c-SS1	5	6	6	0-06	--
AOC11c-SS-1-6070	09/22/08	AOC11c-SS1	9	10	10	0-10	--

Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC11c-SS-2-6071	09/22/08	AOC11c-SS2	0	0.5	0.5	0-0.5	--
AOC11c-SS-2-6072	09/22/08	AOC11c-SS2	2	3	3	0-03	--
AOC11c-SS-2-6073	09/22/08	AOC11c-SS2	5	6	6	0-06	--
AOC11c-SS-2-6074	09/22/08	AOC11c-SS2	9	10	10	0-10	--
AOC11d-1-6041	09/23/08	AOC11d-1	0	0.5	0.5	0-0.5	--
AOC11d-1-6042	09/23/08	AOC11d-1	0	0.5	0.5	0-0.5	--
AOC11d-1-6043	09/23/08	AOC11d-1	2.5	3	3	0-03	--
AOC11d-1-6044	09/23/08	AOC11d-1	5	6	6	0-06	--
AOC11d-1-6045	09/23/08	AOC11d-1	9	10	10	0-10	--
AOC11e-1-6046	09/23/08	AOC11e-1	0	0.5	0.5	0-0.5	--
AOC11e-1-6047	09/23/08	AOC11e-1	2.5	3	3	0-03	--
AOC11e-1-6048	09/23/08	AOC11e-1	5.5	6	6	0-06	--
AOC11e-1-6049	09/23/08	AOC11e-1	9.5	10	10	0-10	--
AOC11e-2-6050	09/24/08	AOC11e-2	0	0.5	0.5	0-0.5	--
AOC11e-2-6051	09/24/08	AOC11e-2	2	3	3	0-03	--
AOC11e-2-6052	09/24/08	AOC11e-2	2	3	3	0-03	--
AOC11e-2-6053	09/24/08	AOC11e-2	5	6	6	0-06	--
AOC11e-2-6054	09/24/08	AOC11e-2	9	10	10	0-10	--
AOC11e-3-6153	01/08/16	AOC11e-3	0	1	0.5	0-0.5	--
AOC11e-3-6154	01/08/16	AOC11e-3	0	1	0.5	0-0.5	--
AOC11e-3-6155	01/10/16	AOC11e-3	2	3	3	0-03	--
AOC11e-3-6156	01/10/16	AOC11e-3	5	6	6	0-06	--
AOC11e-3-6157	01/10/16	AOC11e-3	9	10	10	0-10	--
AOC11e-3-6158	01/10/16	AOC11e-3	13	14	14	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-4-6159	01/28/16	AOC11e-4	0	1	0.5	0-0.5	--
AOC11e-4-6160	01/28/16	AOC11e-4	2	3	3	0-03	--
AOC11e-4-6161	01/28/16	AOC11e-4	5	6	6	0-06	--
AOC11e-4-6164	01/28/16	AOC11e-4	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6165	01/19/16	AOC11e-5	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6166	01/19/16	AOC11e-5	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6167	01/19/16	AOC11e-5	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)

Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC11e-5-6168	01/19/16	AOC11e-5	39	40	40	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6169	01/20/16	AOC11e-5	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6170	01/21/16	AOC11e-5	59	60	60	NE	Excluded from HHERA (> 10 ft bgs)
AOC11e-5-6171	01/21/16	AOC11e-5	69	70	70	NE	Excluded from HHERA (> 10 ft bgs)
AOC11E-6-6172	12/03/15	AOC11e-6	0	1	0.5	0-0.5	--
AOC11e-SS-1-6075	09/23/08	AOC11e-SS1	0	0.5	0.5	0-0.5	--
AOC11e-SS-1-6076	09/23/08	AOC11e-SS1	2.5	3	3	0-03	--
AOC11e-SS-1-6077	09/23/08	AOC11e-SS1	5.5	6	6	0-06	--
AOC11e-SS-1-6078	09/23/08	AOC11e-SS1	9.5	10	10	0-10	--
AOC11e-SS-2-6079	09/23/08	AOC11e-SS2	0	0.5	0.5	0-0.5	--
AOC11e-SS-2-6080	09/23/08	AOC11e-SS2	2.5	3	3	0-03	--
AOC11e-SS-2-6081	09/23/08	AOC11e-SS2	5.5	6	6	0-06	--
AOC11e-SS-2-6082	09/23/08	AOC11e-SS2	5.5	6	6	0-06	--
AOC11e-SS-2-6083	09/23/08	AOC11e-SS2	9.5	10	10	0-10	--
PA-07-1	11/09/15	PA-07	0	1	0.5	0-0.5	--
PA-09-01	01/27/16	PA-09	0	1	0.5	0-0.5	--
PA-10-01	01/27/16	PA-10	0	1	0.5	0-0.5	--
PA-10-02	01/26/17	PA-10	2	3	3	0-03	--
PA-11-01	01/27/16	PA-11	0	1	0.5	0-0.5	--
PA-11-02	01/25/17	PA-11	2	3	3	0-03	--
PA-11-03	01/25/17	PA-11	2	3	3	0-03	--
PA-12-01	01/27/16	PA-12	0	1	0.5	0-0.5	--
PA-12-02	01/25/17	PA-12	2	3	3	0-03	--
SD-10-01	11/10/15	SD-10	0	1	0.5	0-0.5	--
SD-10-03	11/10/15	SD-10	2	3	3	0-03	--
SD-11-0	12/06/15	SD-11	0	0.5	0.5	0-0.5	--
SD-11-01	03/07/16	SD-11A	0	1	0.5	0-0.5	--
SD-11-02	03/07/16	SD-11A	2	3	3	0-03	--
SD-11-04	03/07/16	SD-11A	5	6	6	0-06	--
SD-11-3	12/06/15	SD-11	2	3	3	0-03	--
SD-12-01	11/10/15	SD-12	0	1	0.5	0-0.5	--
SD-12-03	11/10/15	SD-12	2	3	3	0-03	--
SD-13-01	11/10/15	SD-13	0	1	0.5	0-0.5	--

Table AOC11-1.1
Samples and Sampling Locations Included in the AOC 11 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
SD-13-03	11/10/15	SD-13	2	3	3	0-03	--
SD-20-01	11/11/15	SD-20	0	1	0.5	0-0.5	--
SD-20-01-FD	11/11/15	SD-20	0	1	0.5	0-0.5	--
SD-20-03	11/11/15	SD-20	2	3	3	0-03	--
SD-23-01	03/09/16	SD-23	0	1	0.5	0-0.5	--
SD-23-03	03/09/16	SD-23	2	3	3	0-03	--
SD-27-02	02/15/17	SD-27	2	3	3	0-03	--
SD-37-OS1-1001	11/30/16	SD-OS37	0	0.5	0.5	0-0.5	--
SD-37-OS1-1002	11/30/16	SD-OS37	3	3.5	3.5	0-06	--
SD-37-OS1-1003	11/30/16	SD-OS37	5	5.5	5.5	0-06	--
SD-8-01	11/11/15	SD-08	0	1	0.5	0-0.5	--
SD-8-01-FD	11/11/15	SD-08	0	1	0.5	0-0.5	--
SD-8-03	11/11/15	SD-08	2	3	3	0-03	--
SD-9-01	11/10/15	SD-09	0	1	0.5	0-0.5	--
SD-9-03	11/10/15	SD-09	2	3	3	0-03	--
SD-9-05	11/10/15	SD-09	5	6	6	0-06	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

HHERA = human health and ecological risk assessment

NE = not evaluated in the HHERA

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	13 / 13	4,400 - 20,000	mg/kg	No	Within Background
Antimony	0 / 52	ND	mg/kg	No	Not Detected
Arsenic	52 / 52	2.4 - 9.5	mg/kg	Yes	Above Background
Barium	52 / 52	57 - 500	mg/kg	No	Within Background
Beryllium	0 / 52	ND	mg/kg	No	Not Detected
Cadmium	0 / 52	ND	mg/kg	No	Not Detected
Calcium ^b	14 / 14	14,000 - 45,000	mg/kg	No	Within Background
Chromium, Hexavalent	26 / 52	0.22 - 16	mg/kg	Yes	Above Background
Chromium, total	52 / 52	7.9 - 320	mg/kg	Yes	Above Background
Cobalt	52 / 52	2.7 - 8.6	mg/kg	No	Within Background
Copper	52 / 52	4.9 - 31	mg/kg	Yes	Above Background
Cyanide	0 / 13	ND	mg/kg	No	Not Detected
Iron ^b	14 / 14	8,700 - 26,000	mg/kg	No	Within Background
Lead	52 / 52	2.4 - 220	mg/kg	Yes	Above Background
Magnesium ^b	14 / 14	2,900 - 12,000	mg/kg	No	Within Background
Manganese ^b	14 / 14	160 - 440	mg/kg	No	Within Background
Mercury (inorganic)	1 / 52	0.18	mg/kg	Yes	Above Background
Molybdenum	9 / 52	1.1 - 3.3	mg/kg	No	Within Background
Nickel	52 / 52	5.1 - 20	mg/kg	No	Within Background
Potassium ^b	14 / 14	1,200 - 5,300	mg/kg	No	Within Background
Selenium	0 / 52	ND	mg/kg	No	Not Detected
Silver	0 / 52	ND	mg/kg	No	Not Detected
Sodium ^b	13 / 14	170 - 4,300	mg/kg	No	Within Background
Thallium	0 / 52	ND	mg/kg	No	Not Detected
Vanadium	52 / 52	13 - 44	mg/kg	No	Within Background
Zinc	52 / 52	23 - 1,100	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 34	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 34	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 34	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 34	ND	ug/kg	No	Not Detected

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,4-Dioxane	0 / 9	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 34	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 34	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 34	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 34	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 34	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 9	ND	ug/kg	No	Not Detected
Isophorone	0 / 34	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 34	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 9	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 9	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 34	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 34	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 34	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 34	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 34	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 34	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 34	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 34	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 34	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 34	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 34	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 34	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 34	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 34	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 34	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 34	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 34	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 34	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 34	ND	ug/kg	No	Not Detected

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 34	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 34	ND	ug/kg	No	Not Detected
Acetophenone	0 / 9	ND	ug/kg	No	Not Detected
Atrazine	0 / 9	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 9	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 34	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 34	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 34	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 34	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 34	ND	ug/kg	No	Not Detected
Caprolactam	0 / 9	ND	ug/kg	No	Not Detected
Carbazole	0 / 9	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 34	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 34	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 34	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 34	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 34	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 34	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 34	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 34	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 34	ND	ug/kg	No	Not Detected
Phenol	0 / 34	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	53 / 53	0 - 18,200	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	53 / 53	0 - 1,380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 52	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	4 / 52	7.5 - 10	ug/kg	Yes	Detected
Acenaphthene	1 / 52	11	ug/kg	Yes	Detected
Acenaphthylene	2 / 52	6.1 - 9.2	ug/kg	Yes	Detected
Anthracene	5 / 52	5.0 - 38	ug/kg	Yes	Detected
Benzo (a) anthracene ^c	36 / 52	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	38 / 52	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	46 / 52	5.0 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	36 / 52	5.0 - 750	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	36 / 52	5.2 - 930	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	43 / 52	6.7 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	11 / 52	6.4 - 210	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	48 / 52	5.1 - 3,700	ug/kg	Yes	Detected
Fluorene	1 / 52	8.9	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^c	32 / 52	5.3 - 790	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	3 / 52	5.0 - 10	ug/kg	Yes	Detected
Phenanthrene	34 / 52	5.4 - 1,300	ug/kg	Yes	Detected
Pyrene	48 / 52	5.0 - 3,400	ug/kg	Yes	Detected
B(a)P Equivalent ^d	49 / 52	5.8 - 2,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 10	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 10	6.1	ug/kg	Yes	Detected
4,4-DDT	0 / 10	ND	ug/kg	No	Not Detected
Aldrin	0 / 10	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 10	ND	ug/kg	No	Not Detected
alpha-Chlordane	1 / 10	12	ug/kg	Yes	Detected
beta-BHC	0 / 10	ND	ug/kg	No	Not Detected
delta-BHC	0 / 10	ND	ug/kg	No	Not Detected
Dieldrin	1 / 10	6.7	ug/kg	Yes	Detected
Endo sulfan I	0 / 10	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 10	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 10	ND	ug/kg	No	Not Detected
Endrin	0 / 10	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 10	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 7	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 10	ND	ug/kg	No	Not Detected
gamma-Chlordane	1 / 10	13	ug/kg	Yes	Detected
Heptachlor	0 / 10	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 10	ND	ug/kg	No	Not Detected

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 10	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 34	ND	ug/kg	No	Not Detected
Toxaphene	0 / 10	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	17 / 32	38 - 1,930	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	14 / 44	10 - 840	mg/kg	Yes	Detected
TPH as gasoline	0 / 1	ND	mg/kg	No	Not Detected
TPH as motor oil	29 / 44	10 - 1,400	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	2 / 26	0.63 - 1.0	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^f	26 / 26	0.24 - 280	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^f	26 / 26	0.24 - 520	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^f	26 / 26	0.24 - 520	ng/kg	Yes	Above Background (ERA Only)

Table AOC11-2.1a

Chemicals Included in the Risk Assessment: AOC 11 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	21 / 21	3,500 - 20,000	mg/kg	No	Within Background
Antimony	0 / 100	ND	mg/kg	No	Not Detected
Arsenic	100 / 100	2.2 - 13	mg/kg	Yes	Above Background
Barium	100 / 100	51 - 500	mg/kg	No	Within Background
Beryllium	0 / 100	ND	mg/kg	No	Not Detected
Cadmium	1 / 100	1.2	mg/kg	No	Within Background
Calcium ^b	22 / 22	14,000 - 45,000	mg/kg	No	Within Background
Chromium, Hexavalent	41 / 98	0.22 - 16	mg/kg	Yes	Above Background
Chromium, total	100 / 100	7.9 - 320	mg/kg	Yes	Above Background
Cobalt	100 / 100	2.6 - 9.2	mg/kg	No	Within Background
Copper	100 / 100	4.3 - 44	mg/kg	Yes	Above Background
Cyanide	0 / 21	ND	mg/kg	No	Not Detected
Iron ^b	22 / 22	6,800 - 26,000	mg/kg	No	Within Background
Lead	99 / 100	1.7 - 220	mg/kg	Yes	Above Background
Magnesium ^b	22 / 22	2,900 - 12,000	mg/kg	No	Within Background
Manganese ^b	22 / 22	130 - 440	mg/kg	No	Within Background
Mercury (inorganic)	2 / 100	0.18 - 0.37	mg/kg	Yes	Above Background
Molybdenum	15 / 100	1.1 - 3.3	mg/kg	No	Within Background
Nickel	100 / 100	4.3 - 21	mg/kg	No	Within Background
Potassium ^b	22 / 22	860 - 5,300	mg/kg	No	Within Background
Selenium	0 / 100	ND	mg/kg	No	Not Detected
Silver	0 / 100	ND	mg/kg	No	Not Detected
Sodium ^b	21 / 22	170 - 4,300	mg/kg	No	Within Background
Thallium	0 / 100	ND	mg/kg	No	Not Detected
Vanadium	100 / 100	13 - 44	mg/kg	No	Within Background
Zinc	100 / 100	17 - 1,100	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 17	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 17	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 17	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 17	ND	ug/kg	No	Not Detected

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 17	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 17	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 17	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 17	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 17	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 17	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 17	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 13	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 17	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 65	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 65	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 17	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 17	ND	ug/kg	No	Not Detected
Acetone	0 / 9	ND	ug/kg	No	Not Detected
Acrolein	0 / 17	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 17	ND	ug/kg	No	Not Detected
Benzene	0 / 17	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 65	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 65	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 17	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 17	ND	ug/kg	No	Not Detected

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 17	ND	ug/kg	No	Not Detected
Bromoform	0 / 17	ND	ug/kg	No	Not Detected
Bromomethane	0 / 17	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 17	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 17	ND	ug/kg	No	Not Detected
Chloro methane	0 / 17	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
Chloroethane	0 / 17	ND	ug/kg	No	Not Detected
Chloroform	0 / 17	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 17	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 17	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 17	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 17	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 17	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 65	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 13	ND	ug/kg	No	Not Detected
Isophorone	0 / 65	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 17	ND	ug/kg	No	Not Detected
Methyl acetate	1 / 9	17	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 17	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 17	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 17	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 17	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 17	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 65	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 17	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 17	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 17	ND	ug/kg	No	Not Detected
Styrene	0 / 17	ND	ug/kg	No	Not Detected

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 17	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 17	ND	ug/kg	No	Not Detected
Toluene	0 / 17	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 17	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 17	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 17	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 17	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 17	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 13	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 13	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 13	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 65	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 65	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 65	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 65	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 65	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 65	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 65	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 65	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 65	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 65	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 65	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 65	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 65	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 65	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 65	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 65	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 65	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 65	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 65	ND	ug/kg	No	Not Detected

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 65	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 65	ND	ug/kg	No	Not Detected
Acetophenone	0 / 13	ND	ug/kg	No	Not Detected
Atrazine	0 / 13	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 13	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 65	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 65	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 65	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 65	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 65	ND	ug/kg	No	Not Detected
Caprolactam	0 / 13	ND	ug/kg	No	Not Detected
Carbazole	0 / 13	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 65	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 65	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 65	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 65	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 65	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 65	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 65	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 65	ND	ug/kg	No	Not Detected
Phenol	0 / 65	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	103 / 103	0 - 18,200	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	103 / 103	0 - 1,380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	1 / 102	14	ug/kg	Yes	Detected
2-Methyl naphthalene	6 / 102	5.2 - 18	ug/kg	Yes	Detected
Acenaphthene	1 / 102	11	ug/kg	Yes	Detected
Acenaphthylene	2 / 102	6.1 - 9.2	ug/kg	Yes	Detected
Anthracene	5 / 102	5.0 - 38	ug/kg	Yes	Detected
Benzo (a) anthracene ^c	50 / 102	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	56 / 102	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	72 / 102	5.0 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	52 / 102	5.0 - 750	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	52 / 102	5.2 - 930	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	64 / 102	5.6 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	16 / 102	6.4 - 210	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	74 / 102	5.1 - 3,700	ug/kg	Yes	Detected
Fluorene	1 / 102	8.9	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^c	45 / 102	5.3 - 790	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	3 / 102	5.0 - 10	ug/kg	Yes	Detected
Phenanthrene	50 / 102	5.4 - 1,300	ug/kg	Yes	Detected
Pyrene	73 / 102	5.0 - 3,400	ug/kg	Yes	Detected
B(a)P Equivalent ^d	76 / 102	5.8 - 2,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 15	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 15	6.1	ug/kg	Yes	Detected
4,4-DDT	0 / 15	ND	ug/kg	No	Not Detected
Aldrin	0 / 15	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 15	ND	ug/kg	No	Not Detected
alpha-Chlordane	1 / 15	12	ug/kg	Yes	Detected
beta-BHC	0 / 15	ND	ug/kg	No	Not Detected
delta-BHC	0 / 15	ND	ug/kg	No	Not Detected
Dieldrin	1 / 15	6.7	ug/kg	Yes	Detected
Endo sulfan I	0 / 15	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 15	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 15	ND	ug/kg	No	Not Detected
Endrin	0 / 15	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 15	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 15	ND	ug/kg	No	Not Detected
gamma-Chlordane	1 / 15	13	ug/kg	Yes	Detected
Heptachlor	0 / 15	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 15	ND	ug/kg	No	Not Detected

Table AOC11-2.1b

Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 15	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 65	ND	ug/kg	No	Not Detected
Toxaphene	0 / 15	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	24 / 58	35 - 1,930	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	25 / 83	10 - 940	mg/kg	Yes	Detected
TPH as gasoline	0 / 31	ND	mg/kg	No	Not Detected
TPH as motor oil	47 / 83	10 - 1,500	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	2 / 47	0.63 - 1.0	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^f	46 / 47	0.21 - 680	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^f	46 / 47	0.15 - 940	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^f	46 / 47	0.15 - 940	ng/kg	Yes	Above Background (ERA Only)

Table AOC11-2.1b**Chemicals Included in the Risk Assessment: AOC 11 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	21 / 21	3,500 - 20,000	mg/kg	No	Within Background
Antimony	0 / 133	ND	mg/kg	No	Not Detected
Arsenic	133 / 133	2.2 - 13	mg/kg	Yes	Above Background
Barium	133 / 133	39 - 1,300	mg/kg	No	Within Background
Beryllium	0 / 133	ND	mg/kg	No	Not Detected
Cadmium	1 / 133	1.2	mg/kg	No	Within Background
Calcium ^b	22 / 22	14,000 - 45,000	mg/kg	No	Within Background
Chromium, Hexavalent	52 / 131	0.22 - 16	mg/kg	Yes	Above Background
Chromium, total	133 / 133	7.9 - 320	mg/kg	Yes	Above Background
Cobalt	133 / 133	2.6 - 9.4	mg/kg	No	Within Background
Copper	133 / 133	4.3 - 44	mg/kg	Yes	Above Background
Cyanide	0 / 21	ND	mg/kg	No	Not Detected
Iron ^b	22 / 22	6,800 - 26,000	mg/kg	No	Within Background
Lead	132 / 133	1.7 - 220	mg/kg	Yes	Above Background
Magnesium ^b	22 / 22	2,900 - 12,000	mg/kg	No	Within Background
Manganese ^b	22 / 22	130 - 440	mg/kg	No	Within Background
Mercury (inorganic)	2 / 133	0.18 - 0.37	mg/kg	Yes	Above Background
Molybdenum	20 / 133	1.1 - 3.3	mg/kg	No	Within Background
Nickel	133 / 133	4.3 - 21	mg/kg	No	Within Background
Potassium ^b	22 / 22	860 - 5,300	mg/kg	No	Within Background
Selenium	2 / 133	1.6 - 3.2	mg/kg	No	Within Background
Silver	0 / 133	ND	mg/kg	No	Not Detected
Sodium ^b	21 / 22	170 - 4,300	mg/kg	No	Within Background
Thallium	0 / 133	ND	mg/kg	No	Not Detected
Vanadium	133 / 133	13 - 55	mg/kg	No	Within Background
Zinc	133 / 133	17 - 1,100	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 32	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 32	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 32	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 32	ND	ug/kg	No	Not Detected

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 32	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 32	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 32	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 32	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 32	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 32	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 88	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 32	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 32	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 32	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 88	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 32	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 32	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 32	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 88	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 32	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 88	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 13	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 32	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 88	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 88	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 32	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 32	ND	ug/kg	No	Not Detected
Acetone	0 / 15	ND	ug/kg	No	Not Detected
Acrolein	0 / 32	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 32	ND	ug/kg	No	Not Detected
Benzene	0 / 32	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 88	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 88	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 32	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 32	ND	ug/kg	No	Not Detected

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 32	ND	ug/kg	No	Not Detected
Bromoform	0 / 32	ND	ug/kg	No	Not Detected
Bromomethane	0 / 32	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 32	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 32	ND	ug/kg	No	Not Detected
Chloro methane	0 / 32	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 32	ND	ug/kg	No	Not Detected
Chloroethane	0 / 32	ND	ug/kg	No	Not Detected
Chloroform	0 / 32	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 32	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 32	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 32	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 32	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 32	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 32	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 88	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 13	ND	ug/kg	No	Not Detected
Isophorone	0 / 88	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 32	ND	ug/kg	No	Not Detected
Methyl acetate	1 / 9	17	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 32	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 32	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 32	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 32	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 32	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 88	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 32	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 32	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 32	ND	ug/kg	No	Not Detected
Styrene	0 / 32	ND	ug/kg	No	Not Detected

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 32	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 32	ND	ug/kg	No	Not Detected
Toluene	0 / 32	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 32	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 32	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 32	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 32	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 32	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 32	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 13	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 13	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 13	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 88	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 88	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 88	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 88	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 88	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 88	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 88	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 88	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 88	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 88	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 88	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 88	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 88	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 88	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 88	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 88	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 88	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 88	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 88	ND	ug/kg	No	Not Detected

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 88	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 88	ND	ug/kg	No	Not Detected
Acetophenone	0 / 13	ND	ug/kg	No	Not Detected
Atrazine	0 / 13	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 13	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 88	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 88	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 88	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 88	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 88	ND	ug/kg	No	Not Detected
Caprolactam	0 / 13	ND	ug/kg	No	Not Detected
Carbazole	0 / 13	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 88	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 88	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 88	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 88	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 88	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 88	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 88	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 88	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 88	ND	ug/kg	No	Not Detected
Phenol		ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	137 / 137	0 - 18,200	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	137 / 137	0 - 1,380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	1 / 136	14	ug/kg	Yes	Detected
2-Methyl naphthalene	6 / 136	5.2 - 18	ug/kg	Yes	Detected
Acenaphthene	1 / 136	11	ug/kg	Yes	Detected
Acenaphthylene	2 / 136	6.1 - 9.2	ug/kg	Yes	Detected
Anthracene	6 / 136	5.0 - 38	ug/kg	Yes	Detected
Benzo (a) anthracene ^c	60 / 136	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	68 / 136	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	89 / 136	5.0 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	61 / 136	5.0 - 750	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	63 / 136	5.2 - 930	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	77 / 136	5.5 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	21 / 136	5.1 - 210	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	91 / 136	5.1 - 3,700	ug/kg	Yes	Detected
Fluorene	1 / 136	8.9	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^c	53 / 136	5.3 - 790	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	3 / 136	5.0 - 10	ug/kg	Yes	Detected
Phenanthrene	60 / 136	5.4 - 1,300	ug/kg	Yes	Detected
Pyrene	89 / 136	5.0 - 3,400	ug/kg	Yes	Detected
B(a)P Equivalent ^d	93 / 136	5.8 - 2,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 18	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 18	6.1	ug/kg	Yes	Detected
4,4-DDT	0 / 18	ND	ug/kg	No	Not Detected
Aldrin	0 / 18	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 18	ND	ug/kg	No	Not Detected
alpha-Chlordane	1 / 18	12	ug/kg	Yes	Detected
beta-BHC	0 / 18	ND	ug/kg	No	Not Detected
delta-BHC	0 / 18	ND	ug/kg	No	Not Detected
Dieldrin	1 / 18	6.7	ug/kg	Yes	Detected
Endo sulfan I	0 / 18	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 18	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 18	ND	ug/kg	No	Not Detected
Endrin	0 / 18	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 18	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 18	ND	ug/kg	No	Not Detected
gamma-Chlordane	1 / 18	13	ug/kg	Yes	Detected
Heptachlor	0 / 18	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 18	ND	ug/kg	No	Not Detected

Table AOC11-2.1c

Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 18	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 88	ND	ug/kg	No	Not Detected
Toxaphene	0 / 18	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	29 / 71	27 - 1,930	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	30 / 110	10 - 940	mg/kg	Yes	Detected
TPH as gasoline	0 / 52	ND	mg/kg	No	Not Detected
TPH as motor oil	67 / 110	10 - 1,500	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	2 / 59	0.63 - 1.0	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^f	58 / 59	0.13 - 680	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^f	58 / 59	0.090 - 940	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^f	58 / 59	0.090 - 940	ng/kg	Yes	Above Background (ERA Only)

Table AOC11-2.1c**Chemicals Included in the Risk Assessment: AOC 11 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	21 / 21	3,500 - 20,000	mg/kg	No	Within Background
Antimony	0 / 159	ND	mg/kg	No	Not Detected
Arsenic	159 / 159	2.2 - 13	mg/kg	Yes	Above Background
Barium	159 / 159	37 - 1,300	mg/kg	No	Within Background
Beryllium	0 / 159	ND	mg/kg	No	Not Detected
Cadmium	1 / 159	1.2	mg/kg	No	Within Background
Calcium ^b	22 / 22	14,000 - 45,000	mg/kg	No	Within Background
Chromium, Hexavalent	59 / 157	0.22 - 16	mg/kg	Yes	Above Background
Chromium, total	159 / 159	7.9 - 320	mg/kg	Yes	Above Background
Cobalt	159 / 159	2.6 - 9.6	mg/kg	No	Within Background
Copper	159 / 159	4.3 - 44	mg/kg	Yes	Above Background
Cyanide	0 / 21	ND	mg/kg	No	Not Detected
Iron ^b	22 / 22	6,800 - 26,000	mg/kg	No	Within Background
Lead	158 / 159	1.7 - 220	mg/kg	Yes	Above Background
Magnesium ^b	22 / 22	2,900 - 12,000	mg/kg	No	Within Background
Manganese ^b	22 / 22	130 - 440	mg/kg	No	Within Background
Mercury (inorganic)	2 / 159	0.18 - 0.37	mg/kg	Yes	Above Background
Molybdenum	25 / 159	1.0 - 7.1	mg/kg	No	Within Background
Nickel	159 / 159	4.3 - 22	mg/kg	No	Within Background
Potassium ^b	22 / 22	860 - 5,300	mg/kg	No	Within Background
Selenium	2 / 159	1.6 - 3.2	mg/kg	No	Within Background
Silver	0 / 159	ND	mg/kg	No	Not Detected
Sodium ^b	21 / 22	170 - 4,300	mg/kg	No	Within Background
Thallium	0 / 159	ND	mg/kg	No	Not Detected
Vanadium	159 / 159	13 - 55	mg/kg	No	Within Background
Zinc	159 / 159	17 - 1,100	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 38	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 38	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 38	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 38	ND	ug/kg	No	Not Detected

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 38	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 38	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 38	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 38	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 38	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 38	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 99	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 38	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 38	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 38	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 99	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 38	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 38	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 38	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 99	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 38	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 99	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 13	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 38	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 99	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 99	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 38	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 38	ND	ug/kg	No	Not Detected
Acetone	0 / 18	ND	ug/kg	No	Not Detected
Acrolein	0 / 38	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 38	ND	ug/kg	No	Not Detected
Benzene	0 / 38	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 99	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 99	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 38	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 38	ND	ug/kg	No	Not Detected

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Bromodichloromethane	0 / 38	ND	ug/kg	No	Not Detected
Bromoform	0 / 38	ND	ug/kg	No	Not Detected
Bromomethane	0 / 38	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 38	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 38	ND	ug/kg	No	Not Detected
Chloro methane	0 / 38	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 38	ND	ug/kg	No	Not Detected
Chloroethane	0 / 38	ND	ug/kg	No	Not Detected
Chloroform	0 / 38	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 38	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 38	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 38	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 38	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 38	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 38	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 99	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 13	ND	ug/kg	No	Not Detected
Isophorone	0 / 99	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 38	ND	ug/kg	No	Not Detected
Methyl acetate	1 / 9	17	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 38	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 38	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 38	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 38	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 38	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 99	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 38	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 38	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 38	ND	ug/kg	No	Not Detected
Styrene	0 / 38	ND	ug/kg	No	Not Detected

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
tert-Butylbenzene	0 / 38	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 38	ND	ug/kg	No	Not Detected
Toluene	0 / 38	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 38	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 38	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 38	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 38	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 38	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 38	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 13	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 13	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 13	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 99	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 99	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 99	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 99	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 99	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 99	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 99	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 99	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 99	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 99	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 99	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 99	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 99	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 99	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 99	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 99	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 99	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 99	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 99	ND	ug/kg	No	Not Detected

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
4-Nitroaniline	0 / 99	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 99	ND	ug/kg	No	Not Detected
Acetophenone	0 / 13	ND	ug/kg	No	Not Detected
Atrazine	0 / 13	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 13	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 99	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 99	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 99	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 99	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 99	ND	ug/kg	No	Not Detected
Caprolactam	0 / 13	ND	ug/kg	No	Not Detected
Carbazole	0 / 13	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 99	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 99	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 99	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 99	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 99	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 99	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 99	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 99	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 99	ND	ug/kg	No	Not Detected
Phenol	0 / 99	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	163 / 163	0 - 18,200	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	163 / 163	0 - 1,380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	1 / 162	14	ug/kg	Yes	Detected
2-Methyl naphthalene	6 / 162	5.2 - 18	ug/kg	Yes	Detected
Acenaphthene	1 / 162	11	ug/kg	Yes	Detected
Acenaphthylene	2 / 162	6.1 - 9.2	ug/kg	Yes	Detected
Anthracene	6 / 162	5.0 - 38	ug/kg	Yes	Detected
Benzo (a) anthracene ^c	63 / 162	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	71 / 162	5.1 - 1,600	ug/kg	Yes	Above Background (HHRA Only)

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Benzo (b) fluoranthene ^c	93 / 162	5.0 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	64 / 162	5.0 - 750	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	66 / 162	5.2 - 930	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	80 / 162	5.5 - 2,600	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	24 / 162	5.1 - 210	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	96 / 162	5.1 - 3,700	ug/kg	Yes	Detected
Fluorene	1 / 162	8.9	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^c	56 / 162	5.3 - 790	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	3 / 162	5.0 - 10	ug/kg	Yes	Detected
Phenanthrene	63 / 162	5.4 - 1,300	ug/kg	Yes	Detected
Pyrene	93 / 162	5.0 - 3,400	ug/kg	Yes	Detected
B(a)P Equivalent ^d	97 / 162	5.8 - 2,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 20	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 20	6.1	ug/kg	Yes	Detected
4,4-DDT	0 / 20	ND	ug/kg	No	Not Detected
Aldrin	0 / 20	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 20	ND	ug/kg	No	Not Detected
alpha-Chlordane	1 / 20	12	ug/kg	Yes	Detected
beta-BHC	0 / 20	ND	ug/kg	No	Not Detected
delta-BHC	0 / 20	ND	ug/kg	No	Not Detected
Dieldrin	1 / 20	6.7	ug/kg	Yes	Detected
Endo sulfan I	0 / 20	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 20	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 20	ND	ug/kg	No	Not Detected
Endrin	0 / 20	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 20	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 20	ND	ug/kg	No	Not Detected
gamma-Chlordane	1 / 20	13	ug/kg	Yes	Detected
Heptachlor	0 / 20	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 20	ND	ug/kg	No	Not Detected

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Methoxy chlor	0 / 20	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 99	ND	ug/kg	No	Not Detected
Toxaphene	0 / 20	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	29 / 79	27 - 1,930	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	31 / 121	10 - 940	mg/kg	Yes	Detected
TPH as gasoline	0 / 58	ND	mg/kg	No	Not Detected
TPH as motor oil	68 / 121	10 - 1,500	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	2 / 63	0.63 - 1.0	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^f	61 / 63	0.13 - 680	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^f	61 / 63	0.090 - 940	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^f	61 / 63	0.090 - 940	ng/kg	Yes	Above Background (ERA Only)

Table AOC11-2.1d

Chemicals Included in the Risk Assessment: AOC 11 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Soil Depth Interval: 0-0.5 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-0.5	13 / 13	100	4400	20000	NA	NA	9746	9746	7900	27662692	5260	--	--	--	--	--
Antimony	mg/kg	0-0.5	0 / 52	0	NA	NA	1	1.25	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-0.5	52 / 52	100	2.4	9.5	NA	NA	4.862	4.862	4.55	3.212	1.792	X	5.28	95% Modified-t UCL	5.73	Bootstrap BCA 95UCL
Barium	mg/kg	0-0.5	52 / 52	100	57	500	NA	NA	142.8	142.8	120	5662	75.24	--	--	--	--	--
Beryllium	mg/kg	0-0.5	0 / 52	0	NA	NA	0.5	2.5	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-0.5	0 / 52	0	NA	NA	0.5	0.6	NA	NA	NA	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-0.5	26 / 52	50	0.22	16	0.1	0.205	1.37	0.735	0.65	9.157	3.026	X	0.81	KM H-UCL	1.88	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-0.5	52 / 52	100	7.9	320	NA	NA	30.98	30.98	21	1972	44.41	X	33.9	95% H-UCL	50.1	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-0.5	52 / 52	100	2.7	8.6	NA	NA	5.356	5.356	5.25	1.768	1.33	--	--	--	--	--
Copper	mg/kg	0-0.5	52 / 52	100	4.9	31	NA	NA	12.1	12.1	9.85	32.88	5.734	X	13.6	95% H-UCL	12.5	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-0.5	0 / 13	0	NA	NA	0.1	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-0.5	14 / 14	100	8700	26000	NA	NA	15521	15521	14500	23387967	4836	--	--	--	--	--
Lead	mg/kg	0-0.5	52 / 52	100	2.4	220	NA	NA	20.08	20.08	9.7	1281	35.78	X	23.6	95% H-UCL	38.2	Bootstrap BCA 95UCL
Manganese	mg/kg	0-0.5	14 / 14	100	160	440	NA	NA	265	265	240	8442	91.88	--	--	--	--	--
Mercury	mg/kg	0-0.5	1 / 52	2	0.18	0.18	0.049	0.065	0.18	0.0515	0.18	NA	NA	X	0.18	Max Detect	0.18	Max Detect
Molybdenum	mg/kg	0-0.5	9 / 52	17	1.1	3.3	0.5	2.5	1.911	0.746	1.6	0.771	0.878	--	--	--	--	--
Nickel	mg/kg	0-0.5	52 / 52	100	5.1	20	NA	NA	11.52	11.52	11	13.76	3.71	--	--	--	--	--
Selenium	mg/kg	0-0.5	0 / 52	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-0.5	0 / 52	0	NA	NA	0.5	2.5	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-0.5	0 / 52	0	NA	NA	1	5	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-0.5	52 / 52	100	13	44	NA	NA	24.25	24.25	23	47.33	6.88	--	--	--	--	--
Zinc	mg/kg	0-0.5	52 / 52	100	23	1100	NA	NA	87.71	87.71	51.5	23126	152.1	X	180	95% Chebyshev (Mean, Sd) UCL	112	Bootstrap BCA 95UCL
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-0.5	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 34	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-0.5	0 / 34	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-0.5	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-0.5	35 / 52	67	5.4	1380	0	0	108	72.68	21	64496	254	X	369	99% KM (Chebyshev) UCL	115	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-0.5	51 / 52	98	5	18200	0	0	1051	1031	175	7709061	2777	X	4830	99% KM (Chebyshev) UCL	1549	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-0.5	0 / 52	0	NA	NA	2.5	12.5	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-0.5	4 / 52	8	7.5	10	2.5	50	8.75	3	8.75	2.083	1.443	X	3.47	95% KM (t) UCL	10.6	Bootstrap BCA 95UCL
Acenaphthene	µg/kg	0-0.5	1 / 52	2	11	11	2.5	12.5	11	2.667	11	NA	NA	X	11	Max Detect	11	Max Detect
Acenaphthylene	µg/kg	0-0.5	2 / 52	4	6.1	9.2	2.5	12.5	7.65	2.702	7.65	4.805	2.192	X	9.2	Max Detect	9.2	Max Detect
Anthracene	µg/kg	0-0.5	5 / 52	10	5	38	2.5	12.5	18.4	4.034	18	151.3	12.3	X	5.54	95% KM (t) UCL	5.44	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-0.5	36 / 52	69	5.1	1600	2.5	25.5	117.2	81.99	20.5	77882	279.1	X	226	95% KM (Chebyshev) UCL	129	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-0.5	38 / 52	73	5.1	1600	2.5	25.5	133.8	98.99	27	81978	286.3	X	179	KM H-UCL	147	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-0.5	46 / 52	88	5	2600	2.5	25.5	196.5	174.4	45	209459	457.7	X	342	KM H-UCL	237	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-0.5	36 / 52	69	5	750	2.5	260	57.4	41.84	14	16534	128.6	X	108	95% KM (Chebyshev) UCL	71.6	Bootstrap BCA 95UCL

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Benzo (k) fluoranthene	µg/kg	0-0.5	36 / 52	69	5.2	930	2.5	260	82.71	59.09	23.5	30264	174	X	86.4	KM H-UCL	86.3	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-0.5	43 / 52	83	6.7	2600	2.5	25.5	161.3	134	36	172986	415.9	X	233	KM H-UCL	203	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-0.5	11 / 52	21	6.4	210	2.5	260	40.58	10.98	12	3639	60.32	X	23.7	95% KM Approximate Gamma UCL	27.7	Bootstrap BCA 95UCL
Fluoranthene	µg/kg	0-0.5	48 / 52	92	5.1	3700	2.5	2.7	228.5	211.1	39.5	357559	598	X	374	KM H-UCL	322	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-0.5	1 / 52	2	8.9	8.9	2.5	12.5	8.9	2.625	8.9	NA	NA	X	8.9	Max Detect	8.9	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	32 / 52	62	5.3	790	2.5	260	63.28	41.14	17	20151	142	X	111	95% KM (Chebyshev) UCL	72.3	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-0.5	3 / 52	6	5	10	2.5	50	7.867	2.822	8.6	6.653	2.579	X	10	Max Detect	10	Max Detect
Phenanthrene	µg/kg	0-0.5	34 / 52	65	5.4	1300	2.5	2.75	105.2	69.66	20.5	59303	243.5	X	192	95% KM (Chebyshev) UCL	114	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-0.5	48 / 52	92	5	3400	2.5	2.55	204.5	189	35	291535	539.9	X	332	KM H-UCL	296	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-0.5	51 / 52	98	5.8	2300	5.9	5.9	153.3	150.5	36	133712	365.7	X	232	KM H-UCL	213	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-0.5	1 / 10	10	6.1	6.1	1	1.05	6.1	1.51	6.1	NA	NA	X	6.1	Max Detect	6.1	Max Detect
4,4-DDT	µg/kg	0-0.5	0 / 10	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-0.5	1 / 10	10	12	12	0.5	0.5	12	1.65	12	NA	NA	X	12	Max Detect	12	Max Detect
Dieldrin	µg/kg	0-0.5	1 / 10	10	6.7	6.7	1	1.05	6.7	1.57	6.7	NA	NA	X	6.7	Max Detect	6.7	Max Detect
Gamma-Chlordane	µg/kg	0-0.5	1 / 10	10	13	13	0.5	0.5	13	1.75	13	NA	NA	X	13	Max Detect	13	Max Detect
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-0.5	17 / 32	53	37.5	1930	17	34	407.6	224.5	149	270109	519.7	X	444	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	231	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-0.5	26 / 26	100	0.24	520	NA	NA	42.05	42.05	5.8	11272	106.2	X	172	97.5% Chebyshev (Mean, Sd) UCL	73.2	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-0.5	26 / 26	100	0.24	280	NA	NA	26.29	26.29	5.15	3536	59.46	X	77.1	95% Chebyshev (Mean, Sd) UCL	43.9	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-0.5	26 / 26	100	0.24	520	NA	NA	42.05	42.05	5.8	11272	106.2	X	172	97.5% Chebyshev (Mean, Sd) UCL	73.1	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-0.5	2 / 26	8	0.63	1	0.019	2.2	0.815	0.0914	0.815	0.0685	0.262	X	1	Max Detect	1	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	14 / 44	32	10.3	840	5	50.5	90.58	32.4	25.5	46989	216.8	X	25.3	KM H-UCL	50.7	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-0.5	0 / 1	0	NA	NA	1.1	1.1	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-0.5	29 / 44	66	10	1400	5	50.5	138.9	93.67	29	70254	265.1	X	241	95% KM (Chebyshev) UCL	109	Bootstrap BCA 95UCL
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	15 / 15	100	4370	20000	NA	NA	9314	9314	7900	25327826	5033	--	--	--	--	--
Antimony	mg/kg	0-3	0 / 53	0	NA	NA	1	1.18	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-3	53 / 53	100	2.33	8.93	NA	NA	4.821	4.821	4.5	2.987	1.728	X	5.23	95% Approximate Gamma UCL	5.78	Bootstrap BCA 95UCL
Barium	mg/kg	0-3	53 / 53	100	55.7	497	NA	NA	141.5	141.5	127	5638	75.08	--	--	--	--	--
Beryllium	mg/kg	0-3	0 / 53	0	NA	NA	0.5	2	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-3	1 / 53	2	1.2	1.2	0.5	0.583	1.2	0.513	1.2	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-3	33 / 53	62	0.182	16	0.1	0.207	1.187	0.778	0.533	7.341	2.709	X	0.884	KM H-UCL	1.94	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	53 / 53	100	10.1	320	NA	NA	31.55	31.55	21	1910	43.7	X	34	95% H-UCL	50.8	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-3	53 / 53	100	3.2	8.67	NA	NA	5.501	5.501	5.4	1.66	1.288	--	--	--	--	--
Copper	mg/kg	0-3	53 / 53	100	4.9	27.3	NA	NA	12.23	12.23	11.1	24.98	4.998	X	13.4	95% Approximate Gamma UCL	12.5	Bootstrap BCA 95UCL

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Cyanide	mg/kg	0-3	0 / 15	0	NA	NA	0.1	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-3	16 / 16	100	8670	26000	NA	NA	14853	14853	14000	24802113	4980	--	--	--	--	--
Lead	mg/kg	0-3	52 / 53	98	2.23	157	0.5	0.5	17.95	17.62	9.615	852.9	29.2	X	22.3	KM H-UCL	29.3	Bootstrap BCA 95UCL
Manganese	mg/kg	0-3	16 / 16	100	150	440	NA	NA	255	255	215	8215	90.63	--	--	--	--	--
Mercury	mg/kg	0-3	2 / 53	4	0.157	0.18	0.0492	0.0617	0.169	0.0537	0.169	0.000265	0.0163	X	0.18	Max Detect	0.18	Max Detect
Molybdenum	mg/kg	0-3	13 / 53	25	1.03	2.57	0.5	2	1.598	0.775	1.53	0.256	0.506	--	--	--	--	--
Nickel	mg/kg	0-3	53 / 53	100	5.97	18.7	NA	NA	11.61	11.61	11.9	11.77	3.43	--	--	--	--	--
Selenium	mg/kg	0-3	0 / 53	0	NA	NA	0.5	0.867	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-3	0 / 53	0	NA	NA	0.5	2	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-3	0 / 53	0	NA	NA	1	4	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-3	53 / 53	100	14.7	42	NA	NA	24.96	24.96	23.7	42.54	6.522	--	--	--	--	--
Zinc	mg/kg	0-3	53 / 53	100	23.7	747	NA	NA	79.26	79.26	55.3	10777	103.8	X	141	95% Chebyshev (Mean, Sd) UCL	75.6	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-3	0 / 9	0	NA	NA	22	47.5	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-3	1 / 9	11	17	17	2.2	8	17	3.844	17	NA	NA	X	17	Max Detect	17	Max Detect
Methyl ethyl ketone	µg/kg	0-3	0 / 17	0	NA	NA	22	80	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-3	0 / 17	0	NA	NA	2.2	8	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-3	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-3	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-3	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-3	0 / 34	0	NA	NA	165	415	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-3	36 / 53	68	3.6	920	0	0	79.55	54.03	18	29694	172.3	X	255	99% KM (Chebyshev) UCL	79.3	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-3	52 / 53	98	1.77	12100	0	0	800.5	785.4	182	3707682	1926	X	3396	99% KM (Chebyshev) UCL	1050	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-3	1 / 53	2	6.37	6.37	2.5	12.5	6.37	2.574	6.37	NA	NA	X	6.37	Max Detect	6.37	Max Detect
2-Methyl naphthalene	µg/kg	0-3	4 / 53	8	5.85	11	2.5	45.8	8.195	2.947	7.965	4.617	2.149	X	3.39	95% KM (t) UCL	9.94	Bootstrap BCA 95UCL

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Acenaphthene	µg/kg	0-3	1 / 53	2	8.18	8.18	2.5	12.5	8.18	2.609	8.18	NA	NA	X	8.18	Max Detect	8.18	Max Detect	
Acenaphthylene	µg/kg	0-3	2 / 53	4	6.1	6.98	2.5	12.5	6.54	2.655	6.54	0.387	0.622	X	6.98	Max Detect	6.98	Max Detect	
Anthracene	µg/kg	0-3	5 / 53	9	4.22	26.2	2.5	12.5	14.15	3.603	13.5	71.79	8.473	X	4.67	95% KM (t) UCL	4.64	Bootstrap BCA 95UCL	
Benzo (a) anthracene	µg/kg	0-3	38 / 53	72	4.27	1070	2.5	25.5	84.46	61.35	17.85	34800	186.5	X	91.7	KM H-UCL	87.1	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-3	39 / 53	74	4.27	1070	2.5	25	103.2	76.85	25.5	40319	200.8	X	139	KM H-UCL	104	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-3	48 / 53	91	3.47	1730	2.5	17.5	147.2	133.6	42.85	101894	319.2	X	260	KM H-UCL	167	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-3	38 / 53	72	4.17	501	2.5	25.5	49.47	36.87	15.25	7868	88.7	X	52.4	KM H-UCL	53.3	Bootstrap BCA 95UCL	
Benzo (k) fluoranthene	µg/kg	0-3	37 / 53	70	4.33	621	2.5	174	67.12	48.29	22.9	15535	124.6	X	75.1	KM H-UCL	60.8	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-3	45 / 53	85	3.53	1730	2.5	2.65	119	101.4	35	79095	281.2	X	175	KM H-UCL	139	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-3	14 / 53	26	4	141	2.5	174	26.24	9.183	10.6	1423	37.72	X	8.72	KM H-UCL	20.4	Bootstrap BCA 95UCL	
Fluoranthene	µg/kg	0-3	50 / 53	94	4.52	2470	2.58	2.65	170	160.5	33.2	168082	410	X	281	KM H-UCL	230	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-3	1 / 53	2	6.78	6.78	2.5	12.5	6.78	2.582	6.78	NA	NA	X	6.78	Max Detect	6.78	Max Detect	
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	32 / 53	60	4.58	528	2.5	174	51.32	33.03	16.35	9483	97.38	X	44.5	KM H-UCL	52.6	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-3	3 / 53	6	4.17	7.53	2.46	42.5	6.093	2.674	6.58	3	1.732	X	7.53	Max Detect	7.53	Max Detect	
Phenanthrene	µg/kg	0-3	36 / 53	68	4.07	868	2.5	2.7	75.73	52.24	17.25	26673	163.3	X	71.6	KM H-UCL	75.1	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-3	49 / 53	92	4.17	2270	2.5	2.6	155.9	144.3	33.9	140468	374.8	X	265	KM H-UCL	203	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-3	52 / 53	98	5.8	1540	6	6	119	116.8	33.4	65201	255.3	X	180	KM H-UCL	154	Bootstrap BCA 95UCL	
Pesticides																			
4,4-DDE	µg/kg	0-3	1 / 12	8	6.1	6.1	1	1.05	6.1	1.425	6.1	NA	NA	X	6.1	Max Detect	6.1	Max Detect	
4,4-DDT	µg/kg	0-3	0 / 12	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Alpha-Chlordane	µg/kg	0-3	1 / 12	8	12	12	0.5	0.55	12	1.458	12	NA	NA	X	12	Max Detect	12	Max Detect	
Dieldrin	µg/kg	0-3	1 / 12	8	6.7	6.7	1	1.05	6.7	1.475	6.7	NA	NA	X	6.7	Max Detect	6.7	Max Detect	
Gamma-Chlordane	µg/kg	0-3	1 / 12	8	13	13	0.5	0.55	13	1.542	13	NA	NA	X	13	Max Detect	13	Max Detect	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-3	17 / 33	52	34.9	1930	17	34.7	341.2	184	157	235137	484.9	X	386	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	206	Bootstrap BCA 95UCL	
Dioxins																			
TEQ Human	ng/kg	0-3	26 / 26	100	0.181	520	NA	NA	52.94	52.94	5.62	14284	119.5	X	199	97.5% Chebyshev (Mean, Sd) UCL	101	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-3	26 / 26	100	0.186	280	NA	NA	35.36	35.36	4.1	5352	73.16	X	125	97.5% Chebyshev (Mean, Sd) UCL	68.8	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-3	26 / 26	100	0.181	520	NA	NA	52.94	52.94	5.62	14284	119.5	X	199	97.5% Chebyshev (Mean, Sd) UCL	97.7	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-3	2 / 26	8	0.453	0.693	0.0215	2.15	0.573	0.0716	0.573	0.0288	0.17	X	0.693	Max Detect	0.693	Max Detect	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-3	20 / 45	44	6.67	873	5	35.3	76.96	37.19	18	37590	193.9	X	30.7	KM H-UCL	54.6	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-3	0 / 31	0	NA	NA	0.45	1.2	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-3	35 / 45	78	8.33	1430	5	35.3	131.3	103.7	29.7	66802	258.5	X	256	95% KM (Chebyshev) UCL	107	Bootstrap BCA 95UCL	
Soil Depth Interval: 0-6 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-6	15 / 15	100	4170	20000	NA	NA	9306	9306	7900	26148426	5114	--	--	--	--	--	
Antimony	mg/kg	0-6	0 / 53	0	NA	NA	1	1.12	NA	NA	NA	NA	NA	--	--	--	--	--	
Arsenic	mg/kg	0-6	53 / 53	100	2.27	9.77	NA	NA	4.799	4.799	4.5	3.151	1.775	X	5.23	95% Approximate Gamma UCL	5.92	Bootstrap BCA 95UCL	
Barium	mg/kg	0-6	53 / 53	100	52.3	462	NA	NA	142.4	142.4	130	6173	78.57	--	--	--	--	--	

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Beryllium	mg/kg	0-6	0 / 53	0	NA	NA	0.5	2.03	NA	NA	NA	NA	NA	--	--	--	--	--	
Cadmium	mg/kg	0-6	1 / 53	2	1.2	1.2	0.5	0.558	1.2	0.513	1.2	NA	NA	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-6	36 / 53	68	0.143	16	0.1	0.205	1.197	0.846	0.472	6.867	2.621	X	2.18	95% KM (Chebyshev) UCL	2.05	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-6	53 / 53	100	10.4	320	NA	NA	32.2	32.2	21.5	1933	43.97	X	58.5	95% Chebyshev (Mean, Sd) UCL	51.7	Bootstrap BCA 95UCL	
Cobalt	mg/kg	0-6	53 / 53	100	3.13	8.73	NA	NA	5.687	5.687	5.63	2.032	1.425	--	--	--	--	--	
Copper	mg/kg	0-6	53 / 53	100	5.3	30.2	NA	NA	12.34	12.34	11	27.34	5.228	X	13.5	95% Approximate Gamma UCL	13.3	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-6	0 / 15	0	NA	NA	0.1	0.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-6	16 / 16	100	7730	26000	NA	NA	14889	14889	14000	27025806	5199	--	--	--	--	--	
Lead	mg/kg	0-6	52 / 53	98	2.12	150	0.5	0.5	15.15	14.87	8.26	567.4	23.82	X	18.5	KM H-UCL	21.6	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-6	16 / 16	100	140	440	NA	NA	254.4	254.4	225	8539	92.41	--	--	--	--	--	
Mercury	mg/kg	0-6	2 / 53	4	0.18	0.263	0.0496	0.0575	0.222	0.0561	0.222	0.00344	0.0587	X	0.263	Max Detect	0.263	Max Detect	
Molybdenum	mg/kg	0-6	16 / 53	30	0.767	2.23	0.5	2.03	1.391	0.778	1.335	0.203	0.45	--	--	--	--	--	
Nickel	mg/kg	0-6	53 / 53	100	5.8	18.8	NA	NA	11.78	11.78	11.8	12.46	3.53	--	--	--	--	--	
Selenium	mg/kg	0-6	2 / 53	4	0.683	0.95	0.5	0.767	0.817	0.512	0.817	0.0356	0.189	--	--	--	--	--	
Silver	mg/kg	0-6	0 / 53	0	NA	NA	0.5	2.03	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-6	0 / 53	0	NA	NA	1	4	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-6	53 / 53	100	15.7	39	NA	NA	25.92	25.92	24.5	45.43	6.74	--	--	--	--	--	
Zinc	mg/kg	0-6	53 / 53	100	22.8	395	NA	NA	71.13	71.13	51.7	3899	62.44	X	109	95% Chebyshev (Mean, Sd) UCL	67.5	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-6	0 / 10	0	NA	NA	22	47.3	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-6	1 / 9	11	17	17	2.2	8	17	3.844	17	NA	NA	X	17	Max Detect	17	Max Detect	
Methyl ethyl ketone	µg/kg	0-6	0 / 17	0	NA	NA	21.3	72.4	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-6	0 / 17	0	NA	NA	2.13	7.24	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-6	0 / 34	0	NA	NA	165	417	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-6	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-6	0 / 34	0	NA	NA	165	417	NA	NA	NA	NA	NA	--	--	--	--	--	

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Isophorone	µg/kg	0-6	0 / 34	0	NA	NA	165	417	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-6	36 / 53	68	1.8	460	0	0	47.26	32.1	14.2	7768	88.14	X	136	99% KM (Chebyshev) UCL	41.8	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-6	52 / 53	98	3.53	6070	0	0	493.4	484.1	137	1069214	1034	X	1887	99% KM (Chebyshev) UCL	596	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-6	1 / 53	2	10.2	10.2	2.5	10.8	10.2	2.648	10.2	NA	NA	X	10.2	Max Detect	10.2	Max Detect
2-Methyl naphthalene	µg/kg	0-6	4 / 53	8	4.2	14.5	2.5	35.4	7.643	2.899	5.935	22.07	4.698	X	3.38	95% KM (t) UCL	8.06	Bootstrap BCA 95UCL
Acenaphthene	µg/kg	0-6	1 / 53	2	5.37	5.37	2.5	10.8	5.37	2.555	5.37	NA	NA	X	5.37	Max Detect	5.37	Max Detect
Acenaphthylene	µg/kg	0-6	2 / 53	4	4.33	4.77	2.5	10.8	4.55	2.579	4.55	0.0968	0.311	X	4.77	Max Detect	4.77	Max Detect
Anthracene	µg/kg	0-6	6 / 53	11	3.4	14.4	2.5	10.8	7.55	3.079	6.885	18.47	4.298	X	3.61	95% KM (t) UCL	3.77	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-6	38 / 53	72	3.73	535	2.5	25.9	50.93	37.32	14.6	9323	96.56	X	53.1	KM H-UCL	48.8	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-6	40 / 53	75	2.93	535	2.5	25	62.71	48.12	20.75	11018	105	X	82.3	KM H-UCL	59.7	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-6	48 / 53	91	3.43	868	2.51	10	92.01	83.6	26.2	30751	175.4	X	155	KM H-UCL	96.5	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-6	38 / 53	72	3.34	252	2.51	25.9	33.05	24.87	13.85	2465	49.65	X	34.8	KM H-UCL	32.9	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-6	37 / 53	70	3.46	312	2.5	88.4	45.43	32.91	18.8	4876	69.83	X	50.7	KM H-UCL	36.3	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-6	46 / 53	87	3	868	2.5	2.62	71.34	62.25	21.2	21579	146.9	X	101	KM H-UCL	76.9	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-6	15 / 53	28	3.81	71.7	2.5	88.4	18.06	7.271	10.2	477.7	21.86	X	11.7	95% KM Approximate Gamma UCL	13.2	Bootstrap BCA 95UCL
Fluoranthene	µg/kg	0-6	50 / 53	94	3.53	1240	2.6	2.62	103.7	97.99	27.35	45893	214.2	X	171	KM H-UCL	126	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-6	1 / 53	2	4.67	4.67	2.5	10.8	4.67	2.542	4.67	NA	NA	X	4.67	Max Detect	4.67	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	32 / 53	60	3.57	265	2.5	88.4	34.56	22.55	12.7	2934	54.16	X	29.7	KM H-UCL	32.4	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-6	3 / 53	6	3.29	5.07	2.27	23.6	4.31	2.39	4.57	0.843	0.918	X	5.07	Max Detect	5.07	Max Detect
Phenanthrene	µg/kg	0-6	36 / 53	68	3.53	435	2.5	2.64	45.46	31.68	13.25	7046	83.94	X	42	KM H-UCL	41	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-6	49 / 53	92	3.47	1140	2.5	2.62	95.56	88.54	22.7	39012	197.5	X	157	KM H-UCL	113	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-6	52 / 53	98	5.82	771	6	6	76.45	75.12	26.4	18843	137.3	X	112	KM H-UCL	89.8	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-6	1 / 12	8	6.1	6.1	1	1.05	6.1	1.425	6.1	NA	NA	X	6.1	Max Detect	6.1	Max Detect
4,4-DDT	µg/kg	0-6	0 / 12	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-6	1 / 12	8	12	12	0.5	0.55	12	1.458	12	NA	NA	X	12	Max Detect	12	Max Detect
Dieldrin	µg/kg	0-6	1 / 12	8	6.7	6.7	1	1.05	6.7	1.475	6.7	NA	NA	X	6.7	Max Detect	6.7	Max Detect
Gamma-Chlordane	µg/kg	0-6	1 / 12	8	13	13	0.5	0.55	13	1.542	13	NA	NA	X	13	Max Detect	13	Max Detect
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-6	17 / 33	52	26	1030	17	35.3	216.2	120	145	75097	274	X	186	KM H-UCL	137	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-6	26 / 26	100	0.121	520	NA	NA	59.67	59.67	4.065	19863	140.9	X	232	97.5% Chebyshev (Mean, Sd) UCL	134	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-6	26 / 26	100	0.133	369	NA	NA	40.63	40.63	2.82	8268	90.93	X	152	97.5% Chebyshev (Mean, Sd) UCL	93.7	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-6	26 / 26	100	0.121	520	NA	NA	59.67	59.67	4.065	19863	140.9	X	232	97.5% Chebyshev (Mean, Sd) UCL	130	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-6	2 / 26	8	0.277	0.376	0.0212	1.89	0.327	0.049	0.327	0.0049	0.07	X	0.376	Max Detect	0.376	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-6	20 / 45	44	6.77	790	5	20.2	81.14	38.97	19.15	35560	188.6	X	124	95% KM (Chebyshev) UCL	51.4	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-6	0 / 31	0	NA	NA	0.458	1.13	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-6	39 / 45	87	5.46	1290	5	20.2	122.1	106.6	27.9	62032	249.1	X	260	95% KM (Chebyshev) UCL	97.5	Bootstrap BCA 95UCL

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Soil Depth Interval: 0-10 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-10	15 / 15	100	3900	20000	NA	NA	9303	9303	7900	26597307	5157	--	--	--	--	--
Antimony	mg/kg	0-10	0 / 54	0	NA	NA	1	1.14	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-10	54 / 54	100	2.24	9.76	NA	NA	4.87	4.87	4.605	3.387	1.84	X	5.31	95% Approximate Gamma UCL	6.16	Bootstrap BCA 95UCL
Barium	mg/kg	0-10	54 / 54	100	49.4	676	NA	NA	148.7	148.7	128	9715	98.57	--	--	--	--	--
Beryllium	mg/kg	0-10	0 / 54	0	NA	NA	0.5	2.24	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-10	1 / 54	2	1.2	1.2	0.5	0.56	1.2	0.513	1.2	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-10	37 / 54	69	0.128	16	0.1	0.205	1.209	0.861	0.484	6.821	2.612	X	1.03	KM H-UCL	2.07	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-10	54 / 54	100	10.1	320	NA	NA	31.9	31.9	22.15	1853	43.05	X	57.4	95% Chebyshev (Mean, Sd) UCL	53	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-10	54 / 54	100	2.92	9.6	NA	NA	5.922	5.922	5.85	2.575	1.605	--	--	--	--	--
Copper	mg/kg	0-10	54 / 54	100	4.9	29.2	NA	NA	12.14	12.14	10.9	23.54	4.852	X	13.2	95% Approximate Gamma UCL	13.9	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-10	0 / 15	0	NA	NA	0.1	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-10	16 / 16	100	7360	26000	NA	NA	14901	14901	14000	28366478	5326	--	--	--	--	--
Lead	mg/kg	0-10	53 / 54	98	2.2	150	0.5	0.5	13.28	13.04	7.17	484.4	22.01	X	26	95% KM (Chebyshev) UCL	17.8	Bootstrap BCA 95UCL
Manganese	mg/kg	0-10	16 / 16	100	136	440	NA	NA	254.1	254.1	229	8695	93.25	--	--	--	--	--
Mercury	mg/kg	0-10	2 / 54	4	0.18	0.306	0.0498	0.056	0.243	0.057	0.243	0.00794	0.0891	X	0.306	Max Detect	0.306	Max Detect
Molybdenum	mg/kg	0-10	18 / 54	33	0.66	7.1	0.5	2.24	1.566	0.863	1.19	2.041	1.429	--	--	--	--	--
Nickel	mg/kg	0-10	54 / 54	100	5.2	19.6	NA	NA	12.12	12.12	12	13.85	3.722	--	--	--	--	--
Selenium	mg/kg	0-10	2 / 54	4	0.94	1.58	0.5	0.81	1.26	0.528	1.26	0.205	0.453	--	--	--	--	--
Silver	mg/kg	0-10	0 / 54	0	NA	NA	0.5	2.24	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-10	0 / 54	0	NA	NA	1	4.4	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-10	54 / 54	100	14.6	45	NA	NA	27.07	27.07	25.8	56.83	7.538	--	--	--	--	--
Zinc	mg/kg	0-10	54 / 54	100	23.3	254	NA	NA	66.94	66.94	53.65	2156	46.44	X	94.5	95% Chebyshev (Mean, Sd) UCL	67.2	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-10	0 / 10	0	NA	NA	21.3	44.6	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-10	1 / 9	11	17	17	2.2	8	17	3.844	17	NA	NA	X	17	Max Detect	17	Max Detect
Methyl ethyl ketone	µg/kg	0-10	0 / 17	0	NA	NA	20.6	57.3	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Xylenes, total	µg/kg	0-10	0 / 17	0	NA	NA	2.06	5.73	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-10	0 / 34	0	NA	NA	165	420	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-10	0 / 34	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 34	0	NA	NA	165	420	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-10	0 / 34	0	NA	NA	165	420	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-10	36 / 53	68	1.08	276	0	0	33.32	22.63	10.4	3259	57.09	X	90.5	99% KM (Chebyshev) UCL	27	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-10	52 / 53	98	2.16	3640	0	0	350.2	343.6	121.5	512379	715.8	X	1315	99% KM (Chebyshev) UCL	393	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-10	1 / 53	2	11.7	11.7	2.5	7.53	11.7	2.674	11.7	NA	NA	X	11.7	Max Detect	11.7	Max Detect
2-Methyl naphthalene	µg/kg	0-10	4 / 53	8	3.54	15.9	2.5	31.3	7.42	2.881	5.12	33.24	5.765	X	3.39	95% KM (t) UCL	7.44	Bootstrap BCA 95UCL
Acenaphthene	µg/kg	0-10	1 / 53	2	4.24	4.24	2.5	7.53	4.24	2.533	4.24	NA	NA	X	4.24	Max Detect	4.24	Max Detect
Acenaphthylene	µg/kg	0-10	2 / 53	4	3.62	3.88	2.5	7.53	3.75	2.548	3.75	0.0338	0.184	X	3.88	Max Detect	3.88	Max Detect
Anthracene	µg/kg	0-10	6 / 53	11	3.12	9.64	2.5	7.53	5.793	2.878	5.185	5.486	2.342	X	3.2	95% KM (t) UCL	3.32	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-10	38 / 53	72	3.26	322	2.5	26.6	36.18	26.73	11.05	4102	64.05	X	60.5	95% KM (Chebyshev) UCL	32.6	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-10	40 / 53	75	3.3	322	2.5	25	45.16	34.84	18.05	5181	71.98	X	53.9	KM H-UCL	40.7	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-10	48 / 53	91	3.06	640	2.53	7.04	67.04	60.98	20.6	15975	126.4	X	103	KM H-UCL	67.3	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-10	38 / 53	72	3.03	170	2.53	26.6	24.93	18.97	10.34	1340	36.6	X	24.9	KM H-UCL	23.3	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-10	37 / 53	70	3.1	250	2.5	54.1	34.69	25.32	15.8	2768	52.61	X	36	KM H-UCL	26.7	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-10	46 / 53	87	3.37	522	2.5	2.63	50.92	44.52	17.25	9852	99.26	X	65.6	KM H-UCL	51.3	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-10	15 / 53	28	3.32	68	2.5	54.1	14.54	6.166	7.62	325	18.03	X	9.67	95% KM Approximate Gamma UCL	10.5	Bootstrap BCA 95UCL
Fluoranthene	µg/kg	0-10	50 / 53	94	3.14	742	2.6	2.63	72.78	68.81	23.9	19789	140.7	X	112	KM H-UCL	82.3	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-10	1 / 53	2	3.82	3.82	2.5	7.53	3.82	2.525	3.82	NA	NA	X	3.82	Max Detect	3.82	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	32 / 53	60	3.16	170	2.5	54.1	26.13	17.33	10.24	1583	39.79	X	21.4	KM H-UCL	22.6	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-10	3 / 53	6	2.85	4.08	2.14	15.8	3.563	2.224	3.76	0.407	0.638	X	4.08	Max Detect	4.08	Max Detect
Phenanthrene	µg/kg	0-10	36 / 53	68	3.17	262	2.5	2.63	32.38	22.8	10.5	2996	54.73	X	28.7	KM H-UCL	27.5	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-10	49 / 53	92	3.12	682	2.5	2.63	67.3	62.41	22	17322	131.6	X	101	KM H-UCL	74.7	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-10	52 / 53	98	5.85	470	6	6	56.87	55.91	20.8	9272	96.29	X	77.8	KM H-UCL	64.1	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-10	1 / 12	8	6.1	6.1	1	1.05	6.1	1.425	6.1	NA	NA	X	6.1	Max Detect	6.1	Max Detect
4,4-DDT	µg/kg	0-10	0 / 12	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-10	1 / 12	8	12	12	0.5	0.55	12	1.458	12	NA	NA	X	12	Max Detect	12	Max Detect
Dieldrin	µg/kg	0-10	1 / 12	8	6.7	6.7	1	1.05	6.7	1.475	6.7	NA	NA	X	6.7	Max Detect	6.7	Max Detect
Gamma-Chlordane	µg/kg	0-10	1 / 12	8	13	13	0.5	0.55	13	1.542	13	NA	NA	X	13	Max Detect	13	Max Detect
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-10	17 / 33	52	22.4	638	17	35.6	154.6	88.51	109	31133	176.4	X	127	KM H-UCL	90.7	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-10	26 / 26	100	0.0976	520	NA	NA	55.93	55.93	3.19	16408	128.1	X	213	97.5% Chebyshev (Mean, Sd) UCL	113	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-10	26 / 26	100	0.111	286	NA	NA	36.79	36.79	2.515	6134	78.32	X	133	97.5% Chebyshev (Mean, Sd) UCL	79	Bootstrap BCA 95UCL

Table AOC11-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 11 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
TEQ Mammals	ng/kg	0-10	26 / 26	100	0.0976	520	NA	NA	55.93	55.93	3.19	16408	128.1	X	213	97.5% Chebyshev (Mean, Sd) UCL	116	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-10	2 / 26	8	0.206	0.416	0.0199	1.65	0.311	0.0464	0.311	0.0221	0.148	X	0.416	Max Detect	0.416	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-10	21 / 45	47	5.25	570	5	14.1	68.18	34.55	15	23618	153.7	X	106	95% KM (Chebyshev) UCL	44.3	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-10	0 / 31	0	NA	NA	0.465	0.975	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-10	39 / 45	87	6	996	5	14.1	109.9	96	24.8	49037	221.4	X	232	95% KM (Chebyshev) UCL	81.2	Bootstrap BCA 95UCL

Notes:

^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.

^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.

^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:	
"--" = not applicable	mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram	NA = not applicable
AOC = area of concern	ND = not detected
B(a)P equivalent = benzo(a)pyrene equivalent	ng/kg = nanograms per kilogram
BCA = Bias-corrected accelerated bootstrap method	PAH = polycyclic aromatic hydrocarbons
COPC = constituent of potential concern	PCB = polychlorinated biphenyls
COPEC = constituent of potential ecological concern	PG&E = Pacific Gas and Electric Company
DDE = Dichlorodiphenyldichloroethylene	TCDD = Tetrachlorodibenzo-p-dioxin
DDT = Dichlorodiphenyltrichloroethane	TEQ = toxic equivalent
EPC = exposure point concentration	TPH = total petroleum hydrocarbons
FOD = frequency of detection	UCL = upper confidence limit
ft bgs = feet below ground surface	X = COPC/COPEC in the exposure depth interval
KM = Kaplan-Meier	

Table AOC11-4.1

Summary of COPCs Evaluated in the HHRA for AOC 11: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Arsenic	X	X	X	X
Chromium, Hexavalent	X	X	X	X
Chromium, total	X	X	X	X
Copper	X	X	X	X
Lead	X	X	X	X
Mercury (inorganic)	X	X	X	X
Zinc	X	X	X	X
Volatile Organic Compounds				
Methyl acetate	--	X	X	X
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	--	X	X	X
2-Methyl naphthalene	X	X	X	X
Acenaphthene	X	X	X	X
Acenaphthylene	X	X	X	X
Anthracene	X	X	X	X
Benzo (a) anthracene	X	X	X	X
Benzo (a) pyrene	X	X	X	X
Benzo (b) fluoranthene	X	X	X	X
Benzo (ghi) perylene	X	X	X	X
Benzo (k) fluoranthene	X	X	X	X
Chrysene	X	X	X	X
Dibenzo (a,h) anthracene	X	X	X	X
Fluoranthene	X	X	X	X
Fluorene	X	X	X	X
Indeno (1,2,3-cd) pyrene	X	X	X	X
Naphthalene	X	X	X	X
Phenanthrene	X	X	X	X
Pyrene	X	X	X	X

Table AOC11-4.1

Summary of COPCs Evaluated in the HHRA for AOC 11: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
B(a)P Equivalent	x	x	x	x
Pesticides				
4,4-DDE	x	x	x	x
alpha-Chlordane	x	x	x	x
Dieldrin	x	x	x	x
gamma-Chlordane	x	x	x	x
Polychlorinated Biphenyls				
Total PCBs	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x
Dioxins/Furans				
TEQ Human	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	5.3E+00	5.3E+00	5.3E-06	NV	5.3E-06	NV
Chromium, Hexavalent	8.1E-01	1.0E+00	8.1E-07	NV	8.1E-07	NV
Chromium, total	3.4E+01	5.7E+01	3.4E-05	NV	3.4E-05	NV
Copper	1.4E+01	1.3E+01	1.4E-05	NV	1.4E-05	NV
Lead	2.4E+01	2.6E+01	2.4E-05	NV	2.4E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.8E-07	NV	1.8E-07	NV
Zinc	1.8E+02	9.5E+01	1.8E-04	NV	1.8E-04	NV
Volatile Organic Compounds						
Methyl acetate	NS	1.7E-02	NA	8.5E-06	NA	1.5E-06
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	ND	1.2E-02	NA	8.3E-07	NA	1.5E-07
2-Methyl naphthalene	3.5E-03	3.4E-03	3.5E-09	2.3E-07	3.5E-09	4.2E-08
Acenaphthene	1.1E-02	4.2E-03	1.1E-08	1.2E-07	1.1E-08	2.2E-08
Acenaphthylene	9.2E-03	3.9E-03	9.2E-09	NV	9.2E-09	NV
Anthracene	5.5E-03	3.2E-03	5.5E-09	2.5E-08	5.5E-09	4.6E-09
Benzo (a) anthracene	2.3E-01	6.1E-02	2.3E-07	5.7E-08	2.3E-07	1.0E-08
Benzo (a) pyrene	1.8E-01	5.4E-02	1.8E-07	NV	1.8E-07	NV
Benzo (b) fluoranthene	3.4E-01	1.0E-01	3.4E-07	NV	3.4E-07	NV
Benzo (ghi) perylene	1.1E-01	2.5E-02	1.1E-07	NV	1.1E-07	NV
Benzo (k) fluoranthene	8.6E-02	3.6E-02	8.6E-08	NV	8.6E-08	NV
Chrysene	2.3E-01	6.6E-02	2.3E-07	NV	2.3E-07	NV
Dibenzo (a,h) anthracene	2.4E-02	9.7E-03	2.4E-08	NV	2.4E-08	NV
Fluoranthene	3.7E-01	1.1E-01	3.7E-07	NV	3.7E-07	NV
Fluorene	8.9E-03	3.8E-03	8.9E-09	5.4E-08	8.9E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	1.1E-01	2.1E-02	1.1E-07	NV	1.1E-07	NV
Naphthalene	1.0E-02	4.1E-03	1.0E-08	3.5E-07	1.0E-08	6.4E-08
Phenanthrene	1.9E-01	2.9E-02	1.9E-07	NV	1.9E-07	NV
Pyrene	3.3E-01	1.0E-01	3.3E-07	1.7E-07	3.3E-07	3.0E-08
B(a)P Equivalent	2.3E-01	7.8E-02	2.3E-07	NV	2.3E-07	NV
Pesticides						
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	1.5E-08	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV	1.3E-08	NV

Table AOC11-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	4.4E-01	1.3E-01	4.4E-07	9.9E-07	4.4E-07	1.8E-07
Total Petroleum Hydrocarbons						
TPH as diesel	2.5E+01	1.1E+02	2.5E-05	2.2E-01	2.5E-05	4.0E-02
TPH as motor oil	2.4E+02	2.3E+02	2.4E-04	NV	2.4E-04	NV
Dioxins/Furans						
TEQ Human	1.7E-04	2.1E-04	1.7E-10	4.5E-10	1.7E-10	8.2E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	5.2E+00	5.3E+00	5.2E-06	NV	5.2E-06	NV
Chromium, Hexavalent	8.8E-01	1.0E+00	8.8E-07	NV	8.8E-07	NV
Chromium, total	3.4E+01	5.7E+01	3.4E-05	NV	3.4E-05	NV
Copper	1.3E+01	1.3E+01	1.3E-05	NV	1.3E-05	NV
Lead	2.2E+01	2.6E+01	2.2E-05	NV	2.2E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.8E-07	NV	1.8E-07	NV
Zinc	1.4E+02	9.5E+01	1.4E-04	NV	1.4E-04	NV
Volatile Organic Compounds						
Methyl acetate	1.7E-02	1.7E-02	1.7E-08	8.5E-06	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	6.4E-03	1.2E-02	6.4E-09	8.3E-07	6.4E-09	1.5E-07
2-Methyl naphthalene	3.4E-03	3.4E-03	3.4E-09	2.3E-07	3.4E-09	4.2E-08
Acenaphthene	8.2E-03	4.2E-03	8.2E-09	1.2E-07	8.2E-09	2.2E-08
Acenaphthylene	7.0E-03	3.9E-03	7.0E-09	NV	7.0E-09	NV
Anthracene	4.7E-03	3.2E-03	4.7E-09	2.5E-08	4.7E-09	4.6E-09
Benzo (a) anthracene	9.2E-02	6.1E-02	9.2E-08	5.7E-08	9.2E-08	1.0E-08
Benzo (a) pyrene	1.4E-01	5.4E-02	1.4E-07	NV	1.4E-07	NV
Benzo (b) fluoranthene	2.6E-01	1.0E-01	2.6E-07	NV	2.6E-07	NV
Benzo (ghi) perylene	5.2E-02	2.5E-02	5.2E-08	NV	5.2E-08	NV
Benzo (k) fluoranthene	7.5E-02	3.6E-02	7.5E-08	NV	7.5E-08	NV
Chrysene	1.8E-01	6.6E-02	1.8E-07	NV	1.8E-07	NV
Dibenzo (a,h) anthracene	8.7E-03	9.7E-03	8.7E-09	NV	8.7E-09	NV
Fluoranthene	2.8E-01	1.1E-01	2.8E-07	NV	2.8E-07	NV
Fluorene	6.8E-03	3.8E-03	6.8E-09	5.4E-08	6.8E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	4.5E-02	2.1E-02	4.5E-08	NV	4.5E-08	NV
Naphthalene	7.5E-03	4.1E-03	7.5E-09	3.5E-07	7.5E-09	6.4E-08
Phenanthrene	7.2E-02	2.9E-02	7.2E-08	NV	7.2E-08	NV
Pyrene	2.7E-01	1.0E-01	2.7E-07	1.7E-07	2.7E-07	3.0E-08
B(a)P Equivalent	1.8E-01	7.8E-02	1.8E-07	NV	1.8E-07	NV
Pesticides						
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	1.5E-08	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV	1.3E-08	NV

Table AOC11-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	3.9E-01	1.3E-01	3.9E-07	9.9E-07	3.9E-07	1.8E-07
Total Petroleum Hydrocarbons						
TPH as diesel	3.1E+01	1.1E+02	3.1E-05	2.2E-01	3.1E-05	4.0E-02
TPH as motor oil	2.6E+02	2.3E+02	2.6E-04	NV	2.6E-04	NV
Dioxins/Furans						
TEQ Human	2.0E-04	2.1E-04	2.0E-10	4.5E-10	2.0E-10	8.2E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	5.2E+00	5.3E+00	5.2E-06	NV	5.2E-06	NV
Chromium, Hexavalent	2.2E+00	1.0E+00	2.2E-06	NV	2.2E-06	NV
Chromium, total	5.9E+01	5.7E+01	5.9E-05	NV	5.9E-05	NV
Copper	1.4E+01	1.3E+01	1.4E-05	NV	1.4E-05	NV
Lead	1.9E+01	2.6E+01	1.9E-05	NV	1.9E-05	NV
Mercury (inorganic)	2.6E-01	3.1E-01	2.6E-07	NV	2.6E-07	NV
Zinc	1.1E+02	9.5E+01	1.1E-04	NV	1.1E-04	NV
Volatile Organic Compounds						
Methyl acetate	1.7E-02	1.7E-02	1.7E-08	8.5E-06	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	1.0E-02	1.2E-02	1.0E-08	8.3E-07	1.0E-08	1.5E-07
2-Methyl naphthalene	3.4E-03	3.4E-03	3.4E-09	2.3E-07	3.4E-09	4.2E-08
Acenaphthene	5.4E-03	4.2E-03	5.4E-09	1.2E-07	5.4E-09	2.2E-08
Acenaphthylene	4.8E-03	3.9E-03	4.8E-09	NV	4.8E-09	NV
Anthracene	3.6E-03	3.2E-03	3.6E-09	2.5E-08	3.6E-09	4.6E-09
Benzo (a) anthracene	5.3E-02	6.1E-02	5.3E-08	5.7E-08	5.3E-08	1.0E-08
Benzo (a) pyrene	8.2E-02	5.4E-02	8.2E-08	NV	8.2E-08	NV
Benzo (b) fluoranthene	1.6E-01	1.0E-01	1.6E-07	NV	1.6E-07	NV
Benzo (ghi) perylene	3.5E-02	2.5E-02	3.5E-08	NV	3.5E-08	NV
Benzo (k) fluoranthene	5.1E-02	3.6E-02	5.1E-08	NV	5.1E-08	NV
Chrysene	1.0E-01	6.6E-02	1.0E-07	NV	1.0E-07	NV
Dibenzo (a,h) anthracene	1.2E-02	9.7E-03	1.2E-08	NV	1.2E-08	NV
Fluoranthene	1.7E-01	1.1E-01	1.7E-07	NV	1.7E-07	NV
Fluorene	4.7E-03	3.8E-03	4.7E-09	5.4E-08	4.7E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	3.0E-02	2.1E-02	3.0E-08	NV	3.0E-08	NV
Naphthalene	5.1E-03	4.1E-03	5.1E-09	3.5E-07	5.1E-09	6.4E-08
Phenanthrene	4.2E-02	2.9E-02	4.2E-08	NV	4.2E-08	NV
Pyrene	1.6E-01	1.0E-01	1.6E-07	1.7E-07	1.6E-07	3.0E-08
B(a)P Equivalent	1.1E-01	7.8E-02	1.1E-07	NV	1.1E-07	NV
Pesticides						
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	1.5E-08	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV	1.3E-08	NV

Table AOC11-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	1.9E-01	1.3E-01	1.9E-07	9.9E-07	1.9E-07	1.8E-07
Total Petroleum Hydrocarbons						
TPH as diesel	1.2E+02	1.1E+02	1.2E-04	2.2E-01	1.2E-04	4.0E-02
TPH as motor oil	2.6E+02	2.3E+02	2.6E-04	NV	2.6E-04	NV
Dioxins/Furans						
TEQ Human	2.3E-04	2.1E-04	2.3E-10	4.5E-10	2.3E-10	8.2E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Arsenic	5.3E+00	5.3E-06	NV	5.3E-06	NV
Chromium, Hexavalent	1.0E+00	1.0E-06	NV	1.0E-06	NV
Chromium, total	5.7E+01	5.7E-05	NV	5.7E-05	NV
Copper	1.3E+01	1.3E-05	NV	1.3E-05	NV
Lead	2.6E+01	2.6E-05	NV	2.6E-05	NV
Mercury (inorganic)	3.1E-01	3.1E-07	NV	3.1E-07	NV
Zinc	9.5E+01	9.5E-05	NV	9.5E-05	NV
Volatile Organic Compounds					
Methyl acetate	1.7E-02	1.7E-08	8.5E-06	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	1.2E-02	1.2E-08	8.3E-07	1.2E-08	1.5E-07
2-Methyl naphthalene	3.4E-03	3.4E-09	2.3E-07	3.4E-09	4.2E-08
Acenaphthene	4.2E-03	4.2E-09	1.2E-07	4.2E-09	2.2E-08
Acenaphthylene	3.9E-03	3.9E-09	NV	3.9E-09	NV
Anthracene	3.2E-03	3.2E-09	2.5E-08	3.2E-09	4.6E-09
Benzo (a) anthracene	6.1E-02	6.1E-08	5.7E-08	6.1E-08	1.0E-08
Benzo (a) pyrene	5.4E-02	5.4E-08	NV	5.4E-08	NV
Benzo (b) fluoranthene	1.0E-01	1.0E-07	NV	1.0E-07	NV
Benzo (ghi) perylene	2.5E-02	2.5E-08	NV	2.5E-08	NV
Benzo (k) fluoranthene	3.6E-02	3.6E-08	NV	3.6E-08	NV
Chrysene	6.6E-02	6.6E-08	NV	6.6E-08	NV
Dibenzo (a,h) anthracene	9.7E-03	9.7E-09	NV	9.7E-09	NV
Fluoranthene	1.1E-01	1.1E-07	NV	1.1E-07	NV
Fluorene	3.8E-03	3.8E-09	5.4E-08	3.8E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	2.1E-02	2.1E-08	NV	2.1E-08	NV
Naphthalene	4.1E-03	4.1E-09	3.5E-07	4.1E-09	6.4E-08
Phenanthrene	2.9E-02	2.9E-08	NV	2.9E-08	NV
Pyrene	1.0E-01	1.0E-07	1.7E-07	1.0E-07	3.0E-08
B(a)P Equivalent	7.8E-02	7.8E-08	NV	7.8E-08	NV
Pesticides					
4,4-DDE	6.1E-03	6.1E-09	1.5E-08	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-08	NV	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-09	NV	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-08	NV	1.3E-08	NV

Table AOC11-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 11 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls					
Total PCBs	1.3E-01	1.3E-07	9.9E-07	1.3E-07	1.8E-07
Total Petroleum Hydrocarbons					
TPH as diesel	1.1E+02	1.1E-04	2.2E-01	1.1E-04	4.0E-02
TPH as motor oil	2.3E+02	2.3E-04	NV	2.3E-04	NV
Dioxins/Furans					
TEQ Human	2.1E-04	2.1E-10	4.5E-10	2.1E-10	8.2E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Arsenic	5.3E+00	5.3E+00	3.9E-09	NV	3.9E-09	NV	3.9E-09	NV	6.2E-06	NV
Chromium, Hexavalent	8.1E-01	1.0E+00	6.0E-10	NV	6.0E-10	NV	6.0E-10	NV	9.6E-07	NV
Chromium, total	3.4E+01	5.7E+01	2.5E-08	NV	2.5E-08	NV	2.5E-08	NV	4.0E-05	NV
Copper	1.4E+01	1.3E+01	1.0E-08	NV	1.0E-08	NV	1.0E-08	NV	1.6E-05	NV
Lead	2.4E+01	2.6E+01	1.7E-08	NV	1.7E-08	NV	1.7E-08	NV	2.8E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Zinc	1.8E+02	9.5E+01	1.3E-07	NV	1.3E-07	NV	1.3E-07	NV	2.1E-04	NV
Volatile Organic Compounds										
Methyl acetate	NS	1.7E-02	NA	1.7E-06	NA	1.7E-06	NA	1.7E-06	NA	1.7E-06
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.2E-02	NA	1.6E-07	NA	1.6E-07	NA	1.6E-07	NA	1.6E-07
2-Methyl naphthalene	3.5E-03	3.4E-03	2.6E-12	4.5E-08	2.6E-12	4.5E-08	2.6E-12	4.5E-08	4.1E-09	4.5E-08
Acenaphthene	1.1E-02	4.2E-03	8.1E-12	2.3E-08	8.1E-12	2.3E-08	8.1E-12	2.3E-08	1.3E-08	2.3E-08
Acenaphthylene	9.2E-03	3.9E-03	6.8E-12	NV	6.8E-12	NV	6.8E-12	NV	1.1E-08	NV
Anthracene	5.5E-03	3.2E-03	4.1E-12	5.0E-09	4.1E-12	5.0E-09	4.1E-12	5.0E-09	6.5E-09	5.0E-09
Benzo (a) anthracene	2.3E-01	6.1E-02	1.7E-10	1.1E-08	1.7E-10	1.1E-08	1.7E-10	1.1E-08	2.7E-07	1.1E-08
Benzo (a) pyrene	1.8E-01	5.4E-02	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Benzo (b) fluoranthene	3.4E-01	1.0E-01	2.5E-10	NV	2.5E-10	NV	2.5E-10	NV	4.0E-07	NV
Benzo (ghi) perylene	1.1E-01	2.5E-02	7.9E-11	NV	7.9E-11	NV	7.9E-11	NV	1.3E-07	NV
Benzo (k) fluoranthene	8.6E-02	3.6E-02	6.4E-11	NV	6.4E-11	NV	6.4E-11	NV	1.0E-07	NV
Chrysene	2.3E-01	6.6E-02	1.7E-10	NV	1.7E-10	NV	1.7E-10	NV	2.8E-07	NV
Dibenzo (a,h) anthracene	2.4E-02	9.7E-03	1.7E-11	NV	1.7E-11	NV	1.7E-11	NV	2.8E-08	NV
Fluoranthene	3.7E-01	1.1E-01	2.8E-10	NV	2.8E-10	NV	2.8E-10	NV	4.4E-07	NV
Fluorene	8.9E-03	3.8E-03	6.5E-12	1.1E-08	6.5E-12	1.1E-08	6.5E-12	1.1E-08	1.1E-08	1.1E-08
Indeno (1,2,3-cd) pyrene	1.1E-01	2.1E-02	8.2E-11	NV	8.2E-11	NV	8.2E-11	NV	1.3E-07	NV
Naphthalene	1.0E-02	4.1E-03	7.4E-12	6.9E-08	7.4E-12	6.9E-08	7.4E-12	6.9E-08	1.2E-08	6.9E-08
Phenanthrene	1.9E-01	2.9E-02	1.4E-10	NV	1.4E-10	NV	1.4E-10	NV	2.3E-07	NV
Pyrene	3.3E-01	1.0E-01	2.4E-10	3.3E-08	2.4E-10	3.3E-08	2.4E-10	3.3E-08	3.9E-07	3.3E-08
B(a)P Equivalent	2.3E-01	7.8E-02	1.7E-10	NV	1.7E-10	NV	1.7E-10	NV	2.7E-07	NV
Pesticides										
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	2.9E-09	4.5E-12	2.9E-09	4.5E-12	2.9E-09	7.2E-09	2.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV	8.8E-12	NV	8.8E-12	NV	1.4E-08	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV	4.9E-12	NV	4.9E-12	NV	7.9E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV	9.6E-12	NV	9.6E-12	NV	1.5E-08	NV

Table AOC11-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	4.4E-01	1.3E-01	3.3E-10	1.9E-07	3.3E-10	1.9E-07	3.3E-10	1.9E-07	5.2E-07	1.9E-07
Total Petroleum Hydrocarbons										
TPH as diesel	2.5E+01	1.1E+02	1.9E-08	4.3E-02	1.9E-08	4.3E-02	1.9E-08	4.3E-02	3.0E-05	4.3E-02
TPH as motor oil	2.4E+02	2.3E+02	1.8E-07	NV	1.8E-07	NV	1.8E-07	NV	2.8E-04	NV
Dioxins/Furans										
TEQ Human	1.7E-04	2.1E-04	1.3E-13	8.8E-11	1.3E-13	8.8E-11	1.3E-13	8.8E-11	2.0E-10	8.8E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
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Table AOC11-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Arsenic	5.2E+00	5.3E+00	3.8E-09	NV	3.8E-09	NV	3.8E-09	NV	6.2E-06	NV
Chromium, Hexavalent	8.8E-01	1.0E+00	6.5E-10	NV	6.5E-10	NV	6.5E-10	NV	1.0E-06	NV
Chromium, total	3.4E+01	5.7E+01	2.5E-08	NV	2.5E-08	NV	2.5E-08	NV	4.0E-05	NV
Copper	1.3E+01	1.3E+01	9.9E-09	NV	9.9E-09	NV	9.9E-09	NV	1.6E-05	NV
Lead	2.2E+01	2.6E+01	1.6E-08	NV	1.6E-08	NV	1.6E-08	NV	2.6E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Zinc	1.4E+02	9.5E+01	1.0E-07	NV	1.0E-07	NV	1.0E-07	NV	1.7E-04	NV
Volatile Organic Compounds										
Methyl acetate	1.7E-02	1.7E-02	1.3E-11	1.7E-06	1.3E-11	1.7E-06	1.3E-11	1.7E-06	2.0E-08	1.7E-06
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	6.4E-03	1.2E-02	4.7E-12	1.6E-07	4.7E-12	1.6E-07	4.7E-12	1.6E-07	7.5E-09	1.6E-07
2-Methyl naphthalene	3.4E-03	3.4E-03	2.5E-12	4.5E-08	2.5E-12	4.5E-08	2.5E-12	4.5E-08	4.0E-09	4.5E-08
Acenaphthene	8.2E-03	4.2E-03	6.0E-12	2.3E-08	6.0E-12	2.3E-08	6.0E-12	2.3E-08	9.7E-09	2.3E-08
Acenaphthylene	7.0E-03	3.9E-03	5.1E-12	NV	5.1E-12	NV	5.1E-12	NV	8.2E-09	NV
Anthracene	4.7E-03	3.2E-03	3.4E-12	5.0E-09	3.4E-12	5.0E-09	3.4E-12	5.0E-09	5.5E-09	5.0E-09
Benzo (a) anthracene	9.2E-02	6.1E-02	6.7E-11	1.1E-08	6.7E-11	1.1E-08	6.7E-11	1.1E-08	1.1E-07	1.1E-08
Benzo (a) pyrene	1.4E-01	5.4E-02	1.0E-10	NV	1.0E-10	NV	1.0E-10	NV	1.6E-07	NV
Benzo (b) fluoranthene	2.6E-01	1.0E-01	1.9E-10	NV	1.9E-10	NV	1.9E-10	NV	3.1E-07	NV
Benzo (ghi) perylene	5.2E-02	2.5E-02	3.9E-11	NV	3.9E-11	NV	3.9E-11	NV	6.2E-08	NV
Benzo (k) fluoranthene	7.5E-02	3.6E-02	5.5E-11	NV	5.5E-11	NV	5.5E-11	NV	8.9E-08	NV
Chrysene	1.8E-01	6.6E-02	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Dibenzo (a,h) anthracene	8.7E-03	9.7E-03	6.4E-12	NV	6.4E-12	NV	6.4E-12	NV	1.0E-08	NV
Fluoranthene	2.8E-01	1.1E-01	2.1E-10	NV	2.1E-10	NV	2.1E-10	NV	3.3E-07	NV
Fluorene	6.8E-03	3.8E-03	5.0E-12	1.1E-08	5.0E-12	1.1E-08	5.0E-12	1.1E-08	8.0E-09	1.1E-08
Indeno (1,2,3-cd) pyrene	4.5E-02	2.1E-02	3.3E-11	NV	3.3E-11	NV	3.3E-11	NV	5.3E-08	NV
Naphthalene	7.5E-03	4.1E-03	5.5E-12	6.9E-08	5.5E-12	6.9E-08	5.5E-12	6.9E-08	8.9E-09	6.9E-08
Phenanthrene	7.2E-02	2.9E-02	5.3E-11	NV	5.3E-11	NV	5.3E-11	NV	8.5E-08	NV
Pyrene	2.7E-01	1.0E-01	1.9E-10	3.3E-08	1.9E-10	3.3E-08	1.9E-10	3.3E-08	3.1E-07	3.3E-08
B(a)P Equivalent	1.8E-01	7.8E-02	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Pesticides										
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	2.9E-09	4.5E-12	2.9E-09	4.5E-12	2.9E-09	7.2E-09	2.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV	8.8E-12	NV	8.8E-12	NV	1.4E-08	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV	4.9E-12	NV	4.9E-12	NV	7.9E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV	9.6E-12	NV	9.6E-12	NV	1.5E-08	NV

Table AOC11-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	3.9E-01	1.3E-01	2.8E-10	1.9E-07	2.8E-10	1.9E-07	2.8E-10	1.9E-07	4.6E-07	1.9E-07
Total Petroleum Hydrocarbons										
TPH as diesel	3.1E+01	1.1E+02	2.3E-08	4.3E-02	2.3E-08	4.3E-02	2.3E-08	4.3E-02	3.6E-05	4.3E-02
TPH as motor oil	2.6E+02	2.3E+02	1.9E-07	NV	1.9E-07	NV	1.9E-07	NV	3.0E-04	NV
Dioxins/Furans										
TEQ Human	2.0E-04	2.1E-04	1.5E-13	8.8E-11	1.5E-13	8.8E-11	1.5E-13	8.8E-11	2.3E-10	8.8E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
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Table AOC11-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	5.3E+00	5.3E+00	3.9E-09	NV
Chromium, Hexavalent	8.1E-01	1.0E+00	6.0E-10	NV
Chromium, total	3.4E+01	5.7E+01	2.5E-08	NV
Copper	1.4E+01	1.3E+01	1.0E-08	NV
Lead	2.4E+01	2.6E+01	1.7E-08	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV
Zinc	1.8E+02	9.5E+01	1.3E-07	NV
Volatile Organic Compounds				
Methyl acetate	NS	1.7E-02	NA	1.1E-06
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	ND	1.2E-02	NA	1.1E-07
2-Methyl naphthalene	3.5E-03	3.4E-03	2.6E-12	3.0E-08
Acenaphthene	1.1E-02	4.2E-03	8.1E-12	1.5E-08
Acenaphthylene	9.2E-03	3.9E-03	6.8E-12	NV
Anthracene	5.5E-03	3.2E-03	4.1E-12	3.3E-09
Benzo (a) anthracene	2.3E-01	6.1E-02	1.7E-10	7.3E-09
Benzo (a) pyrene	1.8E-01	5.4E-02	1.3E-10	NV
Benzo (b) fluoranthene	3.4E-01	1.0E-01	2.5E-10	NV
Benzo (ghi) perylene	1.1E-01	2.5E-02	7.9E-11	NV
Benzo (k) fluoranthene	8.6E-02	3.6E-02	6.4E-11	NV
Chrysene	2.3E-01	6.6E-02	1.7E-10	NV
Dibenzo (a,h) anthracene	2.4E-02	9.7E-03	1.7E-11	NV
Fluoranthene	3.7E-01	1.1E-01	2.8E-10	NV
Fluorene	8.9E-03	3.8E-03	6.5E-12	6.9E-09
Indeno (1,2,3-cd) pyrene	1.1E-01	2.1E-02	8.2E-11	NV
Naphthalene	1.0E-02	4.1E-03	7.4E-12	4.5E-08
Phenanthrene	1.9E-01	2.9E-02	1.4E-10	NV
Pyrene	3.3E-01	1.0E-01	2.4E-10	2.2E-08
B(a)P Equivalent	2.3E-01	7.8E-02	1.7E-10	NV
Pesticides				
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	1.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV

Table AOC11-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	4.4E-01	1.3E-01	3.3E-10	1.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	2.5E+01	1.1E+02	1.9E-08	2.8E-02
TPH as motor oil	2.4E+02	2.3E+02	1.8E-07	NV
Dioxins/Furans				
TEQ Human	1.7E-04	2.1E-04	1.3E-13	5.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	5.2E+00	5.3E+00	3.8E-09	NV
Chromium, Hexavalent	8.8E-01	1.0E+00	6.5E-10	NV
Chromium, total	3.4E+01	5.7E+01	2.5E-08	NV
Copper	1.3E+01	1.3E+01	9.9E-09	NV
Lead	2.2E+01	2.6E+01	1.6E-08	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV
Zinc	1.4E+02	9.5E+01	1.0E-07	NV
Volatile Organic Compounds				
Methyl acetate	1.7E-02	1.7E-02	1.3E-11	1.1E-06
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	6.4E-03	1.2E-02	4.7E-12	1.1E-07
2-Methyl naphthalene	3.4E-03	3.4E-03	2.5E-12	3.0E-08
Acenaphthene	8.2E-03	4.2E-03	6.0E-12	1.5E-08
Acenaphthylene	7.0E-03	3.9E-03	5.1E-12	NV
Anthracene	4.7E-03	3.2E-03	3.4E-12	3.3E-09
Benzo (a) anthracene	9.2E-02	6.1E-02	6.7E-11	7.3E-09
Benzo (a) pyrene	1.4E-01	5.4E-02	1.0E-10	NV
Benzo (b) fluoranthene	2.6E-01	1.0E-01	1.9E-10	NV
Benzo (ghi) perylene	5.2E-02	2.5E-02	3.9E-11	NV
Benzo (k) fluoranthene	7.5E-02	3.6E-02	5.5E-11	NV
Chrysene	1.8E-01	6.6E-02	1.3E-10	NV
Dibenzo (a,h) anthracene	8.7E-03	9.7E-03	6.4E-12	NV
Fluoranthene	2.8E-01	1.1E-01	2.1E-10	NV
Fluorene	6.8E-03	3.8E-03	5.0E-12	6.9E-09
Indeno (1,2,3-cd) pyrene	4.5E-02	2.1E-02	3.3E-11	NV
Naphthalene	7.5E-03	4.1E-03	5.5E-12	4.5E-08
Phenanthrene	7.2E-02	2.9E-02	5.3E-11	NV
Pyrene	2.7E-01	1.0E-01	1.9E-10	2.2E-08
B(a)P Equivalent	1.8E-01	7.8E-02	1.3E-10	NV
Pesticides				
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	1.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV

Table AOC11-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
	(mg/kg) ^a	(mg/kg) ^b	Outdoor Airborne Particulate Concentration (mg/m ³) ^c	Outdoor Vapor Concentration (mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	3.9E-01	1.3E-01	2.8E-10	1.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	3.1E+01	1.1E+02	2.3E-08	2.8E-02
TPH as motor oil	2.6E+02	2.3E+02	1.9E-07	NV
Dioxins/Furans				
TEQ Human	2.0E-04	2.1E-04	1.5E-13	5.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	5.7E+00	6.2E+00	5.7E-06	NV
Chromium, Hexavalent	1.9E+00	2.1E+00	1.9E-06	NV
Chromium, total	5.0E+01	5.3E+01	5.0E-05	NV
Copper	1.3E+01	1.4E+01	1.3E-05	NV
Lead	3.8E+01	1.8E+01	3.8E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.8E-07	NV
Zinc	1.1E+02	6.7E+01	1.1E-04	NV
Volatile Organic Compounds				
Methyl acetate	NS	1.7E-02	NA	1.5E-06
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	ND	1.2E-02	NA	1.5E-07
2-Methyl naphthalene	1.1E-02	7.4E-03	1.1E-08	9.3E-08
Acenaphthene	1.1E-02	4.2E-03	1.1E-08	2.2E-08
Acenaphthylene	9.2E-03	3.9E-03	9.2E-09	NV
Anthracene	5.4E-03	3.3E-03	5.4E-09	4.8E-09
Benzo (a) anthracene	1.3E-01	3.3E-02	1.3E-07	5.6E-09
Benzo (a) pyrene	1.5E-01	4.1E-02	1.5E-07	NV
Benzo (b) fluoranthene	2.4E-01	6.7E-02	2.4E-07	NV
Benzo (ghi) perylene	7.2E-02	2.3E-02	7.2E-08	NV
Benzo (k) fluoranthene	8.6E-02	2.7E-02	8.6E-08	NV
Chrysene	2.0E-01	5.1E-02	2.0E-07	NV
Dibenzo (a,h) anthracene	2.8E-02	1.1E-02	2.8E-08	NV
Fluoranthene	3.2E-01	8.2E-02	3.2E-07	NV
Fluorene	8.9E-03	3.8E-03	8.9E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	7.2E-02	2.3E-02	7.2E-08	NV
Naphthalene	1.0E-02	4.1E-03	1.0E-08	6.4E-08
Phenanthrene	1.1E-01	2.8E-02	1.1E-07	NV
Pyrene	3.0E-01	7.5E-02	3.0E-07	2.3E-08
B(a)P Equivalent	2.1E-01	6.4E-02	2.1E-07	NV
Pesticides				
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV

Table AOC11-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.3E-01	9.1E-02	2.3E-07	1.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	5.1E+01	4.4E+01	5.1E-05	1.7E-02
TPH as motor oil	1.1E+02	8.1E+01	1.1E-04	NV
Dioxins/Furans				
TEQ Human	7.3E-05	1.1E-04	7.3E-11	4.4E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0x10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	5.8E+00	6.2E+00	5.8E-06	NV
Chromium, Hexavalent	1.9E+00	2.1E+00	1.9E-06	NV
Chromium, total	5.1E+01	5.3E+01	5.1E-05	NV
Copper	1.3E+01	1.4E+01	1.3E-05	NV
Lead	2.9E+01	1.8E+01	2.9E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.8E-07	NV
Zinc	7.6E+01	6.7E+01	7.6E-05	NV
Volatile Organic Compounds				
Methyl acetate	1.7E-02	1.7E-02	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	6.4E-03	1.2E-02	6.4E-09	1.5E-07
2-Methyl naphthalene	9.9E-03	7.4E-03	9.9E-09	9.3E-08
Acenaphthene	8.2E-03	4.2E-03	8.2E-09	2.2E-08
Acenaphthylene	7.0E-03	3.9E-03	7.0E-09	NV
Anthracene	4.6E-03	3.3E-03	4.6E-09	4.8E-09
Benzo (a) anthracene	8.7E-02	3.3E-02	8.7E-08	5.6E-09
Benzo (a) pyrene	1.0E-01	4.1E-02	1.0E-07	NV
Benzo (b) fluoranthene	1.7E-01	6.7E-02	1.7E-07	NV
Benzo (ghi) perylene	5.3E-02	2.3E-02	5.3E-08	NV
Benzo (k) fluoranthene	6.1E-02	2.7E-02	6.1E-08	NV
Chrysene	1.4E-01	5.1E-02	1.4E-07	NV
Dibenzo (a,h) anthracene	2.0E-02	1.1E-02	2.0E-08	NV
Fluoranthene	2.3E-01	8.2E-02	2.3E-07	NV
Fluorene	6.8E-03	3.8E-03	6.8E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	5.3E-02	2.3E-02	5.3E-08	NV
Naphthalene	7.5E-03	4.1E-03	7.5E-09	6.4E-08
Phenanthrene	7.5E-02	2.8E-02	7.5E-08	NV
Pyrene	2.0E-01	7.5E-02	2.0E-07	2.3E-08
B(a)P Equivalent	1.5E-01	6.4E-02	1.5E-07	NV
Pesticides				
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV

Table AOC11-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.1E-01	9.1E-02	2.1E-07	1.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	5.5E+01	4.4E+01	5.5E-05	1.7E-02
TPH as motor oil	1.1E+02	8.1E+01	1.1E-04	NV
Dioxins/Furans				
TEQ Human	1.0E-04	1.1E-04	1.0E-10	4.4E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	5.9E+00	6.2E+00	5.9E-06	NV
Chromium, Hexavalent	2.1E+00	2.1E+00	2.1E-06	NV
Chromium, total	5.2E+01	5.3E+01	5.2E-05	NV
Copper	1.3E+01	1.4E+01	1.3E-05	NV
Lead	2.2E+01	1.8E+01	2.2E-05	NV
Mercury (inorganic)	2.6E-01	3.1E-01	2.6E-07	NV
Zinc	6.8E+01	6.7E+01	6.8E-05	NV
Volatile Organic Compounds				
Methyl acetate	1.7E-02	1.7E-02	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	1.0E-02	1.2E-02	1.0E-08	1.5E-07
2-Methyl naphthalene	8.1E-03	7.4E-03	8.1E-09	9.3E-08
Acenaphthene	5.4E-03	4.2E-03	5.4E-09	2.2E-08
Acenaphthylene	4.8E-03	3.9E-03	4.8E-09	NV
Anthracene	3.8E-03	3.3E-03	3.8E-09	4.8E-09
Benzo (a) anthracene	4.9E-02	3.3E-02	4.9E-08	5.6E-09
Benzo (a) pyrene	6.0E-02	4.1E-02	6.0E-08	NV
Benzo (b) fluoranthene	9.7E-02	6.7E-02	9.7E-08	NV
Benzo (ghi) perylene	3.3E-02	2.3E-02	3.3E-08	NV
Benzo (k) fluoranthene	3.6E-02	2.7E-02	3.6E-08	NV
Chrysene	7.7E-02	5.1E-02	7.7E-08	NV
Dibenzo (a,h) anthracene	1.3E-02	1.1E-02	1.3E-08	NV
Fluoranthene	1.3E-01	8.2E-02	1.3E-07	NV
Fluorene	4.7E-03	3.8E-03	4.7E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	3.2E-02	2.3E-02	3.2E-08	NV
Naphthalene	5.1E-03	4.1E-03	5.1E-09	6.4E-08
Phenanthrene	4.1E-02	2.8E-02	4.1E-08	NV
Pyrene	1.1E-01	7.5E-02	1.1E-07	2.3E-08
B(a)P Equivalent	9.0E-02	6.4E-02	9.0E-08	NV
Pesticides				
4,4-DDE	6.1E-03	6.1E-03	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-02	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-03	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	1.3E-08	NV

Table AOC11-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	1.4E-01	9.1E-02	1.4E-07	1.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	5.1E+01	4.4E+01	5.1E-05	1.7E-02
TPH as motor oil	9.8E+01	8.1E+01	9.8E-05	NV
Dioxins/Furans				
TEQ Human	1.3E-04	1.1E-04	1.3E-10	4.4E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0x10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Arsenic	6.2E+00	6.2E-06	NV
Chromium, Hexavalent	2.1E+00	2.1E-06	NV
Chromium, total	5.3E+01	5.3E-05	NV
Copper	1.4E+01	1.4E-05	NV
Lead	1.8E+01	1.8E-05	NV
Mercury (inorganic)	3.1E-01	3.1E-07	NV
Zinc	6.7E+01	6.7E-05	NV
Volatile Organic Compounds			
Methyl acetate	1.7E-02	1.7E-08	1.5E-06
Polycyclic Aromatic Hydrocarbons			
1-Methyl naphthalene	1.2E-02	1.2E-08	1.5E-07
2-Methyl naphthalene	7.4E-03	7.4E-09	9.3E-08
Acenaphthene	4.2E-03	4.2E-09	2.2E-08
Acenaphthylene	3.9E-03	3.9E-09	NV
Anthracene	3.3E-03	3.3E-09	4.8E-09
Benzo (a) anthracene	3.3E-02	3.3E-08	5.6E-09
Benzo (a) pyrene	4.1E-02	4.1E-08	NV
Benzo (b) fluoranthene	6.7E-02	6.7E-08	NV
Benzo (ghi) perylene	2.3E-02	2.3E-08	NV
Benzo (k) fluoranthene	2.7E-02	2.7E-08	NV
Chrysene	5.1E-02	5.1E-08	NV
Dibenzo (a,h) anthracene	1.1E-02	1.1E-08	NV
Fluoranthene	8.2E-02	8.2E-08	NV
Fluorene	3.8E-03	3.8E-09	9.8E-09
Indeno (1,2,3-cd) pyrene	2.3E-02	2.3E-08	NV
Naphthalene	4.1E-03	4.1E-09	6.4E-08
Phenanthrene	2.8E-02	2.8E-08	NV
Pyrene	7.5E-02	7.5E-08	2.3E-08
B(a)P Equivalent	6.4E-02	6.4E-08	NV
Pesticides			
4,4-DDE	6.1E-03	6.1E-09	2.7E-09
alpha-Chlordane	1.2E-02	1.2E-08	NV
Dieldrin	6.7E-03	6.7E-09	NV
gamma-Chlordane	1.3E-02	1.3E-08	NV

Table AOC11-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 11 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls			
Total PCBs	9.1E-02	9.1E-08	1.3E-07
Total Petroleum Hydrocarbons			
TPH as diesel	4.4E+01	4.4E-05	1.7E-02
TPH as motor oil	8.1E+01	8.1E-05	NV
Dioxins/Furans			
TEQ Human	1.1E-04	1.1E-10	4.4E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^5 \text{ m}^3/\text{kg}$ was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC11-4.3e
Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics								
Arsenic	5.7E+00	6.2E+00	4.2E-09	NV	4.2E-09	NV	6.8E-06	NV
Chromium, Hexavalent	1.9E+00	2.1E+00	1.4E-09	NV	1.4E-09	NV	2.2E-06	NV
Chromium, total	5.0E+01	5.3E+01	3.7E-08	NV	3.7E-08	NV	5.9E-05	NV
Copper	1.3E+01	1.4E+01	9.2E-09	NV	9.2E-09	NV	1.5E-05	NV
Lead	3.8E+01	1.8E+01	2.8E-08	NV	2.8E-08	NV	4.5E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Zinc	1.1E+02	6.7E+01	8.2E-08	NV	8.2E-08	NV	1.3E-04	NV
Volatile Organic Compounds								
Methyl acetate	NS	1.7E-02	NA	1.7E-06	NA	1.7E-06	NA	1.7E-06
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.2E-02	NA	1.6E-07	NA	1.6E-07	NA	1.6E-07
2-Methyl naphthalene	1.1E-02	7.4E-03	7.8E-12	1.0E-07	7.8E-12	1.0E-07	1.3E-08	1.0E-07
Acenaphthene	1.1E-02	4.2E-03	8.1E-12	2.3E-08	8.1E-12	2.3E-08	1.3E-08	2.3E-08
Acenaphthylene	9.2E-03	3.9E-03	6.8E-12	NV	6.8E-12	NV	1.1E-08	NV
Anthracene	5.4E-03	3.3E-03	4.0E-12	5.1E-09	4.0E-12	5.1E-09	6.4E-09	5.1E-09
Benzo (a) anthracene	1.3E-01	3.3E-02	9.5E-11	6.0E-09	9.5E-11	6.0E-09	1.5E-07	6.0E-09
Benzo (a) pyrene	1.5E-01	4.1E-02	1.1E-10	NV	1.1E-10	NV	1.7E-07	NV
Benzo (b) fluoranthene	2.4E-01	6.7E-02	1.7E-10	NV	1.7E-10	NV	2.8E-07	NV
Benzo (ghi) perylene	7.2E-02	2.3E-02	5.3E-11	NV	5.3E-11	NV	8.5E-08	NV
Benzo (k) fluoranthene	8.6E-02	2.7E-02	6.3E-11	NV	6.3E-11	NV	1.0E-07	NV
Chrysene	2.0E-01	5.1E-02	1.5E-10	NV	1.5E-10	NV	2.4E-07	NV
Dibenzo (a,h) anthracene	2.8E-02	1.1E-02	2.0E-11	NV	2.0E-11	NV	3.3E-08	NV
Fluoranthene	3.2E-01	8.2E-02	2.4E-10	NV	2.4E-10	NV	3.8E-07	NV
Fluorene	8.9E-03	3.8E-03	6.5E-12	1.1E-08	6.5E-12	1.1E-08	1.1E-08	1.1E-08
Indeno (1,2,3-cd) pyrene	7.2E-02	2.3E-02	5.3E-11	NV	5.3E-11	NV	8.5E-08	NV
Naphthalene	1.0E-02	4.1E-03	7.4E-12	6.9E-08	7.4E-12	6.9E-08	1.2E-08	6.9E-08
Phenanthrene	1.1E-01	2.8E-02	8.4E-11	NV	8.4E-11	NV	1.3E-07	NV
Pyrene	3.0E-01	7.5E-02	2.2E-10	2.4E-08	2.2E-10	2.4E-08	3.5E-07	2.4E-08
B(a)P Equivalent	2.1E-01	6.4E-02	1.6E-10	NV	1.6E-10	NV	2.5E-07	NV
Pesticides								
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	2.9E-09	4.5E-12	2.9E-09	7.2E-09	2.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV	8.8E-12	NV	1.4E-08	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV	4.9E-12	NV	7.9E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV	9.6E-12	NV	1.5E-08	NV

Table AOC11-4.3e
Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls								
Total PCBs	2.3E-01	9.1E-02	1.7E-10	1.4E-07	1.7E-10	1.4E-07	2.7E-07	1.4E-07
Total Petroleum Hydrocarbons								
TPH as diesel	5.1E+01	4.4E+01	3.7E-08	1.8E-02	3.7E-08	1.8E-02	6.0E-05	1.8E-02
TPH as motor oil	1.1E+02	8.1E+01	8.0E-08	NV	8.0E-08	NV	1.3E-04	NV
Dioxins/Furans								
TEQ Human	7.3E-05	1.1E-04	5.4E-14	4.7E-11	5.4E-14	4.7E-11	8.6E-11	4.7E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC11-4.3f
Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics								
Arsenic	5.8E+00	6.2E+00	4.3E-09	NV	4.3E-09	NV	6.8E-06	NV
Chromium, Hexavalent	1.9E+00	2.1E+00	1.4E-09	NV	1.4E-09	NV	2.3E-06	NV
Chromium, total	5.1E+01	5.3E+01	3.7E-08	NV	3.7E-08	NV	6.0E-05	NV
Copper	1.3E+01	1.4E+01	9.2E-09	NV	9.2E-09	NV	1.5E-05	NV
Lead	2.9E+01	1.8E+01	2.2E-08	NV	2.2E-08	NV	3.5E-05	NV
Mercury (inorganic)	1.8E-01	3.1E-01	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Zinc	7.6E+01	6.7E+01	5.6E-08	NV	5.6E-08	NV	8.9E-05	NV
Volatile Organic Compounds								
Methyl acetate	1.7E-02	1.7E-02	1.3E-11	1.7E-06	1.3E-11	1.7E-06	2.0E-08	1.7E-06
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	6.4E-03	1.2E-02	4.7E-12	1.6E-07	4.7E-12	1.6E-07	7.5E-09	1.6E-07
2-Methyl naphthalene	9.9E-03	7.4E-03	7.3E-12	1.0E-07	7.3E-12	1.0E-07	1.2E-08	1.0E-07
Acenaphthene	8.2E-03	4.2E-03	6.0E-12	2.3E-08	6.0E-12	2.3E-08	9.7E-09	2.3E-08
Acenaphthylene	7.0E-03	3.9E-03	5.1E-12	NV	5.1E-12	NV	8.2E-09	NV
Anthracene	4.6E-03	3.3E-03	3.4E-12	5.1E-09	3.4E-12	5.1E-09	5.5E-09	5.1E-09
Benzo (a) anthracene	8.7E-02	3.3E-02	6.4E-11	6.0E-09	6.4E-11	6.0E-09	1.0E-07	6.0E-09
Benzo (a) pyrene	1.0E-01	4.1E-02	7.6E-11	NV	7.6E-11	NV	1.2E-07	NV
Benzo (b) fluoranthene	1.7E-01	6.7E-02	1.2E-10	NV	1.2E-10	NV	2.0E-07	NV
Benzo (ghi) perylene	5.3E-02	2.3E-02	3.9E-11	NV	3.9E-11	NV	6.3E-08	NV
Benzo (k) fluoranthene	6.1E-02	2.7E-02	4.5E-11	NV	4.5E-11	NV	7.2E-08	NV
Chrysene	1.4E-01	5.1E-02	1.0E-10	NV	1.0E-10	NV	1.6E-07	NV
Dibenzo (a,h) anthracene	2.0E-02	1.1E-02	1.5E-11	NV	1.5E-11	NV	2.4E-08	NV
Fluoranthene	2.3E-01	8.2E-02	1.7E-10	NV	1.7E-10	NV	2.7E-07	NV
Fluorene	6.8E-03	3.8E-03	5.0E-12	1.1E-08	5.0E-12	1.1E-08	8.0E-09	1.1E-08
Indeno (1,2,3-cd) pyrene	5.3E-02	2.3E-02	3.9E-11	NV	3.9E-11	NV	6.2E-08	NV
Naphthalene	7.5E-03	4.1E-03	5.5E-12	6.9E-08	5.5E-12	6.9E-08	8.9E-09	6.9E-08
Phenanthrene	7.5E-02	2.8E-02	5.5E-11	NV	5.5E-11	NV	8.9E-08	NV
Pyrene	2.0E-01	7.5E-02	1.5E-10	2.4E-08	1.5E-10	2.4E-08	2.4E-07	2.4E-08
B(a)P Equivalent	1.5E-01	6.4E-02	1.1E-10	NV	1.1E-10	NV	1.8E-07	NV
Pesticides								
4,4-DDE	6.1E-03	6.1E-03	4.5E-12	2.9E-09	4.5E-12	2.9E-09	7.2E-09	2.9E-09
alpha-Chlordane	1.2E-02	1.2E-02	8.8E-12	NV	8.8E-12	NV	1.4E-08	NV
Dieldrin	6.7E-03	6.7E-03	4.9E-12	NV	4.9E-12	NV	7.9E-09	NV
gamma-Chlordane	1.3E-02	1.3E-02	9.6E-12	NV	9.6E-12	NV	1.5E-08	NV

Table AOC11-4.3f
Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 11 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls								
Total PCBs	2.1E-01	9.1E-02	1.5E-10	1.4E-07	1.5E-10	1.4E-07	2.4E-07	1.4E-07
Total Petroleum Hydrocarbons								
TPH as diesel	5.5E+01	4.4E+01	4.0E-08	1.8E-02	4.0E-08	1.8E-02	6.4E-05	1.8E-02
TPH as motor oil	1.1E+02	8.1E+01	7.9E-08	NV	7.9E-08	NV	1.3E-04	NV
Dioxins/Furans								
TEQ Human	1.0E-04	1.1E-04	7.4E-14	4.7E-11	7.4E-14	4.7E-11	1.2E-10	4.7E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers and hikers) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC11-4.4

Human Health Risk and Hazard Estimate Summary at AOC 11 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	8E-07	1E-01
	Shallow	8E-07	1E-01
	Subsurface I	1E-06	1E-01
	Subsurface II	8E-07	1E-01
Long-Term Maintenance Worker	Surface	8E-06	4E-01
	Shallow	8E-06	4E-01
	Subsurface I	9E-06	4E-01
	Subsurface II	8E-06	4E-01
Recreational User - Camper	Surface	3E-06	6E-01
	Shallow	3E-06	6E-01
Recreational User - Hiker	Surface	6E-06	1E+00
	Shallow	6E-06	1E+00
Recreational User - Hunter	Surface	9E-07	6E-02
	Shallow	9E-07	6E-02
Recreational User - OHV Rider	Surface	3E-06	2E-01
	Shallow	3E-06	3E-01
Tribal User	Surface	6E-09	6E-04
	Shallow	6E-09	6E-04

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC11-4.5

Human Health Risk and Hazard Estimate Summary at AOC 11 for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Long-Term Maintenance Worker	Surface	7E-06	4E-01
	Shallow	8E-06	4E-01
	Subsurface I	8E-06	4E-01
	Subsurface II	8E-06	4E-01
Recreational User - Camper	Surface	3E-06	6E-01
	Shallow	3E-06	6E-01
Recreational User - Hiker	Surface	5E-06	1E+00
	Shallow	5E-06	1E+00
Recreational User - OHV Rider	Surface	3E-06	2E-01
	Shallow	3E-06	2E-01

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC11-5.1
Summary of COPECs Evaluated in the ERA for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Arsenic	X
Chromium, hexavalent	X
Chromium, total	X
Copper	X
Lead	X
Mercury	X
Zinc	X
Volatile Organic Compounds	
Methyl acetate	X
Polycyclic Aromatic Hydrocarbons	
PAH Low molecular weight	X
PAH High molecular weight	X
Pesticides	
4,4-DDE	X
Alpha-Chlordane	X
Dieldrin	X
Gamma-Chlordane	X
Polychlorinated Biphenyls	
Total PCBs	X
Dioxins	
TEQ Avian	X
TEQ Mammals	X
2,3,7,8-TCDD	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Note:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, polycyclic aromatic hydrocarbons, and dioxins. All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC 11 for details.

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
ERA = ecological risk assessment
ft bgs = feet below ground surface
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
TPH = total petroleum hydrocarbon
X = COPEC in that exposure depth interval

Table AOC11-5.2
Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs		
	All AOCs		All AOCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Notes:

^a EPCs for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95 percent upper confidence limit on the mean (95% UCL), and spatially-weighted 95% UCL, as relevant for this AOC. See Section 5 of Appendix AOC 11 for details.

Abbreviations:

95% UCL = 95% upper confidence limit
AOC = area of concern
EPC = exposure point concentration
ft bgs = feet below ground surface
X = representative EPC for the pathway/receptor

Table AOC11-5.3

Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for AOC 11

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations				Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals	
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs	
Inorganics										
Arsenic	mg/kg	5.28E+00	5.23E+00	5.23E+00	1.98E-01	1.96E-01	1.96E-01	7.82E-01	3.07E-02	
Chromium, hexavalent	mg/kg	8.10E-01	8.84E-01	2.18E+00	3.32E-02	3.62E-02	8.94E-02	2.48E-01	1.99E-01	
Chromium, total	mg/kg	3.39E+01	3.40E+01	5.85E+01	1.39E+00	1.39E+00	2.40E+00	1.04E+01	3.08E+00	
Copper	mg/kg	1.36E+01	1.34E+01	1.35E+01	5.45E+00	5.42E+00	5.44E+00	7.00E+00	1.12E+01	
Lead	mg/kg	2.36E+01	2.23E+01	1.85E+01	1.56E+00	1.51E+00	1.36E+00	1.03E+01	4.37E+00	
Mercury	mg/kg	1.80E-01 m	1.80E-01 m	2.63E-01 m	1.45E-01	1.45E-01	1.79E-01	5.19E-01	3.46E-02	
Zinc	mg/kg	1.80E+02	1.41E+02	1.09E+02	8.58E+01	7.49E+01	6.50E+01	4.70E+02	1.13E+02	
Volatile Organic Compounds										
Methyl acetate	mg/kg	--	1.70E-02 m	1.70E-02 m	--	0.00E+00	0.00E+00	--	--	
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	mg/kg	3.69E-01	2.55E-01	1.36E-01	1.70E-01	1.43E-01	1.08E-01	1.12E+00	0.00E+00	
PAH High molecular weight	mg/kg	4.83E+00	3.40E+00	1.89E+00	8.09E-01	5.80E-01	3.32E-01	1.26E+01	0.00E+00	
Pesticides										
4,4-DDE	mg/kg	6.10E-03 m	6.10E-03 m	6.10E-03 m	1.75E-03	1.75E-03	1.75E-03	1.34E-01	1.05E+01	
Alpha-Chlordane	mg/kg	1.20E-02 m	1.20E-02 m	1.20E-02 m	2.28E-03	2.28E-03	2.28E-03	2.92E-01	3.50E-01	
Dieldrin	mg/kg	6.70E-03 m	6.70E-03 m	6.70E-03 m	2.75E-03	2.75E-03	2.75E-03	9.85E-02	1.18E-01	
Gamma-Chlordane	mg/kg	1.30E-02 m	1.30E-02 m	1.30E-02 m	2.47E-03	2.47E-03	2.47E-03	3.16E-01	3.79E-01	
Polychlorinated Biphenyls										
Total PCBs	mg/kg	4.44E-01	3.86E-01	1.86E-01	4.44E-03	3.86E-03	1.86E-03	1.36E+00	3.39E-02	
Dioxins										
TEQ Avian	ng/kg	7.71E+01	1.25E+02	1.52E+02	4.32E-01	7.00E-01	8.51E-01	4.71E+02	6.78E+01	
TEQ Mammals	ng/kg	1.72E+02	1.99E+02	2.32E+02	9.63E-01	1.11E+00	1.30E+00	1.22E+03	1.64E+02	
2,3,7,8-TCDD	ng/kg	1.00E+00 m	6.93E-01 m	3.76E-01 m	--	--	--	--	--	

Notes:^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.^b Biota EPCs equal to 0.0 indicate no bioaccumulation from soil.**Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).****Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

TCDD = tetrachlorodibenzo-p-dioxin

TEQ = toxicity equivalent

Table AOC11-5.4
Baseline Scenario Area-Weighted Exposure Point Concentrations for Soil and Biota for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}					
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals	
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs	
Inorganics										
Arsenic	mg/kg	5.73E+00	5.78E+00	5.92E+00	2.15E-01	2.17E-01	2.22E-01	8.28E-01	3.28E-02	
Chromium, hexavalent	mg/kg	1.88E+00	1.94E+00	2.05E+00	7.71E-02	7.95E-02	8.41E-02	5.75E-01	3.69E-01	
Chromium, total	mg/kg	5.01E+01	5.08E+01	5.17E+01	2.05E+00	2.08E+00	2.12E+00	1.53E+01	4.11E+00	
Copper	mg/kg	1.25E+01	1.25E+01	1.33E+01	5.28E+00	5.28E+00	5.41E+00	6.44E+00	1.11E+01	
Lead	mg/kg	3.82E+01	2.93E+01	2.16E+01	2.05E+00	1.76E+00	1.49E+00	1.52E+01	5.40E+00	
Mercury	mg/kg	1.80E-01 m	1.80E-01 m	2.63E-01 m	1.45E-01	1.45E-01	1.79E-01	5.19E-01	3.46E-02	
Zinc	mg/kg	1.12E+02	7.56E+01	6.75E+01	6.60E+01	5.31E+01	4.98E+01	4.02E+02	1.10E+02	
Volatile Organic Compounds										
Methyl acetate	mg/kg	--	1.70E-02 m	1.70E-02 m	--	0.00E+00	0.00E+00	--	--	
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	mg/kg	1.15E-01	7.93E-02	4.18E-02	9.99E-02	8.44E-02	6.31E-02	3.50E-01	0.00E+00	
PAH High molecular weight	mg/kg	1.55E+00	1.05E+00	5.96E-01	2.76E-01	1.91E-01	1.12E-01	4.03E+00	0.00E+00	
Pesticides										
4,4-DDE	mg/kg	6.10E-03 m	6.10E-03 m	6.10E-03 m	1.75E-03	1.75E-03	1.75E-03	1.34E-01	1.05E+01	
Alpha-Chlordane	mg/kg	1.20E-02 m	1.20E-02 m	1.20E-02 m	2.28E-03	2.28E-03	2.28E-03	2.92E-01	3.50E-01	
Dieldrin	mg/kg	6.70E-03 m	6.70E-03 m	6.70E-03 m	2.75E-03	2.75E-03	2.75E-03	9.85E-02	1.18E-01	
Gamma-Chlordane	mg/kg	1.30E-02 m	1.30E-02 m	1.30E-02 m	2.47E-03	2.47E-03	2.47E-03	3.16E-01	3.79E-01	
Polychlorinated Biphenyls										
Total PCBs	mg/kg	2.31E-01	2.06E-01	1.37E-01	2.31E-03	2.06E-03	1.37E-03	5.57E-01	1.39E-02	
Dioxins										
TEQ Avian	ng/kg	4.39E+01	6.88E+01	9.37E+01	2.46E-01	3.85E-01	5.25E-01	2.42E+02	3.65E+01	
TEQ Mammals	ng/kg	7.31E+01	9.77E+01	1.30E+02	4.09E-01	5.47E-01	7.28E-01	4.42E+02	6.39E+01	
2,3,7,8-TCDD	ng/kg	1.00E+00 m	6.93E-01 m	3.76E-01 m	--	--	--	--	--	

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

TCDD = tetrachlorodibenzo-p-dioxin

TEQ = toxicity equivalent

Table AOC11-5.5a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs								
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																			
Arsenic	3E-01	9E-02	1E-02	8E-03	1E-01	7E-02	1E-01	7E-02	2E-02	1E-02	5E-03	1E-03	4E-02	1E-02	6E-01	4E-02	8E-02	6E-03	
Chromium, hexavalent	2E+00	2E+00	3E-03	3E-04	2E-02	2E-03	6E-03	1E-03	1E-03	3E-04	--	--	--	--	--	--	--	--	
Chromium, total	No SL	6E-01	9E-02	1E-02	9E-01	2E-01	9E-01	2E-01	1E-01	3E-02	--	--	--	--	--	--	--	--	
Copper	2E-01	2E-01	7E-02	2E-02	4E-01	1E-01	2E-01	9E-02	5E-02	3E-02	1E-01	5E-03	7E-01	3E-02	6E-01	2E-03	2E-01	8E-04	
Lead	2E-01	1E-02	9E-02	5E-02	1E+00	7E-01	5E-01	2E-01	4E-02	2E-02	1E+01	2E-02	2E+02	3E-01	2E+00	9E-03	2E-01	7E-04	
Mercury	9E-01	2E+00	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	
Zinc	1E+00	2E+00	6E-02	2E-02	1E+00	5E-01	1E+00	3E-01	1E-01	2E-02	2E-01	2E-02	5E+00	5E-01	1E+01	2E-01	8E-01	2E-02	
Volatile Organic Compounds																			
Methyl acetate	No SL	No SL	--	--	--	--	--	--	4E-07	9E-08	--	--	--	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH Low molecular weight	4E-02	1E-02	3E-04	3E-05	9E-03	9E-04	3E-03	7E-04	2E-04	4E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04	
PAH High molecular weight	4E+00	3E-01	5E-03	5E-04	2E-01	2E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	8E-02	6E-02	2E-03	
Pesticides																			
4,4-DDE	7E-03	6E-01	4E-04	4E-05	1E-01	1E-02	2E-01	4E-02	1E-03	2E-04	1E-02	2E-04	3E+00	4E-02	3E-02	2E-03	2E-04	1E-05	
Alpha-Chlordane	5E-02	3E+00	6E-05	1E-05	3E-02	5E-03	1E-02	6E-03	5E-05	2E-05	--	--	--	--	--	--	--	--	
Dieldrin	7E-03	1E-01	2E-03	3E-05	3E-01	5E-03	1E+00	7E-01	2E-02	8E-03	--	--	--	--	--	--	--	--	
Gamma-Chlordane	6E-02	3E+00	7E-05	1E-05	3E-02	5E-03	1E-02	7E-03	5E-05	2E-05	--	--	--	--	--	--	--	--	
Polychlorinated Biphenyls																			
Total PCBs	1E-02	4E-01	2E-02	2E-03	3E+00	2E-01	8E-01	2E-01	3E-03	1E-03	2E-02	2E-03	3E+00	2E-01	8E-01	2E-01	3E-03	1E-03	
Dioxins																			
2,3,7,8-TCDD	No SL	1E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	--	--	2E-02	2E-03	6E+00	6E-01	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	--	--	--	--	--	--	2E+02	2E+01	6E-01	6E-02	--	--	--	--	--	--	--	--	

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- =no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = toxicity equivalent
TRV = toxicity reference value

Table AOC11-5.5b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.16		SUF = 1		SUF = 1		SUF = 1		SUF = 0.16		SUF = 1		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Arsenic	2E-03	1E-03	1E-01	7E-02	1E-01	7E-02	2E-02	1E-02	9E-04	2E-04	4E-02	1E-02	6E-01	4E-02	8E-02	6E-03
Chromium, hexavalent	4E-04	4E-05	2E-02	2E-03	6E-03	1E-03	1E-03	3E-04	--	--	--	--	--	--	--	--
Chromium, total	1E-02	2E-03	9E-01	2E-01	9E-01	2E-01	1E-01	3E-02	--	--	--	--	--	--	--	--
Copper	1E-02	4E-03	4E-01	1E-01	2E-01	9E-02	5E-02	3E-02	2E-02	8E-04	7E-01	3E-02	6E-01	2E-03	2E-01	8E-04
Lead	2E-02	8E-03	1E+00	7E-01	5E-01	2E-01	4E-02	2E-02	2E+00	3E-03	2E+02	3E-01	2E+00	9E-03	2E-01	7E-04
Mercury	3E-02	7E-03	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	3E-02	7E-03	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03
Zinc	1E-02	4E-03	1E+00	5E-01	1E+00	3E-01	1E-01	2E-02	4E-02	4E-03	5E+00	5E-01	1E+01	2E-01	8E-01	2E-02
Volatile Organic Compounds																
Methyl acetate	--	--	--	--	--	--	4E-07	9E-08	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	6E-05	6E-06	9E-03	9E-04	3E-03	7E-04	2E-04	4E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04
PAH High molecular weight	8E-04	8E-05	2E-01	2E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	8E-02	6E-02	2E-03
Pesticides																
4,4-DDE	7E-05	7E-06	1E-01	1E-02	2E-01	4E-02	1E-03	2E-04	2E-03	2E-05	3E+00	4E-02	3E-02	2E-03	2E-04	1E-05
Alpha-Chlordane	1E-05	2E-06	3E-02	5E-03	1E-02	6E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Dieldrin	3E-04	6E-06	3E-01	5E-03	1E+00	7E-01	2E-02	8E-03	--	--	--	--	--	--	--	--
Gamma-Chlordane	1E-05	2E-06	3E-02	5E-03	1E-02	7E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Total PCBs	4E-03	2E-04	3E+00	2E-01	8E-01	2E-01	3E-03	1E-03	4E-03	2E-04	3E+00	2E-01	8E-01	2E-01	3E-03	1E-03
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	4E-03	4E-04	6E+00	6E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	2E+02	2E+01	6E-01	6E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- =no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = toxicity equivalent
TRV = toxicity reference value

Table AOC11-5.6a

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; SUF = 1, Selected TRVs and BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Arsenic	3E-01	1E-01	1E-02	9E-03	1E-01	7E-02	1E-01	8E-02	2E-02	1E-02	6E-03	1E-03	5E-02	1E-02	6E-01	4E-02	9E-02	6E-03
Chromium, hexavalent	2E+00	5E+00	4E-03	4E-04	5E-02	5E-03	1E-02	3E-03	1E-03	3E-04	--	--	--	--	--	--	--	--
Chromium, total	No SL	9E-01	1E-01	2E-02	1E+00	2E-01	1E+00	3E-01	1E-01	3E-02	--	--	--	--	--	--	--	--
Copper	2E-01	2E-01	6E-02	2E-02	3E-01	1E-01	1E-01	9E-02	5E-02	3E-02	1E-01	5E-03	6E-01	3E-02	5E-01	2E-03	2E-01	7E-04
Lead	3E-01	2E-02	1E-01	7E-02	2E+00	1E+00	7E-01	4E-01	5E-02	3E-02	2E+01	3E-02	2E+02	4E-01	3E+00	1E-02	2E-01	1E-03
Mercury	9E-01	2E+00	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03
Zinc	7E-01	9E-01	5E-02	2E-02	1E+00	4E-01	1E+00	3E-01	7E-02	2E-02	2E-01	2E-02	4E+00	4E-01	9E+00	2E-01	6E-01	1E-02
Volatile Organic Compounds																		
Methyl acetate	No SL	No SL	--	--	--	--	--	--	4E-07	9E-08	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	1E-02	4E-03	2E-04	2E-05	3E-03	3E-04	1E-03	2E-04	1E-04	3E-05	--	--	--	--	1E-03	5E-04	2E-04	6E-05
PAH High molecular weight	1E+00	9E-02	2E-03	2E-04	8E-02	8E-03	1E+00	3E-01	4E-02	8E-03	--	--	--	--	6E-01	3E-02	2E-02	8E-04
Pesticides																		
4,4-DDE	7E-03	6E-01	4E-04	4E-05	1E-01	1E-02	2E-01	4E-02	1E-03	2E-04	1E-02	2E-04	3E+00	4E-02	3E-02	2E-03	2E-04	1E-05
Alpha-Chlordane	5E-02	3E+00	6E-05	1E-05	3E-02	5E-03	1E-02	6E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Dieldrin	7E-03	1E-01	2E-03	3E-05	3E-01	5E-03	1E+00	7E-01	2E-02	8E-03	--	--	--	--	--	--	--	--
Gamma-Chlordane	6E-02	3E+00	7E-05	1E-05	3E-02	5E-03	1E-02	7E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	6E-03	2E-01	1E-02	8E-04	1E+00	8E-02	3E-01	9E-02	2E-03	5E-04	1E-02	8E-04	1E+00	8E-02	3E-01	9E-02	2E-03	5E-04
Dioxins																		
2,3,7,8-TCDD	No SL	1E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	1E-02	1E-03	3E+00	3E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	9E+01	9E+00	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = toxicity equivalent
TRV = toxicity reference value

Table AOC11-5.6b

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.16		SUF = 1		SUF = 1		SUF = 1		SUF = 0.16		SUF = 1		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Arsenic	2E-03	1E-03	1E-01	7E-02	1E-01	8E-02	2E-02	1E-02	9E-04	2E-04	5E-02	1E-02	6E-01	4E-02	9E-02	6E-03
Chromium, hexavalent	7E-04	7E-05	5E-02	5E-03	1E-02	3E-03	1E-03	3E-04	--	--	--	--	--	--	--	--
Chromium, total	2E-02	3E-03	1E+00	2E-01	1E+00	3E-01	1E-01	3E-02	--	--	--	--	--	--	--	--
Copper	1E-02	3E-03	3E-01	1E-01	1E-01	9E-02	5E-02	3E-02	2E-02	8E-04	6E-01	3E-02	5E-01	2E-03	2E-01	7E-04
Lead	2E-02	1E-02	2E+00	1E+00	7E-01	4E-01	5E-02	3E-02	3E+00	4E-03	2E+02	4E-01	3E+00	1E-02	2E-01	1E-03
Mercury	3E-02	7E-03	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	3E-02	7E-03	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03
Zinc	7E-03	3E-03	1E+00	4E-01	1E+00	3E-01	7E-02	2E-02	3E-02	3E-03	4E+00	4E-01	9E+00	2E-01	6E-01	1E-02
Volatile Organic Compounds																
Methyl acetate	--	--	--	--	--	--	4E-07	9E-08	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	3E-05	3E-06	3E-03	3E-04	1E-03	2E-04	1E-04	3E-05	--	--	--	--	1E-03	5E-04	2E-04	6E-05
PAH High molecular weight	3E-04	3E-05	8E-02	8E-03	1E+00	3E-01	4E-02	8E-03	--	--	--	--	6E-01	3E-02	2E-02	8E-04
Pesticides																
4,4-DDE	7E-05	7E-06	1E-01	1E-02	2E-01	4E-02	1E-03	2E-04	2E-03	2E-05	3E+00	4E-02	3E-02	2E-03	2E-04	1E-05
Alpha-Chlordane	1E-05	2E-06	3E-02	5E-03	1E-02	6E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Dieldrin	3E-04	6E-06	3E-01	5E-03	1E+00	7E-01	2E-02	8E-03	--	--	--	--	--	--	--	--
Gamma-Chlordane	1E-05	2E-06	3E-02	5E-03	1E-02	7E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Total PCBs	2E-03	1E-04	1E+00	8E-02	3E-01	9E-02	2E-03	5E-04	2E-03	1E-04	1E+00	8E-02	3E-01	9E-02	2E-03	5E-04
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	2E-03	2E-04	3E+00	3E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	9E+01	9E+00	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- =no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TCDD = tetrachlorodibenzo-p-dioxin
TEQ = toxicity equivalent
TRV = toxicity reference value

Table AOC11-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for AOC 11

Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	Baseline HQs						Baseline HQs based on Selected TRVs																					
	Plants			Soil Invertebrates			Gambel's Quail					Cactus Wren					Desert Shrew					Merriam's Kangaroo Rat						
	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a		
							SUF = 0.2		SUF = 0.2			SUF = 1		SUF = 1			SUF = 1		SUF = 1			SUF = 1		SUF = 1			SUF = 1	
COPEC							NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL
Inorganics																												
Arsenic	3E-01	3E-01	HQ ≤ 1	9E-02	1E-01	HQ ≤ 1	2E-03	1E-03	2E-03	1E-03	HQ ≤ 1	1E-01	7E-02	1E-01	7E-02	HQ ≤ 1	1E-01	7E-02	1E-01	8E-02	HQ ≤ 1	2E-02	1E-02	2E-02	1E-02	HQ ≤ 1		
Chromium, hexavalent	2E+00	2E+00	Unlikely	2E+00	5E+00	Unlikely	4E-04	4E-05	7E-04	7E-05	HQ ≤ 1	2E-02	2E-03	5E-02	5E-03	HQ ≤ 1	6E-03	1E-03	1E-02	3E-03	HQ ≤ 1	1E-03	3E-04	1E-03	3E-04	HQ ≤ 1		
Chromium, total	No SL	No SL	--	6E-01	9E-01	HQ ≤ 1	1E-02	2E-03	2E-02	3E-03	HQ ≤ 1	9E-01	2E-01	1E+00	2E-01	HQ ≤ 1	9E-01	2E-01	1E+00	3E-01	HQ ≤ 1	1E-01	3E-02	1E-01	3E-02	HQ ≤ 1		
Copper	2E-01	2E-01	HQ ≤ 1	2E-01	2E-01	HQ ≤ 1	1E-02	4E-03	1E-02	3E-03	HQ ≤ 1	4E-01	1E-01	3E-01	1E-01	HQ ≤ 1	2E-01	9E-02	1E-01	9E-02	HQ ≤ 1	5E-02	3E-02	5E-02	3E-02	HQ ≤ 1		
Lead	2E-01	3E-01	HQ ≤ 1	1E-02	2E-02	HQ ≤ 1	2E-02	8E-03	2E-02	1E-02	HQ ≤ 1	1E+00	7E-01	2E+00	1E+00	HQ ≤ 1	5E-01	2E-01	7E-01	4E-01	HQ ≤ 1	4E-02	2E-02	5E-02	3E-02	HQ ≤ 1		
Mercury	9E-01	9E-01	HQ ≤ 1	2E+00	2E+00	Unlikely	3E-02	7E-03	3E-02	7E-03	HQ ≤ 1	3E+00	5E-01	3E+00	5E-01	HQ ≤ 1	4E-01	3E-02	4E-01	3E-02	HQ ≤ 1	6E-02	4E-03	6E-02	4E-03	HQ ≤ 1		
Zinc	1E+00	7E-01	HQ ≤ 1	2E+00	9E-01	HQ ≤ 1	1E-02	4E-03	7E-03	3E-03	HQ ≤ 1	1E+00	5E-01	1E+00	4E-01	HQ ≤ 1	1E+00	3E-01	1E+00	3E-01	HQ ≤ 1	1E-01	2E-02	7E-02	2E-02	HQ ≤ 1		
Volatile Organic Compounds																												
Methyl acetate	No SL	No SL	--	No SL	No SL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4E-07	9E-08	4E-07	9E-08	HQ ≤ 1		
Polycyclic Aromatic Hydrocarbons																												
PAH Low molecular weight	4E-02	1E-02	HQ ≤ 1	1E-02	4E-03	HQ ≤ 1	6E-05	6E-06	3E-05	3E-06	HQ ≤ 1	9E-03	9E-04	3E-03	3E-04	HQ ≤ 1	3E-03	7E-04	1E-03	2E-04	HQ ≤ 1	2E-04	4E-05	1E-04	3E-05	HQ ≤ 1		
PAH High molecular weight	4E+00	1E+00	HQ ≤ 1	3E-01	9E-02	HQ ≤ 1	8E-04	8E-05	3E-04	3E-05	HQ ≤ 1	2E-01	2E-02	8E-02	8E-03	HQ ≤ 1	4E+00	8E-01	1E+00	3E-01	HQ ≤ 1	1E-01	2E-02	4E-02	8E-03	HQ ≤ 1		
Pesticides																												
4,4-DDE	7E-03	7E-03	HQ ≤ 1	6E-01	6E-01	HQ ≤ 1	7E-05	7E-06	7E-05	7E-06	HQ ≤ 1	1E-01	1E-02	1E-01	1E-02	HQ ≤ 1	2E-01	4E-02	2E-01	4E-02	HQ ≤ 1	1E-03	2E-04	1E-03	2E-04	HQ ≤ 1		
Alpha-Chlordane	5E-02	5E-02	HQ ≤ 1	3E+00	3E+00	Unlikely	1E-05	2E-06	1E-05	2E-06	HQ ≤ 1	3E-02	5E-03	3E-02	5E-03	HQ ≤ 1	1E-02	6E-03	1E-02	6E-03	HQ ≤ 1	5E-05	2E-05	5E-05	2E-05	HQ ≤ 1		
Dieldrin	7E-03	7E-03	HQ ≤ 1	1E-01	1E-01	HQ ≤ 1	3E-04	6E-06	3E-04	6E-06	HQ ≤ 1	3E-01	5E-03	3E-01	5E-03	HQ ≤ 1	1E+00	7E-01	1E+00	7E-01	HQ ≤ 1	2E-02	8E-03	2E-02	8E-03	HQ ≤ 1		
Gamma-Chlordane	6E-02	6E-02	HQ ≤ 1	3E+00	3E+00	Unlikely	1E-05	2E-06	1E-05	2E-06	HQ ≤ 1	3E-02	5E-03	3E-02	5E-03	HQ ≤ 1	1E-02	7E-03	1E-02	7E-03	HQ ≤ 1	5E-05	2E-05	5E-05	2E-05	HQ ≤ 1		
Polychlorinated Biphenyls																												
Total PCBs	1E-02	6E-03	HQ ≤ 1	4E-01	2E-01	HQ ≤ 1	4E-03	2E-04	2E-03	1E-04	HQ ≤ 1	3E+00	2E-01	1E+00	8E-02	HQ ≤ 1	8E-01	2E-01	3E-01	9E-02	HQ ≤ 1	3E-03	1E-03	2E-03	5E-04	HQ ≤ 1		
Dioxins																												
2,3,7,8-TCDD	No SL	No SL	--	1E-04	1E-04	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
TEQ Avian	--	--	--	--	--	--	4E-03	4E-04	2E-03	2E-04	HQ ≤ 1	6E+00	6E-01	3E+00	3E-01	HQ ≤ 1	--	--	--	--	--	--	--	--	--			
TEQ Mammals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2E+02	2E+01	9E+01	9E+00	Unlikely	6E-01	6E-02	3E-01	3E-02	HQ ≤ 1		

Notes:

a. WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using area-weighted EPCs, and 2.) supporting LOE

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated

AOC = area of concern

HQ = hazard quotient

LOE = line of evidence.

LOAEL = lowest observed adverse effect level

ND = not detected

NOAEL = no-observed adverse effect level

no SL = no screening level available

TEQ = toxic equivalent

WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table AOC11-6.2
Risk Conclusions and Lines of Evidence Summary for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Area-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC 11	Plants	Chromium, Hexavalent	2E+00	--	--	No	13 / 53	1	8E-01		--	Low	--	No	Unlikely		No
	Plants	HMW PAH	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Chromium, Hexavalent	5E+00	--	--	No	9 / 52	1	2E+00		--	Low	--	No	Unlikely		No
	Soil Invertebrates	Mercury	2E+00	--	--	Yes	BG NA	NE (1 Detected)	NC		--	Low	--	No	Unlikely		No
	Soil Invertebrates	Zinc	9E-01	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Alpha-Chlordane	3E+00	--	--	Yes	BG NA	NE (1 Detected)	NC		--	Moderate	--	No	Unlikely		No
	Soil Invertebrates	Gamma-Chlordane	3E+00	--	--	Yes	BG NA	NE (1 Detected)	NC		--	Moderate	--	No	Unlikely		No
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	HMW PAH	--	1E+00	3E-01	No	43 / 52	NE	4E-03	9E-04	NE	Moderate	High	No	Unlikely	Not expected	No
	Desert Shrew	TEQ Mammals	--	9E+01	9E+00	No	13 / 26	4	5E-01	5E-02	High	Moderate	High	No	Unlikely	Unlikely	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Cactus Wren	Lead ^h	--	2E+00	1E+00	No	29 / 52	2	4E-01	2E-01	NE	Moderate	High	No	Unlikely	Not expected	No
	Cactus Wren	Mercury	--	3E+00	5E-01	Yes	BG NA	NE (1 Detected)	NC	NC	NE	Moderate	High	No	Unlikely	Not expected	No
	Cactus Wren	Total PCBs	--	1E+00	8E-02	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
Cactus Wren	TEQ Avian	--	3E+00	3E-01	No	11 / 26	NE	3E-02	3E-03	High	Moderate	High	No	Unlikely	Not expected	No	

Notes:
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.
h Depth-weighted EPC resulted in an HQ or NOAEL-based HQ less than 1, and is less than the area-weighted HQ or NOAEL-based HQ.

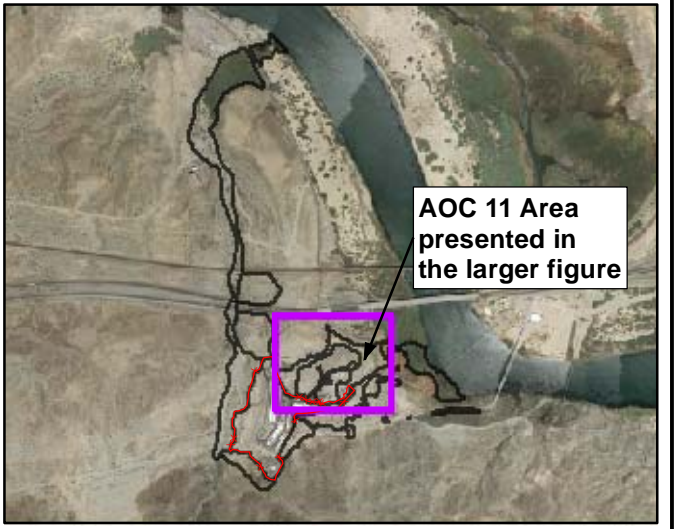
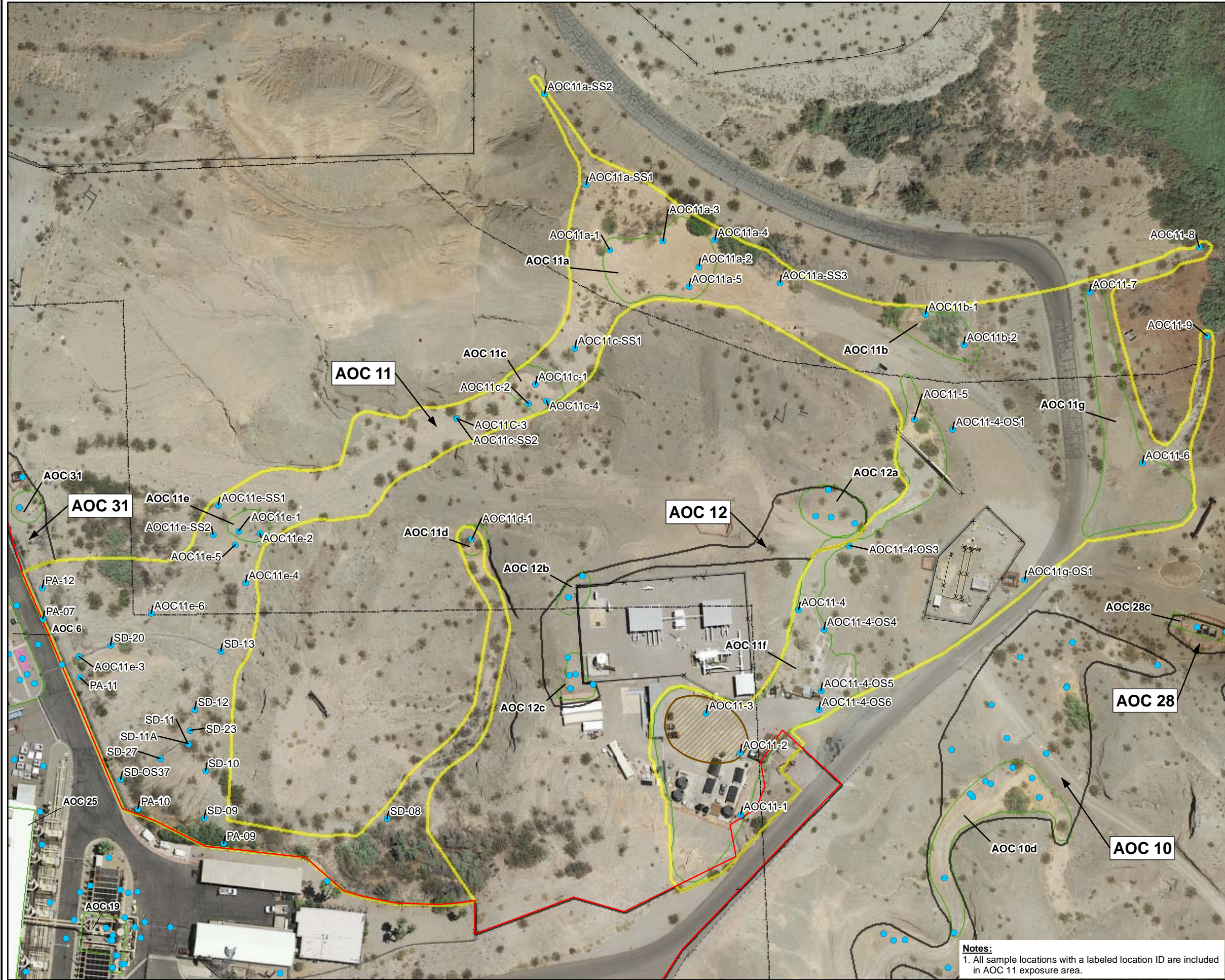
--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

Abbreviations:
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit

LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

FIGURE






- Legend:**
- Soil Sampling Location
 - Area of Concern
 - Solid Waste Management Unit
 - Potential Burning Related Location
 - AOC 11 Exposure Area
 - Exposure Area
 - Property Boundaries
 - xxx Fencing
 - Inside the Topock Compressor Station boundary, as defined by current fenceline
 - ← **AOC 28** Label for Exposure Area
 - ← **AOC 28a** Label for Area of Concern

Notes:
1. All sample locations with a labeled location ID are included in AOC 11 exposure area.

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**SOIL SAMPLING LOCATIONS
AOC 11 EXPOSURE AREA**



Design & Consultancy
for natural and
built assets

FIGURE
AOC11-1.1

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the AOC
11 HHERA



Attachment AOC11-A
Dataset and Exposure Point Concentration Calculations for the AOC11 HHERA

Attachment AOC11-A1

Table AOC11-A1 Dataset for AOC 11 HHERA

Attachment AOC11-A2 (Tables provided separately as excel files)

Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-005
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-005_PAHupdate
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-03
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-03_PAHupdate
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-06
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-06_PAHupdate
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-10
Table AOC11-A2 Depth-Weighting Files: InputSamplesFor_AOC 11_Baseline 0-10_PAHupdate

Table AOC11-A2 ProUCL Input: AOC11_0-005_forProUCL
Table AOC11-A2 ProUCL Input: AOC11_0-03_forProUCL
Table AOC11-A2 ProUCL Input: AOC11_0-06_forProUCL
Table AOC11-A2 ProUCL Input: AOC11_0-10_forProUCL
Table AOC11-A2 ProUCL Input: AOC11_PAHupdate_ProUCLinput

Table AOC11-A2 ProUCL Output: AOC11_0-005_UCLs
Table AOC11-A2 ProUCL Output: AOC11_0-03_UCLs
Table AOC11-A2 ProUCL Output: AOC11_0-06_UCLs
Table AOC11-A2 ProUCL Output: AOC11_0-10_UCLs
Table AOC11-A2 ProUCL Input: AOC11_PAHupdate_UCLs

Attachment AOC11-A3 (Tables provided separately as excel files)

Table AOC11-A3 AOC11_Input Samples Area-Weighted
Table AOC11-A3 AOC11_Output Area-Weighted UCL-BCA

AOC11-A3 Figures Figures List Provided at Start of: AOC11 Figures_ThiessenAreaWeighting

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-4
	SAMPLE	AOC11-1-6100	AOC11-1-6102	AOC11-1-6103	AOC11-1-6104	AOC11-1-6101	AOC11-2-6105	AOC11-2-6106	AOC11-2-6107	AOC11-2-6109	AOC11-2-6108	AOC11-3-6110	AOC11-3-6111	AOC11-3-6112	AOC11-3-6113	AOC11-3-6114	AOC11-4-6115
	DATE	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	9	0	0	2	5	9	9	0	2	5	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	10	1	1	3	6	10	10	1	3	6	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	0.5	0.5	3	6	10	10	0.5	3	6	10	10	0.5
	SAMPLE TYPE					Field Duplicate				Field Duplicate						Field Duplicate	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	6.2 UJ	0.93 UJ	--	--	--	13	0.88 U	0.65 U	0.044 U	--	100	4 J	58	6.6 J	--	43
1,2,3,4,6,7,8-HpCDF	ng/kg	0.83 UJ	0.11 UJ	--	--	--	1.2 U	0.056 U	0.06 U	--	0.028 U	9.3 J	0.47 J	5.9 J	1.3 J	--	3.7 J
1,2,3,4,7,8-HxCDD	ng/kg	0.099 UJ	0.033 UJ	--	--	--	0.12 U	0.32 J	0.054 U	--	0.025 U	0.8 U	0.1 U	0.62 U	--	0.083 J	0.35 U
1,2,3,4,7,8-HxCDF	ng/kg	0.17 UJ	0.03 UJ	--	--	--	0.11 U	0.042 U	0.056 U	0.028 U	--	1.1 U	0.13 U	0.23 U	0.091 U	--	0.11 U
1,2,3,4,7,8,9-HpCDF	ng/kg	0.21 UJ	0.079 UJ	--	--	--	0.15 U	0.071 U	0.076 U	--	0.041 U	0.68 U	0.11 U	0.23 U	0.18 U	--	0.25 U
1,2,3,6,7,8-HxCDD	ng/kg	0.099 UJ	0.033 UJ	--	--	--	0.32 U	0.3 J	0.059 U	--	0.024 U	3.9 J	0.1 U	2.1 U	0.065 U	--	1.1 U
1,2,3,6,7,8-HxCDF	ng/kg	0.16 UJ	0.028 UJ	--	--	--	0.1 U	0.03 U	0.052 U	0.026 U	--	1 U	0.12 U	0.16 U	--	0.13 U	0.27 U
1,2,3,7,8-PeCDD	ng/kg	0.068 UJ	0.033 UJ	--	--	--	0.059 U	0.05 U	0.027 U	--	0.061 U	0.36 U	0.044 U	0.14 U	0.043 U	--	0.15 U
1,2,3,7,8-PeCDF	ng/kg	0.064 UJ	0.032 UJ	--	--	--	0.15 U	0.088 U	0.049 U	--	0.066 U	0.12 U	0.04 U	0.11 U	--	0.13 U	0.14 U
1,2,3,7,8,9-HxCDD	ng/kg	0.16 J	0.057 UJ	--	--	--	0.12 U	0.039 U	0.056 U	--	0.023 U	1.7 J	0.097 U	1 U	0.062 U	--	0.89 J
1,2,3,7,8,9-HxCDF	ng/kg	0.2 UJ	0.023 UJ	--	--	--	0.13 U	0.049 U	0.065 U	0.033 U	--	1.3 U	0.15 U	0.16 U	0.11 U	--	0.34 U
2,3,4,6,7,8-HxCDF	ng/kg	1.1 UJ	0.07 UJ	--	--	--	1.6 U	0.034 U	0.18 U	0.061 U	--	14 U	1.1 U	9.2 U	--	0.14 U	5.2 U
2,3,4,7,8-PeCDF	ng/kg	0.066 UJ	0.033 UJ	--	--	--	0.16 U	0.095 U	0.053 U	0.04 U	--	0.13 U	0.043 U	0.26 U	--	0.14 U	0.15 U
2,3,7,8-TCDD	ng/kg	0.055 UJ	0.036 UJ	--	--	--	0.052 U	0.054 U	0.065 U	--	0.035 U	0.096 U	0.028 U	0.051 U	0.042 U	--	0.038 U
2,3,7,8-TCDF	ng/kg	0.051 UJ	0.026 UJ	--	--	--	0.08 U	0.16 U	0.063 U	--	0.098 U	0.25 U	0.17 U	0.19 U	--	0.045 U	0.28 U
OCDD	ng/kg	70 J	8.7 U	--	--	--	120	0.095 U	6.9 J	0.43 U	--	990	36	520	71	--	390
OCDF	ng/kg	0.99 UJ	0.12 UJ	--	--	--	5.3 J	0.13 U	0.54 U	--	0.04 U	33	0.97 U	20 J	5.6 J	--	8.8 J
TEQ Avian	ng/kg	0.24	0.079 U	--	--	--	0.32	0.21	0.13	--	0.15 U	1.8	0.24	1.1	0.4	--	0.84
TEQ Human	ng/kg	0.24	0.062 U	--	--	--	0.39	0.15	0.09	--	0.084 U	3.1	0.2	1.6	0.36	--	1.2
TEQ Mammals	ng/kg	0.24	0.062 U	--	--	--	0.39	0.15	0.09	--	0.084 U	3.1	0.2	1.6	0.36	--	1.2
General																	
pH	PHUNITS	8.9	9.5	9	8.9	--	7.8	8	8.5	--	8.5	8	8.4	8.2	--	8.7	9.5
Metals																	
Antimony	mg/kg	--	2.1 U	2.4 U	2.8 U	2 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2 U	2.1 U	2.1 U	2.1 U	--	2.1 U
Arsenic	mg/kg	--	3.3	3.9	6.1	5.2	5.1	3.5	2.9	2.8	--	3.3	3.6	3.7	3.4	--	3.3
Barium	mg/kg	--	140	120	140	200 J	100	73	81	--	37 J	98	120	110	--	90	120
Beryllium	mg/kg	1 U	1 U	1.2 U	1.4 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	--	1 U
Cadmium	mg/kg	1 U	1 U	1.2 U	1.4 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	--	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.21 U	0.21 U	0.24 U	0.28 U	--	0.21 U	0.21 U	0.21 U	--	0.21 U	0.2 U	0.21 U	0.21 U	0.21 U	--	0.2 U
Chromium, total	mg/kg	11	11	18	15	--	21	21	30	--	21	15	20	20	23	--	25
Cobalt	mg/kg	4.8	3.9	5.8	6	--	7.4	7.9	9.4	--	9.4	5.6	7.9	7.7	8.6	--	5.5
Copper	mg/kg	9.7	9.5	8.1	9.2	--	8.7	10	12	--	9.4	8	10	11	--	7.7	9.1
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	7.8 J	5.2	5.3	6.1	--	2.4	1.9	2.2	2.7	--	2.6	2.3	2.4	2.2	--	4.1
Mercury	mg/kg	0.1 U	0.1 U	0.12 U	0.14 U	--	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1.2 U	1.4 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	--	1.3
Nickel	mg/kg	9.5	8.3	12	12	--	15	16	21	--	17	12	15	15	17	--	12
Selenium	mg/kg	1 U	1 U	1.2 U	1.4 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	--	1 U
Silver	mg/kg	1 U	1 U	1.2 U	1.4 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	--	1 U
Thallium	mg/kg	--	2.1 U	2.4 U	2.8 U	2 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2 U	2.1 U	2.1 U	2.1 U	--	2.1 U
Vanadium	mg/kg	--	22	29	30	21	36	39	45	--	38	29	40	35	42	--	24
Zinc	mg/kg	67 J	32	38	37	--	51	44	45	46	--	31	43	38	45	--	33
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-4
	SAMPLE	AOC11-1-6100	AOC11-1-6102	AOC11-1-6103	AOC11-1-6104	AOC11-1-6101	AOC11-2-6105	AOC11-2-6106	AOC11-2-6107	AOC11-2-6109	AOC11-2-6108	AOC11-3-6110	AOC11-3-6111	AOC11-3-6112	AOC11-3-6113	AOC11-3-6114	AOC11-4-6115
	DATE	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	9	0	0	2	5	9	9	0	2	5	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	10	1	1	3	6	10	10	1	3	6	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	0.5	0.5	3	6	10	10	0.5	3	6	10	10	0.5
	SAMPLE TYPE					Field Duplicate				Field Duplicate						Field Duplicate	
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	34 U	34 U	34 U	--	34 U	34 U	34 U	34 U	34 U	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
2-Methyl naphthalene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Acenaphthene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Acenaphthylene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Anthracene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
B(a)P Equivalent	ug/kg	--	6 U	11	8 U	21	6	6 U	6 U	--	6 U	10	6 U	15	6.1 U	--	5.9 U
Benzo (a) anthracene	ug/kg	--	5.2 U	5.9 U	6.9 U	7.2	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1	5.2 U	14	5.3 U	--	5.1 U
Benzo (a) pyrene	ug/kg	--	5.2 U	5.9	6.9 U	14	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1	5.2 U	7.6	5.3 U	--	5.1 U
Benzo (b) fluoranthene	ug/kg	--	5.2 U	13	6.9 U	28 J	5.2 U	5.2 U	5.2 U	--	5.2 U	17	5.2 U	26	5.3 U	--	5.1 U
Benzo (ghi) perylene	ug/kg	--	5.2 U	5.9 U	6.9 U	7.2	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Benzo (k) fluoranthene	ug/kg	--	5.2 U	5.9 U	6.9 U	7.5	5.2 U	5.2 U	5.2 U	--	5.2 U	5.8	5.2 U	9.7	5.3 U	--	5.1 U
Chrysene	ug/kg	--	5.2 U	6.7	6.9 U	13	5.2 U	5.2 U	5.2 U	--	5.2 U	11	5.2 U	32	5.3 U	--	5.1 U
Dibenzo (a,h) anthracene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Fluoranthene	ug/kg	--	5.2 U	11	6.9 U	22 J	8.3	5.2 U	5.2 U	--	5.2 U	24	5.2 U	49	5.3 U	--	5.1 U
Fluorene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	5.2 U	5.9 U	6.9 U	6.8	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
Naphthalene	ug/kg	--	5.2 U	5.9 U	6.9 U	5.1 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.2 U	5.3 U	--	5.1 U
PAH High molecular weight	ug/kg	--	0	46.4	0	126	13.5	0	0	--	0	89	0	184	0	--	0
PAH Low molecular weight	ug/kg	--	0	0	0	7.5	0	0	0	--	0	5.4	0	0	0	--	0

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-4
	SAMPLE	AOC11-1-6100	AOC11-1-6102	AOC11-1-6103	AOC11-1-6104	AOC11-1-6101	AOC11-2-6105	AOC11-2-6106	AOC11-2-6107	AOC11-2-6109	AOC11-2-6108	AOC11-3-6110	AOC11-3-6111	AOC11-3-6112	AOC11-3-6113	AOC11-3-6114	AOC11-4-6115
	DATE	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	9	0	0	2	5	9	9	0	2	5	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	10	1	1	3	6	10	10	1	3	6	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	0.5	0.5	3	6	10	10	0.5	3	6	10	10	0.5
	SAMPLE TYPE					Field Duplicate				Field Duplicate						Field Duplicate	
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	5.2 U	5.9 U	6.9 U	7.5	5.2 U	5.2 U	5.2 U	--	5.2 U	5.4	5.2 U	5.2 U	5.3 U	--	5.1 U
Pyrene	ug/kg	--	5.2 U	9.8	6.9 U	20	5.2	5.2 U	5.2 U	--	5.2 U	21	5.2 U	46	5.3 U	--	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2-Chlorophenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2-Methylphenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
2-Nitrophenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
2,4-Dimethylphenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2,6-Dinitrotoluene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
3,3-Dichlorobenzidene	ug/kg	--	690 U	780 U	920 U	680 U	680 U	680 U	690 U	--	690 U	670 U	680 U	680 U	700 U	--	680 U
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
4-Chloro-3-methylphenol	ug/kg	--	690 U	780 U	920 U	680 U	680 U	680 U	690 U	--	690 U	670 U	680 U	680 U	700 U	--	680 U
4-Chloroaniline	ug/kg	--	690 U	780 U	920 U	680 U	680 U	680 U	690 U	--	690 U	670 U	680 U	680 U	700 U	--	680 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
4-Methylphenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 UJ	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
Benzyl alcohol	ug/kg	--	690 U	780 U	920 U	680 U	680 U	680 U	690 U	--	690 U	670 U	680 U	680 U	700 U	--	680 U
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Butylbenzylphthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Di-n-octyl phthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Dibenzofuran	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Diethyl phthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Dimethyl phthalate	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Hexachlorobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Hexachloroethane	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
N-nitrosodiphenylamine	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1900 U	2300 U	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
Phenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	12 U	14 U	--	10 U	10 U	10 U	--	10 U	10 U	10 U	10 U	11 U	--	10 U
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	10 U	42	14 U	29	13	10 U	10 U	--	10 U	19	10 U	13	11 U	--	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-4
	SAMPLE	AOC11-1-6100	AOC11-1-6102	AOC11-1-6103	AOC11-1-6104	AOC11-1-6101	AOC11-2-6105	AOC11-2-6106	AOC11-2-6107	AOC11-2-6109	AOC11-2-6108	AOC11-3-6110	AOC11-3-6111	AOC11-3-6112	AOC11-3-6113	AOC11-3-6114	AOC11-4-6115
	DATE	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	9	0	0	2	5	9	9	0	2	5	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	10	1	1	3	6	10	10	1	3	6	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	0.5	0.5	3	6	10	10	0.5	3	6	10	10	0.5
	SAMPLE TYPE					Field Duplicate				Field Duplicate						Field Duplicate	
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	690 U	780 U	920 U	680 U	680 U	680 U	690 U	--	690 U	670 U	680 U	680 U	700 U	--	680 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-1	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-2	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-3	AOC11-4
	SAMPLE	AOC11-1-6100	AOC11-1-6102	AOC11-1-6103	AOC11-1-6104	AOC11-1-6101	AOC11-2-6105	AOC11-2-6106	AOC11-2-6107	AOC11-2-6109	AOC11-2-6108	AOC11-3-6110	AOC11-3-6111	AOC11-3-6112	AOC11-3-6113	AOC11-3-6114	AOC11-4-6115
	DATE	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)	0	2	5	9	0	0	2	5	9	9	9	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)	1	3	6	10	1	1	3	6	10	10	10	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	0.5	0.5	3	6	10	10	10	0.5	3	6	10	10	0.5
SAMPLE TYPE						Field Duplicate				Field Duplicate						Field Duplicate	
ANALYTE	UNITS																
Isophorone	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	340 U	340 U	390 U	460 U	--	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U	350 U	--	340 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-4	AOC11-4-OS1	AOC11-4-OS1	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS6	AOC11-4-OS6	AOC11-5	AOC11-5
	SAMPLE	AOC11-4-6116	AOC11-4-OS1-D1	AOC11-4-OS1-D2	AOC11-4-OS3-D1	AOC11-4-OS3-D2	AOC11-4-OS3-D99	AOC11-4-OS4-D1	AOC11-4-OS4-D2	AOC11-4-OS4-D3	AOC11-4-OS5-D1	AOC11-4-OS5-D2	AOC11-4-OS5-D99	AOC11-4-OS6-D1	AOC11-4-OS6-D2	AOC11-5-6119	AOC11-5-6120
	DATE	1/5/2016	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	2/3/2016	2/3/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	2	0	2	5	0	2	5	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
	SAMPLE TYPE						Field Duplicate						Field Duplicate				
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	120	12 J	8.1 J	100	390	--	14	7.8 J	65	490	560 J	350 J	230	76	920	19
1,2,3,4,6,7,8-HpCDF	ng/kg	5.1 J	1.1 J	0.81 J	8.2 J	32	--	1.2 J	0.78 U	4.9 J	28	0.27 U	0.35 U	22	4.1 J	92	2.4 J
1,2,3,4,7,8-HxCDD	ng/kg	0.76 U	0.42 U	0.22 U	0.67 U	2.9 J	--	0.28 U	0.2 U	1.4 J	0.75 J	2 J	1.5 J	2.2 J	0.31 U	5.9 J	0.26 J
1,2,3,4,7,8-HxCDF	ng/kg	0.3 U	0.16 U	0.12 U	1 J	2.7 J	--	0.097 U	0.12 U	0.42 U	3 J	4.3 J	2.9 U	2 J	0.39 U	7.3 J	0.19 U
1,2,3,4,7,8,9-HpCDF	ng/kg	0.59 U	0.13 U	0.18 U	0.89 J	--	2.4 J	0.12 U	0.15 U	0.53 U	2.3 U	4 J	2.9 J	2 J	0.18 U	7.5 J	0.37 U
1,2,3,6,7,8-HxCDD	ng/kg	2.4 J	0.22 U	0.22 U	2.6 J	--	9.7 J	0.6 J	0.28 U	2.1 J	11 J	15	11 J	6.9 J	1.7 J	25	0.73 J
1,2,3,6,7,8-HxCDF	ng/kg	0.28 U	0.15 U	0.12 U	0.5 J	1.5 J	--	0.093 U	0.12 U	0.41 U	1.1 J	1.4 J	0.96 U	1 J	0.19 U	3.2 J	0.22 U
1,2,3,7,8-PeCDD	ng/kg	0.2 U	0.12 U	0.13 U	0.49 U	1.3 U	--	0.11 U	0.15 U	0.38 U	1 J	0.55 U	0.29 U	1.2 U	0.15 U	3.1 J	0.093 U
1,2,3,7,8-PeCDF	ng/kg	0.14 U	0.11 U	0.14 U	0.26 U	--	0.87 J	0.11 U	0.12 U	0.19 U	0.43 U	0.24 U	0.47 U	0.47 U	0.16 U	0.95 U	0.13 U
1,2,3,7,8,9-HxCDD	ng/kg	1.2 U	0.21 U	0.21 U	1.3 J	4.7 J	--	0.29 U	0.18 U	0.99 U	3.4 J	3 J	2.1 J	3.3 U	0.58 U	11 J	0.36 U
1,2,3,7,8,9-HxCDF	ng/kg	0.35 U	0.2 U	0.16 U	0.23 U	--	0.88 J	0.12 U	0.16 U	0.22 U	0.44 U	1.6 J	1.2 U	0.51 U	0.26 U	2.2 U	0.26 U
2,3,4,6,7,8-HxCDF	ng/kg	7.9 U	1.4 U	1.3 J	18 U	48 U	--	1.8 U	1.3 U	9.7 U	46 U	100 U	71 U	28 U	7.5 U	140 U	3.4 U
2,3,4,7,8-PeCDF	ng/kg	0.15 U	0.12 U	0.16 U	0.45 U	1.2 J	--	0.12 U	0.13 U	0.21 U	1.3 U	3.7 J	2.6 U	1.3 J	0.18 U	3.1 U	0.081 U
2,3,7,8-TCDD	ng/kg	0.053 U	0.11 U	0.24 U	0.15 U	0.088 U	--	0.095 U	0.11 U	0.13 U	0.15 U	0.1 U	0.14 U	0.12 U	0.11 U	1 J	0.16 U
2,3,7,8-TCDF	ng/kg	0.19 U	0.098 U	0.071 U	0.19 U	0.49 U	--	0.1 U	0.11 U	0.18 U	0.48 U	0.83 J	0.72 U	0.65 U	0.11 U	2.3 U	0.24 U
OCDD	ng/kg	1200	100	70	1000	4900	--	120	70	600	6200	7000	4700	2200	980	9700	180
OCDF	ng/kg	16 J	2.4 J	1.6 J	25	140	--	2.4 U	2 U	16 J	82	130	100	65	11 J	290	5.3 U
TEQ Avian	ng/kg	1.1	0.38	0.5	2.2	7	--	0.39	0.38	1.3	6.7	12	7	5.1	0.97	20	0.6
TEQ Human	ng/kg	2.6	0.44	0.51	3.3	11	--	0.51	0.38	2.1	13	17	11	7.1	1.9	30	0.74
TEQ Mammals	ng/kg	2.6	0.44	0.51	3.3	11	--	0.51	0.38	2.1	13	17	11	7.1	1.9	30	0.74
General																	
pH	PHUNITS	11	9.1	9	8.7	9.4	--	8.6	8.7	9.6	8.6	9.7	9.8	8.4	9.7	8.6	9.2
Metals																	
Antimony	mg/kg	2.1 U	2 UJ	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2.5 U	2.1 U
Arsenic	mg/kg	3.5	7.2 J	6.7	3	3.1	--	3.4	3.4	3.6	3.4	2.7	3.4	3.1	3	7.1	5.8
Barium	mg/kg	140	200 J	170	150	120	--	150	120	150	110	97	110	140	120	170	150
Beryllium	mg/kg	1 U	1 UJ	1.1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.2 U	1.1 U
Cadmium	mg/kg	1 U	1 UJ	1.1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.2 U	1.1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	1	0.2 U	0.21 U	0.2 U	0.43	--	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.21 U	0.22	0.21 U	0.25 UJ	0.21 UJ
Chromium, total	mg/kg	16	18 J	16	14	18	--	16	14	17	21	18	20	18	20	27	18
Cobalt	mg/kg	5.8	7 J	6.5	5	5	--	6.2	5.9	6.4	6.8	5.7	6.2	5.7	6.7	7.4	6.9
Copper	mg/kg	9	11 J	11	8.6	--	7.7	9.6	8.6	10	12	9.3	8.9	9.2	7.7	22	8.9
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	4.1	4.2 J	3.5	5.3	6.4	--	3.5	3.2	5.5	6.4	5.4	5.6	7.2	3.2	14	1.7
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.099 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.13 U	0.11 U
Molybdenum	mg/kg	1 U	1 UJ	1.1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.2 U	1.1 U
Nickel	mg/kg	12	14 J	13	10	--	9	12	12	12	15	13	15	13	15	16	13
Selenium	mg/kg	1.1 U	1 UJ	1.1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.2 U	1.1 U
Silver	mg/kg	1 U	1 UJ	1.1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.2 U	1.1 U
Thallium	mg/kg	2.1 U	2 UJ	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2.1 U	2.5 U	2.1 U
Vanadium	mg/kg	24	32 J	30	27	23	--	32	33	30	32	28	30	27	29	34	30
Zinc	mg/kg	33	47 J	41	35	30	--	40	37	38	43	36	40	39	36	70	46
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-4	AOC11-4-OS1	AOC11-4-OS1	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS6	AOC11-4-OS6	AOC11-5	AOC11-5
	SAMPLE	AOC11-4-6116	AOC11-4-OS1-D1	AOC11-4-OS1-D2	AOC11-4-OS3-D1	AOC11-4-OS3-D2	AOC11-4-OS3-D99	AOC11-4-OS4-D1	AOC11-4-OS4-D2	AOC11-4-OS4-D3	AOC11-4-OS5-D1	AOC11-4-OS5-D2	AOC11-4-OS5-D99	AOC11-4-OS6-D1	AOC11-4-OS6-D2	AOC11-5-6119	AOC11-5-6120
	DATE	1/5/2016	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	2/3/2016	2/3/2016
	SAMPLE TOP DEPTH (FT)	2	0	2	0	2	2	0	2	5	0	2	5	0	2	0	2
	SAMPLE BOTTOM DEPTH (FT)	3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
	SAMPLE TYPE						Field Duplicate						Field Duplicate				
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
2-Methyl naphthalene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
Acenaphthene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
Acenaphthylene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
Anthracene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5	5.3 U	6.2 U	5.3 U
B(a)P Equivalent	ug/kg	6.4	6	6.6	16	--	22	6.1	5.8 U	9.2	31	93	33	52	13	34	29
Benzo (a) anthracene	ug/kg	5.3 U	5 U	5.3 U	10	--	11	5 U	5 U	5.1 U	14	34 J	11 J	26	5.3 U	14	24
Benzo (a) pyrene	ug/kg	5.3 U	5 U	5.3 U	9.7	--	15 J	5 U	5 U	5.1	21	67 J	21 J	34	7.8	23	20
Benzo (b) fluoranthene	ug/kg	5.3	5	7	19	--	33 J	5.7	5 U	9.6	51	130 J	44 J	110	16	57	28
Benzo (ghi) perylene	ug/kg	5.3 U	5 U	5.3 U	6.3	7	--	5 U	5 U	5.1 U	10	25	6.6	11	5.3 U	11	15
Benzo (k) fluoranthene	ug/kg	5.3 U	5 U	5.3 U	5.7	--	11 J	5 U	5 U	5.1 U	16	60 J	19 J	28	6.4	24	15
Chrysene	ug/kg	5.3 U	5 U	5.6	13	--	16	5 U	5 U	5.5	31	58 J	18 J	58	7.8	41	23
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	7	5.2 J	5 U	5.3 U	6.2 U	5.3 U
Fluoranthene	ug/kg	5.3 U	5 U	9.8	25	--	23	6	5 U	7.9	54	89 J	27 J	86	9.5	75	38
Fluorene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5 U	5.3 U	6.3	5.7	--	5 U	5 U	5.1 U	10	24	6.2	12	5.3 U	10	12
Naphthalene	ug/kg	5.3 U	5 U	5.3 U	5 U	5 U	--	5 U	5 U	5.1 U	5 U	5.2 U	5.2 U	5 U	5.3 U	6.2 U	5.3 U
PAH High molecular weight	ug/kg	5.3	5	32.2	117	--	131	16.7	0	35.3	253	579	185	444	57.4	318	210
PAH Low molecular weight	ug/kg	0	0	0	6.3	--	5.4	0	0	0	21	20	7.3	23	0	15	6

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-4	AOC11-4-OS1	AOC11-4-OS1	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS6	AOC11-4-OS6	AOC11-5	AOC11-5
	SAMPLE	AOC11-4-6116	AOC11-4-OS1-D1	AOC11-4-OS1-D2	AOC11-4-OS3-D1	AOC11-4-OS3-D2	AOC11-4-OS3-D99	AOC11-4-OS4-D1	AOC11-4-OS4-D2	AOC11-4-OS4-D3	AOC11-4-OS5-D1	AOC11-4-OS5-D2	AOC11-4-OS5-D99	AOC11-4-OS6-D1	AOC11-4-OS6-D2	AOC11-5-6119	AOC11-5-6120
	DATE	1/5/2016	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	2/3/2016	2/3/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	2	0	2	5	0	2	5	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
SAMPLE TYPE							Field Duplicate						Field Duplicate				
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.3 U	5 U	5.3 U	6.3	--	5.4	5 U	5 U	5.1 U	21	20	7.3	18	5.3 U	15	6
Pyrene	ug/kg	5.3 U	5 U	9.8	22	--	22	5	5 U	7.2	46	85 J	27 J	79	9.9	63	35
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2-Chlorophenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2-Methylphenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
2-Nitrophenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
2,4-Dimethylphenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2,6-Dinitrotoluene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
3,3-Dichlorobenzidene	ug/kg	690 U	660 U	700 U	660 U	660 U	--	660 U	660 U	680 U	660 U	690 U	690 U	660 U	700 U	820 U	700 U
4-Bromophenyl phenyl ether	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
4-Chloro-3-methylphenol	ug/kg	690 U	660 U	700 U	660 U	660 U	--	660 U	660 U	680 U	660 U	690 U	690 U	660 U	700 U	820 U	700 U
4-Chloroaniline	ug/kg	690 U	660 U	700 U	660 U	660 U	--	660 U	660 U	680 U	660 U	690 U	690 U	660 U	700 U	820 U	700 U
4-Chlorophenyl phenyl ether	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
4-Methylphenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 UJ	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
Benzyl alcohol	ug/kg	690 U	660 U	700 U	660 U	660 U	--	660 U	660 U	680 U	660 U	690 U	690 U	660 U	700 U	820 U	700 U
bis (2-chloroethoxy) methane	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Butylbenzylphthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Di-n-octyl phthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	4100 U	350 U
Dibenzofuran	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Diethyl phthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Dimethyl phthalate	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Hexachlorobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Hexachloroethane	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
N-nitrosodiphenylamine	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	2100 U	1700 U
Phenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	11 U	10 U	11 U	10 U	10 U	--	10 U	10 U	10 U	10 U	14	13	10 U	11 U	12 U	11 U
TPH as gasoline	mg/kg	--	--	1.5 U	--	1.4 U	--	--	1.4 U	1.6 U	--	1.7 U	1.6 U	--	1.4 U	--	--
TPH as motor oil	mg/kg	26	10 U	11 U	10 UJ	18	--	10 U	10 U	14	26	65	57	15	11 U	72	11 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-4	AOC11-4-OS1	AOC11-4-OS1	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS6	AOC11-4-OS6	AOC11-5	AOC11-5
	SAMPLE	AOC11-4-6116	AOC11-4-OS1-D1	AOC11-4-OS1-D2	AOC11-4-OS3-D1	AOC11-4-OS3-D2	AOC11-4-OS3-D99	AOC11-4-OS4-D1	AOC11-4-OS4-D2	AOC11-4-OS4-D3	AOC11-4-OS5-D1	AOC11-4-OS5-D2	AOC11-4-OS5-D99	AOC11-4-OS6-D1	AOC11-4-OS6-D2	AOC11-5-6119	AOC11-5-6120
	DATE	1/5/2016	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	2/3/2016	2/3/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	2	0	2	5	0	2	5	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
SAMPLE TYPE							Field Duplicate						Field Duplicate				
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
2,4,6-Trichlorophenol	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	690 U	660 U	700 U	660 U	660 U	--	660 U	660 U	680 U	660 U	690 U	690 U	660 U	700 U	820 U	700 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-4	AOC11-4-OS1	AOC11-4-OS1	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS3	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS4	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS5	AOC11-4-OS6	AOC11-4-OS6	AOC11-5	AOC11-5
	SAMPLE	AOC11-4-6116	AOC11-4-OS1-D1	AOC11-4-OS1-D2	AOC11-4-OS3-D1	AOC11-4-OS3-D2	AOC11-4-OS3-D99	AOC11-4-OS4-D1	AOC11-4-OS4-D2	AOC11-4-OS4-D3	AOC11-4-OS5-D1	AOC11-4-OS5-D2	AOC11-4-OS5-D99	AOC11-4-OS6-D1	AOC11-4-OS6-D2	AOC11-5-6119	AOC11-5-6120
	DATE	1/5/2016	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	6/11/2014	2/3/2016	2/3/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	2	0	2	5	0	2	5	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	3	0	3	3	0	3	6	0	3	6	0	3	0.5	3
SAMPLE TYPE							Field Duplicate						Field Duplicate				
ANALYTE	UNITS																
Isophorone	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	350 U	330 U	350 U	330 U	330 U	--	330 U	330 U	340 U	330 U	340 U	340 U	330 U	350 U	410 U	350 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-5	AOC11-5	AOC11-6	AOC11-6	AOC11-6	AOC11-6	AOC11-7	AOC11-7	AOC11-7	AOC11-8	AOC11-8	AOC11-9	AOC11-9	AOC11a-1	AOC11a-1	AOC11a-1
	SAMPLE	AOC11-5-6121	AOC11-5-6122	AOC11-6-6123	AOC11-6-6124	AOC11-6-6125	AOC11-6-6126	AOC11-7-6127	AOC11-7-6128	AOC11-7-6129	AOC11-8-6131	AOC11-8-6132	AOC11-9-6135	AOC11-9-6136	AOC11a-1-6001	AOC11a-1-6002	AOC11a-1-6003
	DATE	2/3/2016	2/3/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/6/2015	12/6/2015	12/6/2015	12/6/2015	9/21/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	5	9	0	2	5	9	0	2	5	0	2	0	2	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	10	1	3	6	10	1	3	6	1	3	1	3	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	0.5	3	6	10	0.5	3	6	0.5	3	0.5	3	0.5	3	6
	SAMPLE TYPE																
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	3.5 J	0.83 U	19 J	8.5 J	--	--	27 J	5.8 J	--	26 J	12 J	22 J	7.4 J	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.57 J	0.22 U	2.3 J	1.5 J	--	--	3.7 J	2.3 J	--	2.2 UJ	2.2 J	2.5 J	0.83 UJ	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.13 U	0.12 U	0.22 UJ	0.2 UJ	--	--	1.1 UJ	0.41 UJ	--	0.22 UJ	0.23 UJ	0.39 J	0.11 UJ	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.089 U	0.084 U	0.45 UJ	0.31 UJ	--	--	1.2 UJ	0.25 UJ	--	0.45 UJ	0.16 UJ	0.15 UJ	0.12 UJ	--	--	--
1,2,3,4,7,8-HpCDF	ng/kg	0.23 U	0.27 J	0.3 UJ	0.23 UJ	--	--	1.4 J	0.4 UJ	--	0.56 UJ	0.1 UJ	0.23 UJ	0.17 UJ	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.13 U	0.1 U	0.66 UJ	0.2 UJ	--	--	1.9 J	0.41 UJ	--	0.71 UJ	0.23 UJ	0.9 UJ	0.25 UJ	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.087 U	0.093 U	0.43 UJ	0.29 UJ	--	--	1.1 UJ	0.24 UJ	--	0.43 UJ	0.4 J	0.15 UJ	0.58 J	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.085 U	0.051 U	0.24 UJ	0.25 UJ	--	--	1.1 J	0.35 UJ	--	0.18 UJ	0.19 UJ	0.47 J	0.09 UJ	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.081 U	0.059 U	0.14 UJ	0.23 UJ	--	--	1 J	0.45 UJ	--	0.1 UJ	0.23 UJ	0.15 UJ	0.1 UJ	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.13 U	0.049 U	0.22 UJ	0.19 UJ	--	--	1.7 UJ	0.4 UJ	--	0.42 UJ	0.28 UJ	0.43 UJ	0.21 UJ	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.1 U	0.24 U	0.51 UJ	0.35 UJ	--	--	1.4 J	0.29 UJ	--	0.18 UJ	0.18 UJ	0.18 UJ	0.14 UJ	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	1.2 U	0.3 U	2.6 UJ	1.2 UJ	--	--	5.1 UJ	2.7 UJ	--	5.1 UJ	2.6 UJ	2.5 UJ	0.7 UJ	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.086 U	0.062 U	0.37 UJ	0.24 UJ	--	--	1.7 UJ	1.3 UJ	--	0.11 UJ	0.24 UJ	0.15 UJ	0.1 UJ	--	--	--
2,3,7,8-TCDD	ng/kg	0.037 U	3.7 U	0.074 UJ	0.055 UJ	--	--	0.63 J	0.2 UJ	--	0.046 UJ	0.15 UJ	0.075 UJ	0.036 UJ	--	--	--
2,3,7,8-TCDF	ng/kg	0.24 U	0.24 U	0.11 UJ	0.067 UJ	--	--	0.23 UJ	0.49 UJ	--	0.072 UJ	0.19 UJ	0.076 UJ	0.11 UJ	--	--	--
OCDD	ng/kg	28	3.5 U	180 J	95 J	--	--	230 J	79 J	--	340 J	140 J	190 J	59 J	--	--	--
OCDF	ng/kg	0.97 U	0.049 U	4 J	1.6 UJ	--	--	7 J	4.8 J	--	16 J	4.4 J	3.4 UJ	0.83 UJ	--	--	--
TEQ Avian	ng/kg	0.33	2.1	0.69	0.47	--	--	3.5	1.4	--	0.64	0.65	0.89	0.31	--	--	--
TEQ Human	ng/kg	0.23	2	0.74	0.46	--	--	3.3	0.84	--	0.91	0.63	1.1	0.32	--	--	--
TEQ Mammals	ng/kg	0.23	2	0.74	0.46	--	--	3.3	0.84	--	0.91	0.63	1.1	0.32	--	--	--
General																	
pH	PHUNITS	9.5	9.7	9.4	9	8.6	9.2	8.2	8.2	8.2	9.3	8.6	9.3	9.3	8.26	8.76	9.8
Metals																	
Antimony	mg/kg	2.1 U	2 U	2.2 U	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 UJ	2 U
Arsenic	mg/kg	5.3	7.1	8.7	8.3	7.9	11	4.6	4.1	9	4	3.1	3.3	3.2	6	6.4	4.6
Barium	mg/kg	210	140	500	490	300	150	120	170	250	77	62	57	72	170	190	190
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2.1 U	1 U
Cadmium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.21 UJ	0.2 UJ	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U	0.52	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.41 U	0.41 U
Chromium, total	mg/kg	25	21	14	20	25	11	15	15	15	12	9.6	9.6	11	19	23	22
Cobalt	mg/kg	9.1	8.1	7.2	7.4	8.9	7.4	6.1	5.7	9	5	4.6	5.1	5.5	5.8	6.6	7.1
Copper	mg/kg	10	9.3	12	9.5	10	9.1	8	11	7.5	9.3	8.1	7.5	8.6	12	14	9
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	1.7	2	21	24	2.4	6.1	220	30	8.5	26	28	23	13	9.9	20	4.7
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1.7	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2.1 U	1 U
Nickel	mg/kg	16	15	18	14	18	10	8	9	11	7.5	7.1	7.8	8.6	13	14	14
Selenium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.6
Silver	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	2.1 U	1 U
Thallium	mg/kg	2.1 U	2 U	2.2 U	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	4 U	4.1 U	2 U
Vanadium	mg/kg	37	32	31	32	34	45	25	23	55	29	25	26	32	23	30	31
Zinc	mg/kg	48	56	67	62	59	79	40	70	79	43	45	61	63	46	58	44
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	4400	4300	4600	5100	11000	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	15000	16000	14000	20000	33000	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.2 U	0.21 U	1 U	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	15000	15000	18000	21000	14000	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	2900	2900	3200	3700	8500	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	200	200	190	250	330	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	1200	1400	1600	1700	2500	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	190	280	180	300	580	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-5	AOC11-5	AOC11-6	AOC11-6	AOC11-6	AOC11-6	AOC11-7	AOC11-7	AOC11-7	AOC11-8	AOC11-8	AOC11-9	AOC11-9	AOC11a-1	AOC11a-1	AOC11a-1
	SAMPLE	AOC11-5-6121	AOC11-5-6122	AOC11-6-6123	AOC11-6-6124	AOC11-6-6125	AOC11-6-6126	AOC11-7-6127	AOC11-7-6128	AOC11-7-6129	AOC11-8-6131	AOC11-8-6132	AOC11-9-6135	AOC11-9-6136	AOC11a-1-6001	AOC11a-1-6002	AOC11a-1-6003
	DATE	2/3/2016	2/3/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/6/2015	12/6/2015	12/6/2015	12/6/2015	9/21/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	5	9	0	2	5	9	0	2	5	0	2	0	2	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	10	1	3	6	10	1	3	6	1	3	1	3	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	0.5	3	6	10	0.5	3	6	0.5	3	0.5	3	0.5	3	6
	SAMPLE TYPE																
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5 U	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	50 U	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	33 U	33 U	33 U	34 U	33 U	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
2-Methyl naphthalene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
Acenaphthene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
Acenaphthylene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
Anthracene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
B(a)P Equivalent	ug/kg	6 U	5.9 U	6.5	5.9 U	6 U	5.9 U	13	58 U	6.2	34	6.3	57	6.1	6.1	6 U	5.9 U
Benzo (a) anthracene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	6.2	5.2 U	5.1 U	15	5.1 U	6.1	5.1 U	5 U	5.2 U	5.1 U
Benzo (a) pyrene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	8.1	52 U	5.1 U	24	5.1 U	51 U	5.1 U	5 U	5.2 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5.2 U	5.1 U	5.4	5.1 U	5.2 U	5.1 U	16	52 U	5.8	54	7.1	51 U	5.1	5.2	5.2 U	5.1 U
Benzo (ghi) perylene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	52 U	5.1 U	7.7	5.1 U	51 U	5.1 U	5.2	5.2 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	7	52 U	5.1 U	13	5.1 U	51 U	5.1 U	5.2	5.2 U	5.1 U
Chrysene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	12	5.2 U	5.1 U	30	5.1 U	11	5.1 U	6.8	5.2 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	52 U	5.1 U	5.1 U	5.1 U	51 U	5.1 U	5 U	5.2 U	5.1 U
Fluoranthene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	17	5.2 U	6.1	50	6.1	15	6.1	8	5.2 U	5.1 U
Fluorene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	52 U	5.1 U	8.4	5.1 U	51 U	5.1 U	5 U	5.2 U	5.1 U
Naphthalene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
PAH High molecular weight	ug/kg	0	0	10.8	0	0	0	83.3	0	17.4	250	19	47.1	18	38.1	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-5	AOC11-5	AOC11-6	AOC11-6	AOC11-6	AOC11-6	AOC11-7	AOC11-7	AOC11-7	AOC11-8	AOC11-8	AOC11-9	AOC11-9	AOC11a-1	AOC11a-1	AOC11a-1
	SAMPLE	AOC11-5-6121	AOC11-5-6122	AOC11-6-6123	AOC11-6-6124	AOC11-6-6125	AOC11-6-6126	AOC11-7-6127	AOC11-7-6128	AOC11-7-6129	AOC11-8-6131	AOC11-8-6132	AOC11-9-6135	AOC11-9-6136	AOC11a-1-6001	AOC11a-1-6002	AOC11a-1-6003
	DATE	2/3/2016	2/3/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/6/2015	12/6/2015	12/6/2015	12/6/2015	9/21/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	5	9	0	2	5	9	0	2	5	0	2	0	2	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	10	1	3	6	10	1	3	6	1	3	1	3	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	0.5	3	6	10	0.5	3	6	0.5	3	0.5	3	0.5	3	6
	SAMPLE TYPE																
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.2 U	5.1 U	5.4 U	5.1 U	5.2 U	5.1 U	5.5 U	5.2 U	5.1 U	16	5.1 U	5.1 U	5.1 U	5 U	5.2 U	5.1 U
Pyrene	ug/kg	5.2 U	5.1 U	5.4	5.1 U	5.2 U	5.1 U	17	5.2 U	5.5	48	5.8	15	6.8	7.7	5.2 U	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2-Chlorophenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2-Methylphenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	330 U	340 U
2,4-Dimethylphenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	680 U	670 U	710 U	670 U	690 U	680 U	730 U	690 U	670 U	670 U	6700 U	670 U	670 U	330 U	340 U	340 U
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	680 U	670 U	710 U	670 U	690 U	680 U	730 U	690 U	670 U	670 U	670 U	670 U	670 U	660 U	680 U	670 U
4-Chloroaniline	ug/kg	680 U	670 U	710 U	670 U	690 U	680 U	730 U	690 U	670 U	670 U	670 U	670 U	670 U	330 U	340 U	340 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
4-Methylphenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	710 U	710 U	710 U	710 U	710 U	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	680 U	670 U	710 U	670 U	690 U	680 U	730 U	690 U	670 U	670 U	670 U	670 U	670 U	660 U	680 U	670 U
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	3300 U	330 U	340 U	330 U	340 U	340 U
Butylbenzylphthalate	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	3300 U	330 U	340 U	330 U	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	330 U	330 U	330 U	340 U	330 U	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	330 U	330 U	330 U	340 U	330 U	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	340 U	340 U	360 U	3300 U	340 U	340 U	360 U	3400 U	340 U	3300 U	3300 U	330 U	340 U	330 U	340 U	340 U
Dibenzofuran	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Diethyl phthalate	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Dimethyl phthalate	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Hexachlorobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Hexachloroethane	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1600 U	1600 U	1600 U
Phenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	11 U	10 U	10 U	10 U	11 U	41	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4 U	1.3 U
TPH as motor oil	mg/kg	15	10 U	26	10 U	10 U	10 U	11 U	250	23	10	10 U	10 U	10 U	45.7 J	10.1 J	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U

Table AOC11-A1
Dataset for AOC 11 HHERA

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PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-5	AOC11-5	AOC11-6	AOC11-6	AOC11-6	AOC11-6	AOC11-7	AOC11-7	AOC11-7	AOC11-8	AOC11-8	AOC11-9	AOC11-9	AOC11a-1	AOC11a-1	AOC11a-1
	SAMPLE	AOC11-5-6121	AOC11-5-6122	AOC11-6-6123	AOC11-6-6124	AOC11-6-6125	AOC11-6-6126	AOC11-7-6127	AOC11-7-6128	AOC11-7-6129	AOC11-8-6131	AOC11-8-6132	AOC11-9-6135	AOC11-9-6136	AOC11a-1-6001	AOC11a-1-6002	AOC11a-1-6003
	DATE	2/3/2016	2/3/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/6/2015	12/6/2015	12/6/2015	12/6/2015	9/21/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	5	9	0	2	5	9	0	2	5	0	2	0	2	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	10	1	3	6	10	1	3	6	1	3	1	3	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	0.5	3	6	10	0.5	3	6	0.5	3	0.5	3	0.5	3	6
	SAMPLE TYPE																
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2-Dichlorobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	8.6 U	5.8 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,2,4-Trichlorobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	8.6 U	5.8 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,3-Dichlorobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	8.6 U	5.8 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
1,4-Dichlorobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	8.6 U	5.8 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	330 U	330 U	330 U	340 U	330 U	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86 U	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86 U	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170 U	120 U
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86 U	58 U
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Hexachlorobutadiene	ug/kg	680 U	670 U	710 U	670 U	690 U	680 U	730 U	690 U	670 U	670 U	670 U	670 U	670 U	330 U	8.6 U	5.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	670 U	670 U	670 U	670 U	660 U	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11-5	AOC11-5	AOC11-6	AOC11-6	AOC11-6	AOC11-6	AOC11-7	AOC11-7	AOC11-7	AOC11-8	AOC11-8	AOC11-9	AOC11-9	AOC11a-1	AOC11a-1	AOC11a-1
	SAMPLE	AOC11-5-6121	AOC11-5-6122	AOC11-6-6123	AOC11-6-6124	AOC11-6-6125	AOC11-6-6126	AOC11-7-6127	AOC11-7-6128	AOC11-7-6129	AOC11-8-6131	AOC11-8-6132	AOC11-9-6135	AOC11-9-6136	AOC11a-1-6001	AOC11a-1-6002	AOC11a-1-6003
	DATE	2/3/2016	2/3/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/6/2015	12/6/2015	12/6/2015	12/6/2015	9/21/2008	9/21/2008	9/21/2008
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	0	2	5	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	1	3	6	10	1	3	6	1	3	1	3	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	0.5	3	6	0.5	3	0.5	3	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Isophorone	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86 U	58 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	86 U	58 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Nitrobenzene	ug/kg	340 U	340 U	360 U	330 U	340 U	340 U	360 U	340 U	340 U	330 U	330 U	330 U	340 U	330 U	340 U	340 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6 U	5.8 U

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-1	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-5	AOC11a-5
	SAMPLE	AOC11a-1-6004	AOC11a-2-6005	AOC11a-2-6006	AOC11a-2-6007	AOC11a-2-6008	AOC11a-3-6009	AOC11a-3-6010	AOC11a-3-6012	AOC11a-3-6011	AOC11a-3-6013	AOC11a-4-6014	AOC11a-4-6015	AOC11a-4-6016	AOC11a-4-6017	AOC11a-5-6018	AOC11a-5-6019
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	2	9	0	2	5	9	0	2
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	1300 J	910 J	3600 J	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	140 J	73 J	470 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	8.1 J	4.7 J	19 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	5.5 J	3.6 J	18 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	13 J	6.3 J	41 J	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	30 J	20 J	110 J	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	9.9 J	2.6 UJ	8.5 J	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	2.9 UJ	2.5 UJ	6.7 J	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	1.7 J	0.95 UJ	2.4 UJ	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	14 J	9.2 J	33 J	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	1.4 UJ	0.86 UJ	4.4 J	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	290 UJ	130 UJ	1400 UJ	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	1.8 J	1.6 J	4.4 J	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	0.41 UJ	0.15 UJ	0.14 UJ	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	1.1 UJ	0.98 J	0.12 UJ	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	12000 J	9100 J	32000 J	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	440 J	210 J	1200 J	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	26	15	100	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	42	25	150	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	42	25	150	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	--	8.19	8.89	8.97	--	8.25	--	8.99	8.96	--	7.99	9.09	9.34	--	8.37	9.29
Metals																	
Antimony	mg/kg	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	--	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U
Arsenic	mg/kg	6.9	8.3	5.5	5.5	5.2	6.9	--	6.8	7.4	5.4	7.7	6.2	5	7.5	7.8	6
Barium	mg/kg	190	210	220	1300	480	190	220	410	--	110	180	210	140	640	210	370
Beryllium	mg/kg	2 U	2.1 U	2.1 U	2 U	1 U	2 U	2.1 U	2.1 U	--	1 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	3	0.42	0.41 U	0.41 U	0.41 U	0.41 U	--	0.63	0.42 U	0.41 U	0.41 U	0.41 U	0.41 UJ	0.41 U	0.65	0.41 U
Chromium, total	mg/kg	19	32	22	19	19	24	25	76	--	23	25	27	25	27	32	30
Cobalt	mg/kg	5.8	6.8	6.9	8.9	8.3	6.1	--	7.4	7.1	8.1	6.4	8.5	8.7	9.6	6.8	8.5
Copper	mg/kg	10	20	10	14	6.5	16	14	15	--	11	18	13	11	14	17	12
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	9.2	15	7.7	3.4	2.2	13	17	25	--	2.9	17	8	3.7	3.5	14	9.4
Mercury	mg/kg	0.1 UJ	0.11 U	0.11 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	--	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Molybdenum	mg/kg	2 U	2.1 U	2.1 U	2 U	1	2 U	--	2.1 U	2.4	1.1	2 U	2 U	2 U	2 U	2.1 U	2.5
Nickel	mg/kg	13	18	14	19	14	15	16	17	--	17	17	20	19	22	16	18
Selenium	mg/kg	1 U	2.1 U	1 U	2 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	2 U	2.1 U	2.1 U	2 U	1 U	2 U	2.1 U	2.1 U	--	1 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U
Thallium	mg/kg	4 U	4.1 U	4.2 U	4.1 U	2 U	4.1 U	4.2 U	4.1 U	--	2 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.2 U
Vanadium	mg/kg	22	32	32	41	35	24	--	36	31	33	28	37	38	43	32	38
Zinc	mg/kg	44	75	42	56	47	62	63	75	--	48	79	52	54	59	71	57
Metals CLP																	
Aluminum	mg/kg	--	20000	--	--	--	15000	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	45000	--	--	--	42000	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	20000	--	--	--	16000	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	12000	--	--	--	11000	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	350	--	--	--	320	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	5000	--	--	--	3400	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	710	--	--	--	530	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-1	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-5	AOC11a-5
	SAMPLE	AOC11a-1-6004	AOC11a-2-6005	AOC11a-2-6006	AOC11a-2-6007	AOC11a-2-6008	AOC11a-3-6009	AOC11a-3-6010	AOC11a-3-6012	AOC11a-3-6011	AOC11a-3-6013	AOC11a-4-6014	AOC11a-4-6015	AOC11a-4-6016	AOC11a-4-6017	AOC11a-5-6018	AOC11a-5-6019
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	2	9	0	2	5	9	0	2
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	2.1 U	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	1 U	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	5.2 U	--	--	--	5.1 U	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	52 U	--	--	--	51 U	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	34 U	--	--	--	34 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	17 U	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
2-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
Acenaphthene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
Acenaphthylene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
Anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
B(a)P Equivalent	ug/kg	5.9 U	12	6 U	5.9 U	5.9 U	12	9.1	5.9 U	--	5.9 U	11	5.9	5.9 U	5.9 U	23	11
Benzo (a) anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	10	5.2 U
Benzo (a) pyrene	ug/kg	5.1 U	7.5	5.2 U	5.1 U	5.1 U	7.5	5.3	5.1 U	--	5.1 U	6.3	5.1 U	5.1 U	5.1 U	16	6.9
Benzo (b) fluoranthene	ug/kg	5.1 U	10	5.2 U	5.1 U	5.1 U	9	5.7	5.1 U	--	5.1 U	8.4	5.1 U	5.1 U	5.1 U	19	8.1
Benzo (ghi) perylene	ug/kg	5.1 U	9.3	5.2 U	5.1 U	5.1 U	8.9	5.2 U	5.1 U	--	5.1 U	8	26	5.1 U	5.1 U	14	5.8
Benzo (k) fluoranthene	ug/kg	5.1 U	9	5.2 U	5.1 U	5.1 U	9.5	6.2	5.1 U	--	5.1 U	8.9	5.1 U	5.1 U	5.1 U	16	6.5
Chrysene	ug/kg	5.1 U	12	5.2 U	5.1 U	5.1 U	12	7	5.1 U	--	5.1 U	13	5.1 U	5.1 U	5.1 U	24	7.6
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
Fluoranthene	ug/kg	5.1 U	15	5.2 U	5.1 U	5.1 U	15	7.5	5.1 U	--	5.1 U	18	5.1 U	5.1 U	5.1 U	30	8
Fluorene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	7.5	5.2 U	5.1 U	5.1 U	7.3	5.2 U	5.1 U	--	5.1 U	5.6	5.1 U	5.1 U	5.1 U	12	5.4
Naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U
PAH High molecular weight	ug/kg	0	83.3	0	0	0	82.2	38.8	0	--	0	82.2	26	0	0	168	56.4
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	--	0	0	0	0	0	8.9	0

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-1	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-5	AOC11a-5
	SAMPLE	AOC11a-1-6004	AOC11a-2-6005	AOC11a-2-6006	AOC11a-2-6007	AOC11a-2-6008	AOC11a-3-6009	AOC11a-3-6010	AOC11a-3-6012	AOC11a-3-6011	AOC11a-3-6013	AOC11a-4-6014	AOC11a-4-6015	AOC11a-4-6016	AOC11a-4-6017	AOC11a-5-6018	AOC11a-5-6019
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	2	9	0	2	5	9	0	2
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	8.9	5.2 U
Pyrene	ug/kg	5.1 U	13	5.2 U	5.1 U	5.1 U	13	7.1	5.1 U	--	5.1 U	14	5.1 U	5.1 U	5.1 U	27	8.1
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2-Chlorophenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2-Methylphenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2-Nitroaniline	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
2-Nitrophenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2,4-Dimethylphenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2,4-Dinitrophenol	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
2,6-Dinitrotoluene	ug/kg	--	340 U	340 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
3-Nitroaniline	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Bromophenyl phenyl ether	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	--	690 U	690 U	670 U	--	680 U	690 U	680 U	--	--	680 U	1700 U	670 U	--	680 U	690 U
4-Chloroaniline	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Chlorophenyl phenyl ether	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Methylphenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Nitroaniline	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
4-Nitrophenol	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	--	--	1700 U	4200 U	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	730 U	--	--	--	720 U	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	--	--	1700 U	4200 U	1700 U	--	1700 U	1700 U
Benzyl alcohol	ug/kg	--	690 U	690 U	670 U	--	680 U	690 U	680 U	--	--	680 U	1700 U	670 U	--	680 U	690 U
bis (2-chloroethoxy) methane	ug/kg	--	340 U	340 U	340 U	--	340 U	350 U	340 U	--	--	340 U	340 U	340 U	--	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Butylbenzylphthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Caprolactam	ug/kg	--	340 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	340 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Di-n-octyl phthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Dibenzofuran	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Diethyl phthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Dimethyl phthalate	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Hexachlorobenzene	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Hexachloroethane	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
N-nitrosodiphenylamine	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Pentachlorophenol	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
Phenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	10 U	10 U	10 U	--	10 U	10 U	10 UJ	--	--	10.3	10 U	10 U	--	10 U	10 U
TPH as gasoline	mg/kg	--	--	1.5 U	1.4 U	--	--	--	1.1 U	1.4 U	--	--	1.1 U	1.6 U	--	--	1.1 U
TPH as motor oil	mg/kg	--	10 U	10 U	10 U	--	10 U	10 U	35.6 J	--	--	14 J	47.5 J	11.9 J	--	11.2 J	37.4 J
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-1	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-5	AOC11a-5
	SAMPLE	AOC11a-1-6004	AOC11a-2-6005	AOC11a-2-6006	AOC11a-2-6007	AOC11a-2-6008	AOC11a-3-6009	AOC11a-3-6010	AOC11a-3-6012	AOC11a-3-6011	AOC11a-3-6013	AOC11a-4-6014	AOC11a-4-6015	AOC11a-4-6016	AOC11a-4-6017	AOC11a-5-6018	AOC11a-5-6019
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/21/2008	9/21/2008
	SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	2	9	0	2	5	9	0	2
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1-Dichloropropene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1,1-Trichloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1,2-Trichloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2-Dibromoethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2-Dichlorobenzene	ug/kg	--	340 U	8.2 U	6.4 U	--	340 U	--	6.1 U	7.4 U	--	340 U	6.1 U	6.9 U	--	340 U	6.2 U
1,2-Dichloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2-Dichloropropane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2,3-Trichlorobenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2,3-Trichloropropane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,2,4-Trichlorobenzene	ug/kg	--	340 U	8.2 U	6.4 U	--	340 U	--	6.1 U	7.4 U	--	340 U	6.1 U	6.9 U	--	340 U	6.2 U
1,2,4-Trimethylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,3-Dichlorobenzene	ug/kg	--	340 U	8.2 U	6.4 U	--	340 U	--	6.1 U	7.4 U	--	340 U	6.1 U	6.9 U	--	340 U	6.2 U
1,3-Dichloropropane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,3,5-Trimethylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
1,4-Dichlorobenzene	ug/kg	--	340 U	8.2 U	6.4 U	--	340 U	--	6.1 U	7.4 U	--	340 U	6.1 U	6.9 U	--	340 U	6.2 U
1,4-Dioxane	ug/kg	--	340 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
2-Hexanone	ug/kg	--	--	82 U	--	--	--	--	--	74 U	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
2,4,5-Trichlorophenol	ug/kg	--	1700 U	1700 U	1600 U	--	1600 U	1700 U	1600 U	--	--	1600 U	4100 U	1600 U	--	1700 U	1700 U
2,4,6-Trichlorophenol	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
4-Isopropyltoluene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Acetone	ug/kg	--	--	--	--	--	--	--	61 U	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	160 U	130 U	--	--	--	120 U	150 U	--	--	120 U	140 U	--	--	120 U
Acrylonitrile	ug/kg	--	--	82 U	64 U	--	--	--	61 U	74 U	--	--	61 U	69 U	--	--	62 U
Benzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
bis (2-chloroethyl) ether	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Bromobenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Bromochloromethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Bromodichloromethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Bromoform	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Bromomethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Carbon disulfide	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Carbon tetrachloride	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Chloro methane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Chlorobenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Chloroethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Chloroform	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
cis-1,2-Dichloroethene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
cis-1,3-Dichloropropene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Cyclohexane	ug/kg	--	--	8.2 U	--	--	--	--	--	7.4 U	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Dibromomethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Dichlorodifluoromethane	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Ethyl- benzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Hexachlorobutadiene	ug/kg	--	340 U	8.2 U	6.4 U	--	340 U	--	6.1 U	7.4 U	--	340 U	6.1 U	6.9 U	--	340 U	6.2 U
Hexachlorocyclopentadiene	ug/kg	--	690 U	--	--	--	680 U	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-1	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-2	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-3	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-4	AOC11a-5	AOC11a-5
	SAMPLE	AOC11a-1-6004	AOC11a-2-6005	AOC11a-2-6006	AOC11a-2-6007	AOC11a-2-6008	AOC11a-3-6009	AOC11a-3-6010	AOC11a-3-6012	AOC11a-3-6011	AOC11a-3-6013	AOC11a-4-6014	AOC11a-4-6015	AOC11a-4-6016	AOC11a-4-6017	AOC11a-5-6018	AOC11a-5-6019
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/21/2008	9/21/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	2	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	0.5	3
SAMPLE TYPE										Field Duplicate							
ANALYTE	UNITS																
Isophorone	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
Isopropylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Methyl acetate	ug/kg	--	--	8.2 U	--	--	--	--	--	7.4 U	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	82 U	64 U	--	--	--	61 U	74 U	--	--	61 U	69 U	--	--	62 U
Methyl isobutyl ketone	ug/kg	--	--	82 U	64 U	--	--	--	61 U	74 U	--	--	61 U	69 U	--	--	62 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Methylcyclohexane	ug/kg	--	--	8.2 U	--	--	--	--	--	7.4 U	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
N-Butylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
N-Propylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Nitrobenzene	ug/kg	--	340 U	350 U	340 U	--	340 U	340 U	340 U	--	--	340 U	840 U	340 U	--	340 U	340 U
p-Chlorotoluene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
sec-Butylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Styrene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
tert-Butylbenzene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Tetrachloroethene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Toluene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
trans-1,2-Dichloroethene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
trans-1,3-Dichloropropene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Trichloroethene	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Vinyl chloride	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Xylene, m,p-	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Xylene, o-	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U
Xylenes, total	ug/kg	--	--	8.2 U	6.4 U	--	--	--	6.1 U	7.4 U	--	--	6.1 U	6.9 U	--	--	6.2 U

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-5	AOC11a-5	AOC11a-5	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-2	AOC11a-SS-2	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11b-1	AOC11b-1	AOC11b-1
	SAMPLE	AOC11a-5-6020	AOC11a-5-6021	AOC11a-5-6022	AOC11a-SS-1-6055	AOC11a-SS-1-6056	AOC11a-SS-1-6057	AOC11a-SS-1-6058	AOC11a-SS-2-6059	AOC11a-SS-2-6060	AOC11a-SS-3-6063	AOC11a-SS-3-6064	AOC11a-SS-3-6065	AOC11a-SS-3-6066	AOC11b-1-6023	AOC11b-1-6025	AOC11b-1-6026
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/17/2008	9/17/2008	9/17/2008
	SAMPLE TOP DEPTH (FT)	5	5	9	0	2	5	9	0	2	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE		Field Duplicate														
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9 J	77 J	100 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1 J	7.5 J	10 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.12 UJ	0.87 UJ	0.84 UJ
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.099 UJ	0.55 J	0.87 J
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.13 UJ	0.88 J	0.83 UJ
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23 UJ	2.2 J	3.2 J
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23 UJ	0.76 UJ	1.3 J
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11 UJ	0.5 UJ	0.65 UJ
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.16 UJ	0.33 UJ	0.41 J
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28 UJ	1.5 UJ	2 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11 UJ	0.21 UJ	0.36 UJ
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 UJ	13 UJ	16 UJ
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.57 UJ	0.66 J	1.4 J
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.041 UJ	0.061 UJ	0.06 UJ
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.039 UJ	0.24 UJ	0.21 UJ
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	54 J	720 J	920 J
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	18 J	21 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.52	2.2	3.5
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.36	2.7	3.8
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.36	2.7	3.8
General																	
pH	PHUNITS	9.61	--	--	--	--	--	--	--	--	--	--	--	--	7.64	8.36	8.39
Metals																	
Antimony	mg/kg	--	2 U	2.1 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 UJ	2 U	2 U
Arsenic	mg/kg	4.4	--	7.6	3.6	7.2	6.1	6.6	5.2	5.3	9	8.8	8.5	7.1	6.7	5.2	6.2
Barium	mg/kg	--	84	1000	88	130	77	230	120	140	240	270	51	150	200 J	110	230
Beryllium	mg/kg	1 U	--	2.1 U	1 U	2 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	5 U	2 U	2 U
Cadmium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.41 U	--	0.42 U	0.4 U	0.4 U	0.41 U	0.41 U	0.4 U	0.4 U	0.62	0.41 U	0.41 U	0.41 U	--	0.4 U	0.41 U
Chromium, total	mg/kg	18	--	24	13	19	16	13	15	19	29	27	19	24	27	17	21
Cobalt	mg/kg	8.7	--	8.4	3.2	6.7	6.7	6.2	5.1	6	6.8	8.5	6.8	7.7	8.1	3.6	6.5
Copper	mg/kg	--	9.6	9.8	9.4	8.9	7.6	7	8.1	15	17	15	9.5	11	16	7	15
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	--	3.1	3.1	5.6	6	3	3	7.1	5.9	16	5.7	3.7	3	25	8.2	22
Mercury	mg/kg	0.1 U	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	--	1.6	2.5	1.1	2 U	1 U	1 U	1 U	1 U	2 U	2 U	1.1	1.4	5 U	2 U	2 U
Nickel	mg/kg	14	--	19	7.8	14	13	11	11	14	17	19	14	19	20	8.9	15
Selenium	mg/kg	--	3.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	--	2.1 U	1 U	2 U	1 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	5 U	2 U	2 U
Thallium	mg/kg	--	2 U	4.1 U	2 U	4 U	2 U	2 U	2 U	2 U	4 U	4.1 U	2 U	2.1 U	10 U	4 U	4.1 U
Vanadium	mg/kg	34	--	37	13	29	29	29	21	26	27	38	32	30	41	33	37
Zinc	mg/kg	53	--	62	54	48	42	40	42	53	73	57	46	48	71	28	72
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	11000	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	27000	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	26000	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	440	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2400	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	180	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-5	AOC11a-5	AOC11a-5	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-2	AOC11a-SS-2	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11b-1	AOC11b-1	AOC11b-1
	SAMPLE	AOC11a-5-6020	AOC11a-5-6021	AOC11a-5-6022	AOC11a-SS-1-6055	AOC11a-SS-1-6056	AOC11a-SS-1-6057	AOC11a-SS-1-6058	AOC11a-SS-2-6059	AOC11a-SS-2-6060	AOC11a-SS-3-6063	AOC11a-SS-3-6064	AOC11a-SS-3-6065	AOC11a-SS-3-6066	AOC11b-1-6023	AOC11b-1-6025	AOC11b-1-6026
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/17/2008	9/17/2008	9/17/2008
	SAMPLE TOP DEPTH (FT)	5	5	9	0	2	5	9	0	2	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE		Field Duplicate														
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5 U	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	50 U	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	33 U	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
Acenaphthene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
Anthracene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
B(a)P Equivalent	ug/kg	5.9 U	--	5.9 U	5.8	5.8 U	5.9 U	5.9 U	6.1	5.8 U	60	5.9 U	5.9 U	5.9 U	97	150	45
Benzo (a) anthracene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	25	5.1 U	5.1 U	5.1 U	--	80	21
Benzo (a) pyrene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	37	5.1 U	5.1 U	5.1 U	65	110	31
Benzo (b) fluoranthene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5.3	5 U	59	5.1 U	5.1 U	5.1 U	98	150	44
Benzo (ghi) perylene	ug/kg	5.1 U	--	5.1 U	6.9	5 U	5.1 U	5.1 U	5.4	5 U	36	5.1 U	5.1 U	5.1 U	52	74	19
Benzo (k) fluoranthene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	43	5.1 U	5.1 U	5.1 U	41	67	21
Chrysene	ug/kg	5.1 U	--	5.1 U	6.7	5 U	5.1 U	5.1 U	5 U	5 U	59	5.1 U	5.1 U	5.1 U	88	130	38
Dibenzo (a,h) anthracene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	11	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1
Fluoranthene	ug/kg	5.1 U	--	5.1 U	6.6	5 U	5.1 U	5.1 U	5.9	5 U	89	5.1 U	5.1 U	5.1 U	120	190	56
Fluorene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	25 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	30	5.1 U	5.1 U	5.1 U	49	75	19
Naphthalene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5.1 U	25 U	5.6 U	5.1 U
PAH High molecular weight	ug/kg	0	--	0	25.9	0	0	0	16.6	0	467	0	0	0	667	1060	307
PAH Low molecular weight	ug/kg	0	--	0	0	0	0	0	0	0	26	0	0	0	30	45	14

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-5	AOC11a-5	AOC11a-5	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-2	AOC11a-SS-2	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11b-1	AOC11b-1	AOC11b-1
	SAMPLE	AOC11a-5-6020	AOC11a-5-6021	AOC11a-5-6022	AOC11a-SS-1-6055	AOC11a-SS-1-6056	AOC11a-SS-1-6057	AOC11a-SS-1-6058	AOC11a-SS-2-6059	AOC11a-SS-2-6060	AOC11a-SS-3-6063	AOC11a-SS-3-6064	AOC11a-SS-3-6065	AOC11a-SS-3-6066	AOC11b-1-6023	AOC11b-1-6025	AOC11b-1-6026
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/17/2008	9/17/2008	9/17/2008
	SAMPLE TOP DEPTH (FT)	5	5	9	0	2	5	9	0	2	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE		Field Duplicate														
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.1 U	--	5.1 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	26	5.1 U	5.1 U	5.1 U	30	45	14
Pyrene	ug/kg	5.1 U	--	5.1 U	5.7	5 U	5.1 U	5.1 U	5 U	5 U	78	5.1 U	5.1 U	5.1 U	110	180	53
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
2-Chloro naphthalene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2-Chlorophenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2-Methylphenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2-Nitroaniline	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
2-Nitrophenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
2,4-Dichlorophenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2,4-Dimethylphenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2,4-Dinitrophenol	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
2,4-Dinitrotoluene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
2,6-Dinitrotoluene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
3-Nitroaniline	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
3,3-Dichlorobenzidene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Bromophenyl phenyl ether	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Chloro-3-methylphenol	ug/kg	680 U	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U
4-Chloroaniline	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Methylphenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Nitroaniline	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
4-Nitrophenol	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	4100 U	4200 U	4200 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 U	--	--
Benzoic acid	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	4100 U	4200 U	4200 U
Benzyl alcohol	ug/kg	680 U	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U
bis (2-chloroethoxy) methane	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Butylbenzylphthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	830 U	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	830 U	--	--
Di-n-butyl phthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Di-n-octyl phthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Dibenzofuran	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Diethyl phthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Dimethyl phthalate	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Hexachlorobenzene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Hexachloroethane	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
N-nitrosodiphenylamine	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Pentachlorophenol	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
Phenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	--	--	--	--	--	--	--	--	--	--	--	--	101 U	10 U	10 U
TPH as gasoline	mg/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	1.2 U	1.3 U
TPH as motor oil	mg/kg	11.3 J	--	--	--	--	--	--	--	--	--	--	--	--	101 U	10 U	16
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-5	AOC11a-5	AOC11a-5	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-2	AOC11a-SS-2	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11b-1	AOC11b-1	AOC11b-1
	SAMPLE	AOC11a-5-6020	AOC11a-5-6021	AOC11a-5-6022	AOC11a-SS-1-6055	AOC11a-SS-1-6056	AOC11a-SS-1-6057	AOC11a-SS-1-6058	AOC11a-SS-2-6059	AOC11a-SS-2-6060	AOC11a-SS-3-6063	AOC11a-SS-3-6064	AOC11a-SS-3-6065	AOC11a-SS-3-6066	AOC11b-1-6023	AOC11b-1-6025	AOC11b-1-6026
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/17/2008	9/17/2008	9/17/2008
	SAMPLE TOP DEPTH (FT)	5	5	9	0	2	5	9	0	2	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE		Field Duplicate														
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1-Dichloropropene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1,1-Trichloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1,1,2-Tetrachloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1,2-Trichloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,1,2,2-Tetrachloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2-Dibromo-3-chloropropane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2-Dibromoethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2-Dichlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	5.6 U	7.1 U
1,2-Dichloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2-Dichloropropane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2,3-Trichlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2,3-Trichloropropane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,2,4-Trichlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	5.6 U	7.1 U
1,2,4-Trimethylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,3-Dichlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	5.6 U	7.1 U
1,3-Dichloropropane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,3,5-Trimethylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
1,4-Dichlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	5.6 U	7.1 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	830 U	--	--
2-Chlorotoluene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	56 U	--
2,2-Dichloropropane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
2,4,5-Trichlorophenol	ug/kg	1600 U	--	--	--	--	--	--	--	--	--	--	--	--	4000 U	4000 U	4100 U
2,4,6-Trichlorophenol	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
4-Isopropyltoluene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	56 U	71 U
Acrolein	ug/kg	130 U	--	--	--	--	--	--	--	--	--	--	--	--	--	110 U	140 U
Acrylonitrile	ug/kg	66 U	--	--	--	--	--	--	--	--	--	--	--	--	--	56 U	71 U
Benzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
bis (2-chloroethyl) ether	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Bromobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Bromochloromethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Bromodichloromethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Bromoform	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Bromomethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Carbon disulfide	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Carbon tetrachloride	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Chloro methane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Chlorobenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Chloroethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Chloroform	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
cis-1,2-Dichloroethene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
cis-1,3-Dichloropropene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	--
Dibromochloromethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Dibromomethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Dichlorodifluoromethane	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Ethyl- benzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Hexachlorobutadiene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	5.6 U	7.1 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11a-5	AOC11a-5	AOC11a-5	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-1	AOC11a-SS-2	AOC11a-SS-2	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11a-SS-3	AOC11b-1	AOC11b-1	AOC11b-1
	SAMPLE	AOC11a-5-6020	AOC11a-5-6021	AOC11a-5-6022	AOC11a-SS-1-6055	AOC11a-SS-1-6056	AOC11a-SS-1-6057	AOC11a-SS-1-6058	AOC11a-SS-2-6059	AOC11a-SS-2-6060	AOC11a-SS-3-6063	AOC11a-SS-3-6064	AOC11a-SS-3-6065	AOC11a-SS-3-6066	AOC11b-1-6023	AOC11b-1-6025	AOC11b-1-6026
	DATE	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/21/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/17/2008	9/17/2008	9/17/2008
SAMPLE TOP DEPTH (FT)		5	5	9	0	2	5	9	0	2	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	6	10	0.5	3	6	10	0.5	3	0.5	3	6	10	0.5	3	6
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
Isophorone	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
Isopropylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	--
Methyl ethyl ketone	ug/kg	66 U	--	--	--	--	--	--	--	--	--	--	--	--	--	56 U	71 U
Methyl isobutyl ketone	ug/kg	66 U	--	--	--	--	--	--	--	--	--	--	--	--	--	56 U	71 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	--
Methylene chloride	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
N-Butylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
N-Propylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Nitrobenzene	ug/kg	340 U	--	--	--	--	--	--	--	--	--	--	--	--	830 U	830 U	850 U
p-Chlorotoluene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
sec-Butylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Styrene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
tert-Butylbenzene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Tetrachloroethene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Toluene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
trans-1,2-Dichloroethene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
trans-1,3-Dichloropropene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Trichloroethene	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Vinyl chloride	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Xylene, m,p-	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Xylene, o-	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U
Xylenes, total	ug/kg	6.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 U	7.1 U

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11b-1	AOC11b-1	AOC11b-2	AOC11b-2	AOC11b-2	AOC11b-2	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-3
	SAMPLE	AOC11b-1-6027	AOC11b-1-6024	AOC11b-2-6028	AOC11b-2-6029	AOC11b-2-6030	AOC11b-2-6031	AOC11c-1-6032	AOC11c-1-6034	AOC11c-1-6035	AOC11c-1-6033	AOC11c-1-6036	AOC11c-2-6037	AOC11c-2-6038	AOC11c-2-6039	AOC11c-2-6040	AOC11c-3-6139
	DATE	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	2/3/2016
SAMPLE TOP DEPTH (FT)		9	0	0	2	5	9	0	2	5	2	9	0	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	SAMPLE TYPE		Field Duplicate						Field Duplicate								
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	--	--	7.88	8.24	8.13	--	8.74	8.03	7.9	--	--	8.56	7.92	7.99	--	--
Metals																	
Antimony	mg/kg	2.1 U	--	2 U	2 U	2 U	2 U	2 U	--	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2.1 U
Arsenic	mg/kg	6	--	4.8	13	10	9	4.8	--	7.7	7.9	5.3	5.1	7.6	6.6	6.3	4.3
Barium	mg/kg	250	--	190	270	150	330	120	--	200	220	140	170	220	190	160	38
Beryllium	mg/kg	2.1 U	--	2 U	5.1 U	5.1 U	5.1 U	2 U	--	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	1.1 U
Cadmium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	0.04	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.41 U	0.55	0.65	0.41 U	0.41 U	0.41 U	0.4 U	--	2	2	3.3	0.74	2.7	1.3	2.1	0.67 J
Chromium, total	mg/kg	20	--	21	32	24	--	26	--	64	64	130	26	81	56	70	18
Cobalt	mg/kg	5.7	--	5.6	9.1	8.3	8.3	4.8	--	7.4	6.5	5.8	5.7	6.8	6	6.2	7.7
Copper	mg/kg	13	--	13	15	14	15	9.7	--	20	20	17	12	21	16	16	8.4
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	0.016 J	--	--	--	--	--
Lead	mg/kg	13	--	45	7.6	5.9	8.2	30	--	24	26	11	11	28	18	10	2.2
Mercury	mg/kg	0.1 UJ	--	0.1 U	0.1 U	0.1 U	0.1 UJ	0.098 U	--	0.1 U	0.11 U	0.1 UJ	0.1 U	0.11 U	0.11 U	0.1 UJ	0.1 U
Molybdenum	mg/kg	2.1 U	--	2 U	5.1 U	5.1 U	5.1 U	2.7	2.3	2.1 U	--	2 U	2 U	2.7	2.1 U	2 U	1.1 U
Nickel	mg/kg	15	--	13	20	18	18	9.8	--	18	16	13	12	16	14	14	15
Selenium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U
Silver	mg/kg	2.1 U	--	2 U	5.1 U	5.1 U	5.1 U	2 U	--	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	1.1 U
Thallium	mg/kg	4.1 U	--	4 U	10 U	10 U	10 U	4 U	--	4.1 U	4.1 U	4.1 U	4 U	4.3 U	4.2 U	4 U	2.1 U
Vanadium	mg/kg	33	--	30	43	40	40	19	--	35	32	24	23	32	27	27	33
Zinc	mg/kg	65	--	76	74	75	86	47	--	110	110	62	52	130	93	70	42
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	9000	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	33000	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	13000	--	--	--	--
Magnesium	mg/kg	--	8300	--	--	--	--	--	--	--	--	--	8400	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	300	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	2500	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	430	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11b-1	AOC11b-1	AOC11b-2	AOC11b-2	AOC11b-2	AOC11b-2	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-3
	SAMPLE	AOC11b-1-6027	AOC11b-1-6024	AOC11b-2-6028	AOC11b-2-6029	AOC11b-2-6030	AOC11b-2-6031	AOC11c-1-6032	AOC11c-1-6034	AOC11c-1-6035	AOC11c-1-6033	AOC11c-1-6036	AOC11c-2-6037	AOC11c-2-6038	AOC11c-2-6039	AOC11c-2-6040	AOC11c-3-6139
	DATE	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	2/3/2016
	SAMPLE TOP DEPTH (FT)	9	0	0	2	5	9	0	2	5	2	9	0	2	5	9	14
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	SAMPLE TYPE		Field Duplicate						Field Duplicate								
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	2.1 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2 U	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	1.1 U
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	5 U	--	--	--	5.3 U
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	50 U	--	--	--	53 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	17 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	33 U	35 UJ	--	--	35 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	17 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	17 U
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	17 U
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	29	190 J	--	--	17 U
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	18 UJ	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	37.5	199	--	--	17 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
2-Methyl naphthalene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
Acenaphthene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
Acenaphthylene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
Anthracene	ug/kg	5.1 U	--	12	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	7.3	5.1 U	5.3 U
B(a)P Equivalent	ug/kg	80	--	520	26	5.9 U	5.9 U	50	--	71	110	5.9 U	28	170	140	35	21
Benzo (a) anthracene	ug/kg	56	50	290	14	5.1 U	5.1 U	27	--	31	52	5.1 U	14	75	77	17	5.3 U
Benzo (a) pyrene	ug/kg	54	--	360	18	5.1 U	5.1 U	35	--	46	68	5.1 U	20	110	89	23	5.3 U
Benzo (b) fluoranthene	ug/kg	52	--	530	24	5.1 U	5.1 U	36	--	49	66	5.1 U	21	99	82	23	5.3 U
Benzo (ghi) perylene	ug/kg	34	--	170	13	5.1 U	5.1 U	21	--	46	60	5.1 U	13	98	73	20	15
Benzo (k) fluoranthene	ug/kg	57	--	140	10	5.1 U	5.1 U	32	--	54	73	5.1 U	18	140	120 J	30	5.3 U
Chrysene	ug/kg	67	--	430	21	5.1 U	5.1 U	45	--	60	90	5.1 U	26	140	120	31	5.3 U
Dibenzo (a,h) anthracene	ug/kg	11	--	56	5.1 U	5.1 U	5.1 U	6.7	--	12	19	5.1 U	5 U	28	24	5.7	16
Fluoranthene	ug/kg	100	--	860	34	5.1 U	5.1 U	67	--	78	400	5.1 U	37	180	170	40	5.3 U
Fluorene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	33	--	180	13	5.1 U	5.1 U	21	--	44	58	5.1 U	13	95	69	18	18
Naphthalene	ug/kg	5.1 U	--	5 U	5.1 U	5.1 U	5.1 U	5 U	--	5.2 U	5.2 U	5.1 U	5 U	5.4 U	5.2 U	5.1 U	5.3 U
PAH High molecular weight	ug/kg	558	--	3680	177	0	0	352	--	494	1260	0	196	1140	984	245	49
PAH Low molecular weight	ug/kg	25	--	192	9.5	0	0	25	--	24	48	0	15	61	78.3	12	0

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11b-1	AOC11b-1	AOC11b-2	AOC11b-2	AOC11b-2	AOC11b-2	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-3
	SAMPLE	AOC11b-1-6027	AOC11b-1-6024	AOC11b-2-6028	AOC11b-2-6029	AOC11b-2-6030	AOC11b-2-6031	AOC11c-1-6032	AOC11c-1-6034	AOC11c-1-6035	AOC11c-1-6033	AOC11c-1-6036	AOC11c-2-6037	AOC11c-2-6038	AOC11c-2-6039	AOC11c-2-6040	AOC11c-3-6139
	DATE	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	2/3/2016
	SAMPLE TOP DEPTH (FT)	9	0	0	2	5	9	0	2	5	2	9	0	2	5	9	14
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	SAMPLE TYPE		Field Duplicate						Field Duplicate								
ANALYTE	UNITS																
Phenanthrene	ug/kg	25	--	180	9.5	5.1 U	5.1 U	25	--	24	48	5.1 U	15	61	71	12	5.3 U
Pyrene	ug/kg	94	--	660	30	5.1 U	5.1 U	61	--	74	370	5.1 U	34	170	160	37	5.3 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2-Chlorophenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2-Methylphenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2-Nitroaniline	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
2-Nitrophenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2,4-Dimethylphenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2,4-Dinitrophenol	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
2,4-Dinitrotoluene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
2,6-Dinitrotoluene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
3-Nitroaniline	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	1700 U	670 U	680 U	--	660 U	680 U	690 U	--	--	660 U	710 U	690 U	--	--
4-Chloroaniline	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Methylphenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Nitroaniline	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
4-Nitrophenol	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	4200 U	1700 U	1700 U	--	1700 U	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
Benzoic acid	ug/kg	--	--	4200 U	1700 U	1700 U	--	1700 U	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	--	--
Benzyl alcohol	ug/kg	--	--	1700 U	670 U	680 U	--	660 U	680 U	690 U	--	--	660 U	710 U	690 U	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Butylbenzylphthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	330 U	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	330 U	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Di-n-octyl phthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Dibenzofuran	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Diethyl phthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Dimethyl phthalate	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Hexachlorobenzene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Hexachloroethane	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
N-nitrosodiphenylamine	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Pentachlorophenol	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
Phenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	101 U	10 U	10 U	--	10 U	78 J	10 U	--	--	10 U	10	10 U	--	--
TPH as gasoline	mg/kg	--	--	--	1.4 U	1.3 U	--	--	2.4 UJ	1.5 UJ	--	--	--	2.3 UJ	1.5 UJ	--	--
TPH as motor oil	mg/kg	--	--	101 U	10 U	10 U	--	10 U	71.2	76.5	--	--	10 U	79.2	43.1	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11b-1	AOC11b-1	AOC11b-2	AOC11b-2	AOC11b-2	AOC11b-2	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-2	AOC11C-3
	SAMPLE	AOC11b-1-6027	AOC11b-1-6024	AOC11b-2-6028	AOC11b-2-6029	AOC11b-2-6030	AOC11b-2-6031	AOC11c-1-6032	AOC11c-1-6034	AOC11c-1-6035	AOC11c-1-6033	AOC11c-1-6036	AOC11c-2-6037	AOC11c-2-6038	AOC11c-2-6039	AOC11c-2-6040	AOC11c-3-6139
	DATE	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	2/3/2016
	SAMPLE TOP DEPTH (FT)	9	0	0	2	5	9	0	2	5	2	9	0	2	5	9	14
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	SAMPLE TYPE		Field Duplicate						Field Duplicate								
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1-Dichloropropene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2-Dibromoethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2-Dichlorobenzene	ug/kg	--	--	830 U	6.2 U	5.6 U	--	330 U	12 UJ	6.9 UJ	--	--	330 U	16 UJ	6.9 UJ	--	--
1,2-Dichloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2-Dichloropropane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	830 U	6.2 U	5.6 U	--	330 U	12 UJ	6.9 UJ	--	--	330 U	16 UJ	6.9 UJ	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,3-Dichlorobenzene	ug/kg	--	--	830 U	6.2 U	5.6 U	--	330 U	12 UJ	6.9 UJ	--	--	330 U	16 UJ	6.9 UJ	--	--
1,3-Dichloropropane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
1,4-Dichlorobenzene	ug/kg	--	--	830 U	6.2 U	5.6 U	--	330 U	12 UJ	6.9 UJ	--	--	330 U	16 UJ	6.9 UJ	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	330 U	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	160 UJ	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	4000 U	1600 U	1600 U	--	1600 U	--	1700 U	1700 U	--	1600 U	1700 U	1700 U	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
4-Isopropyltoluene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	120 U	110 U	--	--	230 UJ	140 UJ	--	--	--	320 UJ	140 UJ	--	--
Acrylonitrile	ug/kg	--	--	--	62 U	56 U	--	--	120 UJ	69 UJ	--	--	--	160 UJ	69 UJ	--	--
Benzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Bromobenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Bromochloromethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Bromodichloromethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Bromoform	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Bromomethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Carbon disulfide	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Carbon tetrachloride	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Chloro methane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Chlorobenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Chloroethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Chloroform	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	16 UJ	--	--	--
Dibromochloromethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Dibromomethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Ethyl- benzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Hexachlorobutadiene	ug/kg	--	--	830 U	6.2 U	5.6 U	--	330 U	12 UJ	6.9 UJ	--	--	330 U	16 UJ	6.9 UJ	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	660 U	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11b-1	AOC11b-1	AOC11b-2	AOC11b-2	AOC11b-2	AOC11b-2	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-1	AOC11c-2	AOC11c-2	AOC11c-2	AOC11c-2	AOC11C-3
	SAMPLE	AOC11b-1-6027	AOC11b-1-6024	AOC11b-2-6028	AOC11b-2-6029	AOC11b-2-6030	AOC11b-2-6031	AOC11c-1-6032	AOC11c-1-6034	AOC11c-1-6035	AOC11c-1-6033	AOC11c-1-6036	AOC11c-2-6037	AOC11c-2-6038	AOC11c-2-6039	AOC11c-2-6040	AOC11c-3-6139
	DATE	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/17/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/21/2008	9/22/2008	9/22/2008	9/22/2008	2/3/2016
	SAMPLE TOP DEPTH (FT)	9	0	0	2	5	9	0	2	5	2	9	0	2	5	9	14
	SAMPLE BOTTOM DEPTH (FT)	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	0.5	3	6	10	0.5	3	6	3	10	0.5	3	6	10	15
	SAMPLE TYPE		Field Duplicate						Field Duplicate								
ANALYTE	UNITS																
Isophorone	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
Isopropylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	16 UJ	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	62 U	56 U	--	--	120 UJ	69 UJ	--	--	--	160 UJ	69 UJ	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	62 U	56 U	--	--	120 UJ	69 UJ	--	--	--	160 UJ	69 UJ	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	16 UJ	--	--	--
Methylene chloride	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
N-Butylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
N-Propylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Nitrobenzene	ug/kg	--	--	830 U	340 U	340 U	--	330 U	--	340 U	340 U	--	330 U	350 U	340 U	--	--
p-Chlorotoluene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
sec-Butylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Styrene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
tert-Butylbenzene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Tetrachloroethene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Toluene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Trichloroethene	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Vinyl chloride	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Xylene, m,p-	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Xylene, o-	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--
Xylenes, total	ug/kg	--	--	--	6.2 U	5.6 U	--	--	12 UJ	6.9 UJ	--	--	--	16 UJ	6.9 UJ	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-3	AOC11c-3	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-2	AOC11c-SS-2	AOC11c-SS-2
	SAMPLE	AOC11c-3-6140	AOC11c-3-6141	AOC11c-4-6146	AOC11c-4-6147	AOC11c-4-6148	AOC11c-4-6149	AOC11c-4-6151	AOC11c-4-6152	AOC11c-4-6150	AOC11c-SS-1-6067	AOC11c-SS-1-6068	AOC11c-SS-1-6069	AOC11c-SS-1-6070	AOC11c-SS-2-6071	AOC11c-SS-2-6072	AOC11c-SS-2-6073
	DATE	2/3/2016	2/3/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	2/2/2016	2/2/2016	1/28/2016	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008
SAMPLE TOP DEPTH (FT)		19	29	0	2	5	9	14	19	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		20	30	1	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	0.5	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	520 J	22 J	26 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	56 J	2.4 J	3.8 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	4.1 J	0.15 UJ	0.26 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	2.5 UJ	0.19 UJ	0.22 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	4.6 J	0.28 UJ	0.13 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	15 J	0.15 UJ	0.19 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	1.7 UJ	0.18 UJ	0.34 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	2 J	0.16 UJ	0.14 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	1.3 J	0.28 UJ	0.14 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	6.4 J	0.14 UJ	0.4 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	0.38 UJ	0.22 UJ	0.26 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	110 UJ	5.7 UJ	20 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	1 UJ	0.24 UJ	0.15 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	0.19 UJ	0.12 UJ	0.031 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	0.81 J	0.19 UJ	0.14 UJ	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	4800 J	510 J	230 J	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	180 J	3.7 J	3.1 J	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	12	0.79	1.4	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	18	0.93	1.6	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	18	0.93	1.6	--	--	--	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2 U	2.1 UJ	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	4.3	2.9	3.6	3.6	3.5	3.3	2.4	3.4	--	3.6	4.3	6.9	5.8	3.5	3.6	3.6
Barium	mg/kg	53	53	89 J	58	39	70 J	240	270	--	75	91	160	110	71	77	100
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	2 U	2 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.21 UJ	0.2 UJ	0.38	0.2 U	0.2 U	0.2 U	0.25	0.2 U	--	0.4 U	0.4 U	1.1	0.41 U	0.4 U	0.4 U	7.8
Chromium, total	mg/kg	17	27	16	12	13	18	21	17	--	12	16	37	19	14	16	32
Cobalt	mg/kg	8.1	10	5.4	6.2	7.4	8.4	7.8	6.8	--	3.3	4.4	6.1	5.9	3.4	3.9	4.2
Copper	mg/kg	9.7	14	7.4	9.2	8.9	8.4	7.8	8.1	--	5.2	11	13	6.2	4.9	4.9	11
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	1.6	1 U	3.1	1.8	2.5	1.7	1 U	1.1	--	6.8	5.5	11	5	8	6.5	8.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	2.9	2 U	1 U	1 U	1 U
Nickel	mg/kg	12	19	11	10	12	13	12	10	--	6.8	8.6	14	12	6.6	7.5	9.2
Selenium	mg/kg	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	2 U	2 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	4.1 U	4.1 U	2 U	2 U	2 U
Vanadium	mg/kg	36	42	21	29	35	36	32	30	--	14	17	25	21	14	16	18
Zinc	mg/kg	42	39	31	34	62	67	38	37	--	23	30	57	31	25	30	54
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-3	AOC11c-3	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-2	AOC11c-SS-2	AOC11c-SS-2
	SAMPLE	AOC11c-3-6140	AOC11c-3-6141	AOC11c-4-6146	AOC11c-4-6147	AOC11c-4-6148	AOC11c-4-6149	AOC11c-4-6151	AOC11c-4-6152	AOC11c-4-6150	AOC11c-SS-1-6067	AOC11c-SS-1-6068	AOC11c-SS-1-6069	AOC11c-SS-1-6070	AOC11c-SS-2-6071	AOC11c-SS-2-6072	AOC11c-SS-2-6073
	DATE	2/3/2016	2/3/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	2/2/2016	2/2/2016	1/28/2016	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008
	SAMPLE TOP DEPTH (FT)	19	29	0	2	5	9	14	19	9	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	20	30	1	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	20	30	0.5	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	52 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	34 U	34 U	34 U	34 U	34 U	--	34 U	34 U	33 U	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
2-Methyl naphthalene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
Acenaphthene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
Acenaphthylene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
Anthracene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
B(a)P Equivalent	ug/kg	6 U	5.9 U	6.4	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	--	5.8	5.8	5.9	5.9 U	11	61	29
Benzo (a) anthracene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	34	9
Benzo (a) pyrene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	6.9	41	18
Benzo (b) fluoranthene	ug/kg	5.2 U	5.1 U	6.9	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	7.3	40	16
Benzo (ghi) perylene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5	5 U	5.1 U	5.1 U	6.3	31	17
Benzo (k) fluoranthene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	8.3	48	21
Chrysene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	8.6	51	16
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	9.1	7
Fluoranthene	ug/kg	5.2 U	5.1 U	5.5	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1	6	5.7	5.1 U	12	69	18
Fluorene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5.3	29	17
Naphthalene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U
PAH High molecular weight	ug/kg	0	0	17.9	0	0	0	0	0	--	15.4	12	11	0	65.7	418	155
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	--	0	0	0	0	0	25	8.2

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-3	AOC11c-3	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-2	AOC11c-SS-2	AOC11c-SS-2
	SAMPLE	AOC11c-3-6140	AOC11c-3-6141	AOC11c-4-6146	AOC11c-4-6147	AOC11c-4-6148	AOC11c-4-6149	AOC11c-4-6151	AOC11c-4-6152	AOC11c-4-6150	AOC11c-SS-1-6067	AOC11c-SS-1-6068	AOC11c-SS-1-6069	AOC11c-SS-1-6070	AOC11c-SS-2-6071	AOC11c-SS-2-6072	AOC11c-SS-2-6073
	DATE	2/3/2016	2/3/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	2/2/2016	2/2/2016	1/28/2016	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008
	SAMPLE TOP DEPTH (FT)	19	29	0	2	5	9	14	19	9	0	2	5	9	0	2	5
	SAMPLE BOTTOM DEPTH (FT)	20	30	1	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	20	30	0.5	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5.1 U	5.1 U	5 U	25	8.2
Pyrene	ug/kg	5.2 U	5.1 U	5.5	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.3	6	5.3	5.1 U	11	66	16
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-3	AOC11c-3	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-2	AOC11c-SS-2	AOC11c-SS-2
	SAMPLE	AOC11c-3-6140	AOC11c-3-6141	AOC11c-4-6146	AOC11c-4-6147	AOC11c-4-6148	AOC11c-4-6149	AOC11c-4-6151	AOC11c-4-6152	AOC11c-4-6150	AOC11c-SS-1-6067	AOC11c-SS-1-6068	AOC11c-SS-1-6069	AOC11c-SS-1-6070	AOC11c-SS-2-6071	AOC11c-SS-2-6072	AOC11c-SS-2-6073
	DATE	2/3/2016	2/3/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	2/2/2016	2/2/2016	1/28/2016	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008
SAMPLE TOP DEPTH (FT)		19	29	0	2	5	9	14	19	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		20	30	1	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	0.5	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE										Field Duplicate							
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-3	AOC11c-3	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-4	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-1	AOC11c-SS-2	AOC11c-SS-2	AOC11c-SS-2
	SAMPLE	AOC11c-3-6140	AOC11c-3-6141	AOC11c-4-6146	AOC11c-4-6147	AOC11c-4-6148	AOC11c-4-6149	AOC11c-4-6151	AOC11c-4-6152	AOC11c-4-6150	AOC11c-SS-1-6067	AOC11c-SS-1-6068	AOC11c-SS-1-6069	AOC11c-SS-1-6070	AOC11c-SS-2-6071	AOC11c-SS-2-6072	AOC11c-SS-2-6073
	DATE	2/3/2016	2/3/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	2/2/2016	2/2/2016	1/28/2016	9/21/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008
SAMPLE TOP DEPTH (FT)		19	29	0	2	5	9	14	19	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		20	30	1	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	0.5	3	6	10	15	20	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE										Field Duplicate							
ANALYTE	UNITS																
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-SS-2	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-3
	SAMPLE	AOC11c-SS-2-6074	AOC11d-1-6041	AOC11d-1-6043	AOC11d-1-6044	AOC11d-1-6042	AOC11d-1-6045	AOC11e-1-6046	AOC11e-1-6047	AOC11e-1-6048	AOC11e-1-6049	AOC11e-2-6050	AOC11e-2-6051	AOC11e-2-6053	AOC11e-2-6054	AOC11e-2-6052	AOC11e-3-6153
	DATE	9/22/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	1/8/2016
SAMPLE TOP DEPTH (FT)	9	0	2.5	5	0	9	2.5	0	2.5	5.5	9.5	0	2.5	5	9	2	0
SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	1	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	0.5	
	SAMPLE TYPE					Field Duplicate										Field Duplicate	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	180 J	20 J	8.8 J	--	--	--	--	--	--	--	--	--	--	--	240 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	15 J	2.9 J	1.2 J	--	--	--	--	--	--	--	--	--	--	--	21 J
1,2,3,4,7,8-HxCDD	ng/kg	--	3.1 J	0.25 UJ	0.11 UJ	--	--	--	--	--	--	--	--	--	--	--	2.4 UJ
1,2,3,4,7,8-HxCDF	ng/kg	--	1 UJ	0.11 UJ	0.059 UJ	--	--	--	--	--	--	--	--	--	--	--	1.4 UJ
1,2,3,4,7,8,9-HpCDF	ng/kg	--	1.2 J	0.22 UJ	0.25 UJ	--	--	--	--	--	--	--	--	--	--	--	2 J
1,2,3,6,7,8-HxCDD	ng/kg	--	6.6 J	0.64 J	0.33 UJ	--	--	--	--	--	--	--	--	--	--	--	7.8 J
1,2,3,6,7,8-HxCDF	ng/kg	--	1.4 J	0.11 UJ	0.13 UJ	--	--	--	--	--	--	--	--	--	--	--	1.9 UJ
1,2,3,7,8-PeCDD	ng/kg	--	1.8 J	0.1 UJ	0.13 UJ	--	--	--	--	--	--	--	--	--	--	--	1.6 UJ
1,2,3,7,8-PeCDF	ng/kg	--	0.44 J	0.059 UJ	0.056 UJ	--	--	--	--	--	--	--	--	--	--	--	0.87 UJ
1,2,3,7,8,9-HxCDD	ng/kg	--	4.8 J	0.53 UJ	0.4 J	--	--	--	--	--	--	--	--	--	--	--	5 J
1,2,3,7,8,9-HxCDF	ng/kg	--	0.27 UJ	0.13 UJ	0.069 UJ	--	--	--	--	--	--	--	--	--	--	--	0.79 UJ
2,3,4,6,7,8-HxCDF	ng/kg	--	19 UJ	2.5 UJ	1.3 UJ	--	--	--	--	--	--	--	--	--	--	--	31 UJ
2,3,4,7,8-PeCDF	ng/kg	--	0.73 J	0.062 UJ	0.099 UJ	--	--	--	--	--	--	--	--	--	--	--	1.5 J
2,3,7,8-TCDD	ng/kg	--	0.078 UJ	0.047 UJ	0.032 UJ	--	--	--	--	--	--	--	--	--	--	--	0.43 UJ
2,3,7,8-TCDF	ng/kg	--	0.42 UJ	0.11 UJ	0.036 UJ	--	--	--	--	--	--	--	--	--	--	--	0.31 UJ
OCDD	ng/kg	--	1800 J	210 J	81 J	--	--	--	--	--	--	--	--	--	--	--	1800 J
OCDF	ng/kg	--	38 J	4.7 J	2.2 J	--	--	--	--	--	--	--	--	--	--	--	39 J
TEQ Avian	ng/kg	--	5.2	0.42	0.3	--	--	--	--	--	--	--	--	--	--	--	5.8
TEQ Human	ng/kg	--	7.2	0.63	0.36	--	--	--	--	--	--	--	--	--	--	--	7.8
TEQ Mammals	ng/kg	--	7.2	0.63	0.36	--	--	--	--	--	--	--	--	--	--	--	7.8
General																	
pH	PHUNITS	--	8.06	8.7	8.91	--	--	7.94	8.3	7.87	--	8.05	7.72	7.8	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	--	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	--	2 U
Arsenic	mg/kg	3.4	9.5	4.5	5.9	--	8.6	5.8	3.4	4	4.6	4.8	--	3.3	5.2	3.3	3.8
Barium	mg/kg	98	310 J	86	94	--	180	180	110	100	110	140	88	100	100	--	80 J
Beryllium	mg/kg	1 U	--	1 U	2.1 U	2 U	2.1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1 U	--	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.011	--	--	--	--
Chromium, Hexavalent	mg/kg	2.1	0.68	0.41 U	0.42 U	--	0.66	0.96	3.2	0.96	3.2	1.4	3.8	2.3	0.44 U	--	2.3 J
Chromium, total	mg/kg	73	--	24	29	33	28	43	92	48	84	37	130	98	36	--	--
Cobalt	mg/kg	3.4	--	9	8.4	8.6	7.1	5.4	5.8	5.8	4.6	5.1	--	4.7	8.6	3.5	--
Copper	mg/kg	30	--	12	12	20	11	10	41	17	31	12	19	30	19	--	--
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.0044 J	--	--	--	--
Lead	mg/kg	8.6	16	4.8	5	--	9.3	10	9	6.4	13	28	11	9.6	4.6	--	5.9
Mercury	mg/kg	0.1 UJ	0.1 U	0.1 U	0.1 U	--	0.1 UJ	0.098 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.099 U	0.1 U	0.11 UJ	--	0.1 U
Molybdenum	mg/kg	1 U	--	1.2	2.1 U	2 U	2.1 U	2 U	1 U	1 U	1 U	1.1	--	1.3	2.1 U	2.9	1 U
Nickel	mg/kg	7.7	--	17	21	19	16	11	12	12	9.8	11	--	9.3	19	7.3	--
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U
Silver	mg/kg	1 U	--	1 U	2.1 U	2 U	2.1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1 U	--	1 U
Thallium	mg/kg	2.1 U	--	2.1 U	4.1 U	4 U	4.1 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	4.2 U	--	2 U
Vanadium	mg/kg	15	--	32	39	44	31	22	26	28	20	24	--	20	38	15	17
Zinc	mg/kg	290	--	48	52	76	49	54	170	59	140	160	130	150	53	--	--
Metals CLP																	
Aluminum	mg/kg	--	19000 J	--	--	--	--	--	--	--	--	7900	--	--	--	--	--
Calcium	mg/kg	--	43000 J	--	--	--	--	--	--	--	--	23000	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	1 U	--	--	--	--	--	1 U	--	--	--	--	--
Iron	mg/kg	--	--	--	--	23000	--	--	--	--	--	12000	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	12000	--	--	--	--	--	6400	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	400	--	--	--	--	--	220	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	5300	--	--	--	--	--	2300	--	--	--	--	--
Sodium	mg/kg	--	450	--	--	--	--	--	--	--	--	580 U	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-SS-2	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-3
	SAMPLE	AOC11c-SS-2-6074	AOC11d-1-6041	AOC11d-1-6043	AOC11d-1-6044	AOC11d-1-6042	AOC11d-1-6045	AOC11e-1-6046	AOC11e-1-6047	AOC11e-1-6048	AOC11e-1-6049	AOC11e-2-6050	AOC11e-2-6051	AOC11e-2-6053	AOC11e-2-6054	AOC11e-2-6052	AOC11e-3-6153
	DATE	9/22/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	1/8/2016
SAMPLE TOP DEPTH (FT)	9	0	2.5	5	0	9	0	2.5	5.5	9.5	0	2	5	9	2	0	
SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	1	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	0.5	
	SAMPLE TYPE					Field Duplicate										Field Duplicate	
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
4,4-DDE	ug/kg	--	6.1	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U
4,4-DDT	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
Aldrin	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
alpha-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
alpha-Chlordane	ug/kg	--	12 J	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
beta-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
delta-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
Dieldrin	ug/kg	--	6.7	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U
Endo sulfan I	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
Endo sulfan II	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
Endosulfan sulfate	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
Endrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
Endrin aldehyde	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	2 U
Endrin ketone	ug/kg	--	--	--	--	2 U	--	--	--	--	--	2 U	--	--	--	--	--
gamma-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
gamma-Chlordane	ug/kg	--	13 J	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
Heptachlor	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
Heptachlor Epoxide	ug/kg	--	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U
Methoxy chlor	ug/kg	--	--	--	--	5.1 U	--	--	--	--	--	5 U	--	--	--	--	5.1 U
Toxaphene	ug/kg	--	--	--	--	51 U	--	--	--	--	--	50 U	--	--	--	--	51 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U
Aroclor 1221	ug/kg	--	--	34 UJ	--	33 U	--	--	--	--	--	33 U	34 U	34 U	35 U	--	34 U
Aroclor 1232	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U
Aroclor 1242	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U
Aroclor 1248	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U
Aroclor 1254	ug/kg	--	76	17 UJ	--	--	--	--	--	--	--	190	--	18	17 U	26	--
Aroclor 1260	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	240	17 U	17 U	17 U	--	17 U
Aroclor 1262	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	--
Aroclor 1268	ug/kg	--	17 U	17 UJ	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	--
Total PCBs	ug/kg	--	84.5	17 U	--	--	--	--	--	--	--	430	--	26.5	17 U	34.5	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
Acenaphthene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
Acenaphthylene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
Anthracene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
B(a)P Equivalent	ug/kg	5.9	68	5.9 U	6 U	--	6 U	110	24	10	60	480	--	6.2	6.1 U	6.4	62
Benzo (a) anthracene	ug/kg	5.1 U	--	5.1 U	5.2 U	31	5.2 U	47	16	5.5	45	440	5 U	5.1 U	5.3 U	--	51 U
Benzo (a) pyrene	ug/kg	5.1 U	44	5.1 U	5.2 U	--	5.2 U	67	17	6	35	380	5 U	5.1 U	5.3 U	--	51 U
Benzo (b) fluoranthene	ug/kg	5.1 U	46	5.1 U	5.2 U	--	5.2 U	68	18	6.9	49	400	5 U	5.6	5.3 U	--	58
Benzo (ghi) perylene	ug/kg	5.1 U	43	5.1 U	5.2 U	--	5.2 U	61	14	5.4	32	22	5 U	5.1 U	5.3 U	--	51 U
Benzo (k) fluoranthene	ug/kg	5.1 U	61 J	5.1 U	5.2 U	--	5.2 U	85 J	22 J	8.1 J	48	380	5 U	5.1 U	5.3 U	--	51 U
Chrysene	ug/kg	5.1 U	--	5.1 U	5.2 U	65	5.2 U	91	27	9.1	60	530	5 U	5.6	5.3 U	--	51 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	12	5.1 U	5.2 U	--	5.2 U	21	5 U	5.1 U	12	6.4	5 U	5.1 U	5.3 U	--	51 U
Fluoranthene	ug/kg	5.9	--	5.1 U	5.2 U	120	5.2 U	130	50	17	87	1500	--	10	5.3 U	10	--
Fluorene	ug/kg	5.1 U	--	5.1 U	5.2 U	5.1 U	5.2 U	5 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.3 U	--	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	38	5.1 U	5.2 U	--	5.2 U	56	13	5.1 U	30	20	5 U	5.1 U	5.3 U	--	51 U
Naphthalene	ug/kg	5.1 U	--	4.4 U	3.5 U	5.1 U	5.1 U	5 U	5 U	4.6 U	5 U	5	5 U	4.5 U	4 U	--	5.1 U
PAH High molecular weight	ug/kg	5.9	--	0	0	534	0	756	220	73	476	4880	--	29.4	0	21	124
PAH Low molecular weight	ug/kg	0	--	0	0	36	0	56	26	8.6	43	595	--	0	0	6	15

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-SS-2	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-3
	SAMPLE	AOC11c-SS-2-6074	AOC11d-1-6041	AOC11d-1-6043	AOC11d-1-6044	AOC11d-1-6042	AOC11d-1-6045	AOC11e-1-6046	AOC11e-1-6047	AOC11e-1-6048	AOC11e-1-6049	AOC11e-2-6050	AOC11e-2-6051	AOC11e-2-6053	AOC11e-2-6054	AOC11e-2-6052	AOC11e-3-6153
	DATE	9/22/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	1/8/2016
SAMPLE TOP DEPTH (FT)		9	0	2.5	5	0	9	0	2.5	5.5	9.5	0	2	5	9	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	0.5
SAMPLE TYPE						Field Duplicate										Field Duplicate	
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.1 U	--	5.1 U	5.2 U	36	5.2 U	56	26	8.6	43	590	--	5.1 U	5.3 U	6	15 J
Pyrene	ug/kg	5.1 U	--	5.1 U	5.2 U	100	5.2 U	130	43	15	78	1200	--	8.2	5.3 U	11	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2-Chlorophenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2-Methylphenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2-Nitroaniline	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
2-Nitrophenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2,4-Dimethylphenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2,4-Dinitrophenol	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
2,4-Dinitrotoluene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
2,6-Dinitrotoluene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
3-Nitroaniline	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	680 U	680 U	670 U	680 U	660 U	670 U	680 U	680 U	660 U	660 U	670 U	690 U	--	--
4-Chloroaniline	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Methylphenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Nitroaniline	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
4-Nitrophenol	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--
Acetophenone	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	710 U	--	--	--	--	--	700 U	--	--	--	--	--
Benzoic acid	ug/kg	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--
Benzyl alcohol	ug/kg	--	--	680 U	680 U	670 U	680 U	660 U	670 U	680 U	680 U	660 U	660 U	670 U	690 U	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Butylbenzylphthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Caprolactam	ug/kg	--	--	--	--	330 U	--	--	--	--	--	330 U	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	330 U	--	--	--	--	--	330 U	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Di-n-octyl phthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Dibenzofuran	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Diethyl phthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Dimethyl phthalate	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Hexachlorobenzene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Hexachloroethane	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
N-nitrosodiphenylamine	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Pentachlorophenol	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
Phenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	10 U	10 U	10 U	--	10 UJ	10 U	10 U	10 U	10 UJ	13.8	--	15.6	10 UJ	10.1	--
TPH as gasoline	mg/kg	--	--	1 U	0.96 U	--	0.92 U	--	0.99 U	1.1 U	0.93 U	--	0.9 UJ	1 UJ	0.79 U	--	--
TPH as motor oil	mg/kg	--	--	10 U	10 U	15.4	10 UJ	11.7	42.2 J	23.6	17.7 J	166	--	105	10 UJ	544	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-SS-2	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-3
	SAMPLE	AOC11c-SS-2-6074	AOC11d-1-6041	AOC11d-1-6043	AOC11d-1-6044	AOC11d-1-6042	AOC11d-1-6045	AOC11e-1-6046	AOC11e-1-6047	AOC11e-1-6048	AOC11e-1-6049	AOC11e-2-6050	AOC11e-2-6051	AOC11e-2-6053	AOC11e-2-6054	AOC11e-2-6052	AOC11e-3-6153
	DATE	9/22/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	1/8/2016
SAMPLE TOP DEPTH (FT)		9	0	2.5	5	0	9	0	2.5	5.5	9.5	0	2	5	9	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	0.5
SAMPLE TYPE						Field Duplicate										Field Duplicate	
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1-Dichloropropene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1,1-Trichloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1,2-Trichloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2-Dibromoethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2-Dichlorobenzene	ug/kg	--	--	4.4 U	3.5 U	330 U	5.1 U	330 U	5.4 U	4.6 U	5 U	330 U	--	4.5 U	4 U	5 U	--
1,2-Dichloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2-Dichloropropane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2,3-Trichlorobenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2,3-Trichloropropane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,2,4-Trichlorobenzene	ug/kg	--	--	4.4 U	3.5 U	330 U	5.1 U	330 U	5.4 U	4.6 U	5 U	330 U	--	4.5 U	4 U	5 U	--
1,2,4-Trimethylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,3-Dichlorobenzene	ug/kg	--	--	4.4 U	3.5 U	330 U	5.1 U	330 U	5.4 U	4.6 U	5 U	330 U	--	4.5 U	4 U	5 U	--
1,3-Dichloropropane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,3,5-Trimethylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
1,4-Dichlorobenzene	ug/kg	--	--	4.4 U	3.5 U	330 U	5.1 U	330 U	5.4 U	4.6 U	5 U	330 U	--	4.5 U	4 U	5 U	--
1,4-Dioxane	ug/kg	--	--	--	--	330 U	--	--	--	--	--	330 U	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
2-Hexanone	ug/kg	--	--	44 U	--	--	--	--	--	--	--	--	51 U	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
2,4,5-Trichlorophenol	ug/kg	--	--	1600 U	1700 U	1600 U	1700 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1700 U	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
4-Isopropyltoluene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Acetone	ug/kg	--	--	44 U	--	--	--	--	--	--	--	--	51 U	45 U	40 U	--	--
Acrolein	ug/kg	--	--	87 U	70 U	--	100 U	--	110 U	92 U	100 U	--	--	91 U	79 U	99 U	--
Acrylonitrile	ug/kg	--	--	44 U	35 U	--	51 U	--	54 U	46 U	50 U	--	--	45 U	40 U	50 U	--
Benzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
bis (2-chloroethyl) ether	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Bromobenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Bromochloromethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Bromodichloromethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Bromoform	ug/kg	--	--	4.4 UJ	3.5 UJ	--	5.1 UJ	--	5.4 UJ	4.6 UJ	5 UJ	--	--	4.5 UJ	4 UJ	5 U	--
Bromomethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Carbon disulfide	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Carbon tetrachloride	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Chloro methane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Chlorobenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Chloroethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Chloroform	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Cyclohexane	ug/kg	--	--	4.4 U	--	--	--	--	--	--	--	--	4.2 U	--	--	--	--
Dibromochloromethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Dibromomethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Dichlorodifluoromethane	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Ethyl- benzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Hexachlorobutadiene	ug/kg	--	--	4.4 U	3.5 U	330 U	5.1 U	330 U	5.4 U	4.6 U	5 U	330 U	--	4.5 U	4 U	5 U	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	670 U	--	--	--	--	--	660 U	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11c-SS-2	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11d-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-1	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-2	AOC11e-3
	SAMPLE	AOC11c-SS-2-6074	AOC11d-1-6041	AOC11d-1-6043	AOC11d-1-6044	AOC11d-1-6042	AOC11d-1-6045	AOC11e-1-6046	AOC11e-1-6047	AOC11e-1-6048	AOC11e-1-6049	AOC11e-2-6050	AOC11e-2-6051	AOC11e-2-6053	AOC11e-2-6054	AOC11e-2-6052	AOC11e-3-6153
	DATE	9/22/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	9/24/2008	1/8/2016
SAMPLE TOP DEPTH (FT)		9	0	2.5	5	0	9	0	2.5	5.5	9.5	0	2	5	9	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	0.5	10	0.5	3	6	10	0.5	3	6	10	3	0.5
SAMPLE TYPE						Field Duplicate										Field Duplicate	
ANALYTE	UNITS																
Isophorone	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
Isopropylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Methyl acetate	ug/kg	--	--	4.4 U	--	--	--	--	--	--	--	--	17	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	44 U	35 U	--	51 U	--	54 U	46 U	50 U	--	--	45 U	40 U	50 U	--
Methyl isobutyl ketone	ug/kg	--	--	44 U	35 U	--	51 U	--	54 U	46 U	50 U	--	--	45 U	40 U	50 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Methylcyclohexane	ug/kg	--	--	4.4 U	--	--	--	--	--	--	--	--	4.2 U	--	--	--	--
Methylene chloride	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
N-Butylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
N-Propylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Nitrobenzene	ug/kg	--	--	340 U	340 U	330 U	340 U	330 U	330 U	340 U	340 U	330 U	330 U	330 U	350 U	--	--
p-Chlorotoluene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
sec-Butylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Styrene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
tert-Butylbenzene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Tetrachloroethene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Toluene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
trans-1,2-Dichloroethene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Trichloroethene	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Vinyl chloride	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Xylene, m,p-	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Xylene, o-	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--
Xylenes, total	ug/kg	--	--	4.4 U	3.5 U	--	5.1 U	--	5.4 U	4.6 U	5 U	--	--	4.5 U	4 U	5 U	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5
	SAMPLE	AOC11e-3-6155	AOC11e-3-6156	AOC11e-3-6157	AOC11e-3-6158	AOC11e-3-6154	AOC11e-4-6159	AOC11e-4-6160	AOC11e-4-6161	AOC11e-4-6164	AOC11e-5-6165	AOC11e-5-6166	AOC11e-5-6167	AOC11e-5-6168	AOC11e-5-6169	AOC11e-5-6170	AOC11e-5-6171
	DATE	1/10/2016	1/10/2016	1/10/2016	1/10/2016	1/8/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/20/2016	1/21/2016	1/21/2016
	SAMPLE TOP DEPTH (FT)	2	5	9	13	0	0	2	5	14	14	19	29	39	49	59	69
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	14	1	1	3	6	15	15	20	30	40	50	60	70
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	14	0.5	0.5	3	6	15	15	20	30	40	50	60	70
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	110 J	54 J	76 J	--	--	470 J	19000 J	6900 J	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	14 J	5.7 J	7.2 J	--	--	39 J	5000 J	920 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	1.4 UJ	0.25 UJ	0.86 UJ	--	--	4 J	0.86 UJ	110 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	1.1 UJ	0.33 UJ	0.39 UJ	--	--	1.4 UJ	130 J	29 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.9 UJ	0.33 UJ	0.88 UJ	--	--	3 UJ	390 J	76 J	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	2.9 UJ	0.25 UJ	2.3 UJ	--	--	14 J	680 J	160 J	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.73 UJ	0.32 UJ	0.66 UJ	--	--	1.8 UJ	73 J	14 UJ	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	1.3 UJ	0.29 UJ	0.79 UJ	--	--	2.5 UJ	53 J	17 J	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.4 UJ	0.25 UJ	0.22 UJ	--	--	0.46 UJ	14 J	4 J	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.71 UJ	1.1 UJ	1.8 J	--	--	6.3 J	180 J	54 J	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.42 UJ	0.38 UJ	0.45 UJ	--	--	0.34 UJ	22 J	9.2 J	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	14 UJ	9.2 UJ	11 UJ	--	--	80 UJ	8900 UJ	2000 UJ	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.3 UJ	0.6 UJ	0.4 UJ	--	--	0.48 UJ	25 J	4.9 J	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.14 UJ	0.074 UJ	0.1 UJ	--	--	0.15 UJ	0.45 UJ	0.25 UJ	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.14 UJ	0.17 UJ	0.15 UJ	--	--	0.32 UJ	3 J	1.1 UJ	--	--	--	--	--	--	--	--
OCDD	ng/kg	830 J	430 J	570 J	--	--	3200 J	220000 J	82000 J	--	--	--	--	--	--	--	--
OCDF	ng/kg	17 J	9.8 J	13 J	--	--	100 J	30000 J	3200 J	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	2.2	1.3	1.8	--	--	8.1	680	160	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	3.3	1.6	2.5	--	--	14	940	250	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	3.3	1.6	2.5	--	--	14	940	250	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2.2 U	2.1 U	2 U	--	2 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.2 U
Arsenic	mg/kg	3.6	4.9	4.5	4	--	4.8	2.7	2.7	1.8	2.7	2.2	2.3	3.8	2	3.1	4.7
Barium	mg/kg	110	180	170	120	--	58	51	45	36	93 J	60	30	37	55	54	28
Beryllium	mg/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.2 U	0.22 U	0.21 U	0.2 U	--	1.2	2.1	0.74	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U
Chromium, total	mg/kg	11	19	16	11	17	16	32	27	17	34 J	40	18	30	17	25	24
Cobalt	mg/kg	4.1	5.4	4.7	3.9	3.7	4.1	4.2	3.4	8	11	11	8	9.1	8.9	10	8.5
Copper	mg/kg	6.7	7.5	6.9	5.9	6.5	7.4	9	22	22	21 J	16	11	8.3	11	12	12
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	3.6	4.5	4.4	3.3	--	4.3	7	3.5	1.7	2	2.4	1.7	2	1.4	2	2.8
Mercury	mg/kg	0.1 U	0.11 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U
Molybdenum	mg/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1.5	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Nickel	mg/kg	7.3	12	8.9	7.3	6.5	9.1	7.2	6.8	15	25 J	19	14	21	12	20	22
Selenium	mg/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 UJ	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Thallium	mg/kg	2 U	2.2 U	2.1 U	2 U	--	2 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.2 U
Vanadium	mg/kg	19	26	22	18	--	20	16	15	34	41 J	35	30	36	31	41	41
Zinc	mg/kg	21	29	25	35	27	33	42	76	35	48 J	38	34	38	36	45	47
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5
	SAMPLE	AOC11e-3-6155	AOC11e-3-6156	AOC11e-3-6157	AOC11e-3-6158	AOC11e-3-6154	AOC11e-4-6159	AOC11e-4-6160	AOC11e-4-6161	AOC11e-4-6164	AOC11e-5-6165	AOC11e-5-6166	AOC11e-5-6167	AOC11e-5-6168	AOC11e-5-6169	AOC11e-5-6170	AOC11e-5-6171
	DATE	1/10/2016	1/10/2016	1/10/2016	1/10/2016	1/8/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/20/2016	1/21/2016	1/21/2016
	SAMPLE TOP DEPTH (FT)	2	5	9	13	0	0	2	5	14	14	19	29	39	49	59	69
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	14	1	1	3	6	15	15	20	30	40	50	60	70
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	14	0.5	0.5	3	6	15	15	20	30	40	50	60	70
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
4,4-DDE	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
4,4-DDT	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Aldrin	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
alpha-BHC	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
alpha-Chlordane	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
beta-BHC	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
delta-BHC	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Dieldrin	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Endo sulfan I	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Endo sulfan II	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Endosulfan sulfate	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Endrin	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Endrin aldehyde	ug/kg	2 U	2.2 U	2.1 U	2.1 U	--	2 U	2.1 U	2.1 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
gamma-Chlordane	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Heptachlor	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Heptachlor Epoxide	ug/kg	1 U	1.1 U	1 U	1 U	--	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Methoxy chlor	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Toxaphene	ug/kg	51 U	56 U	52 U	51 U	--	51 U	52 U	53 U	51 U	54 U	52 U	53 U	54 U	51 U	53 U	55 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	18 U	17 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1221	ug/kg	34 U	37 U	34 U	34 U	--	34 U	34 U	35 U	34 U	35 U	34 U	35 U	35 U	34 U	35 U	37 U
Aroclor 1232	ug/kg	17 U	18 U	17 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1242	ug/kg	17 U	18 U	17 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1248	ug/kg	17 U	18 U	17 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1254	ug/kg	38	18 U	17 U	17 U	30	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1260	ug/kg	17 U	18 U	17 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	46.5	18 U	17 U	17 U	38.5	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
2-Methyl naphthalene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Acenaphthene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Acenaphthylene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Anthracene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
B(a)P Equivalent	ug/kg	100	65	60	57 U	--	15	6.5	6.1 U	5.9 U	6.2 U	6 U	6.1 U	6.2 U	5.9 U	6.1 U	6.4 U
Benzo (a) anthracene	ug/kg	51 U	56 U	52 U	5.1 U	--	7.5	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Benzo (a) pyrene	ug/kg	61	56 U	52 U	51 U	--	9.5	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Benzo (b) fluoranthene	ug/kg	100	56 U	52 U	51 U	--	16	7.3	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Benzo (ghi) perylene	ug/kg	51 U	56 U	52 U	51 U	--	8.5	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Benzo (k) fluoranthene	ug/kg	51	56 U	52 U	51 U	--	6.8	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Chrysene	ug/kg	61	56 U	52 U	5.1 U	--	11	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Dibenzo (a,h) anthracene	ug/kg	51 U	56 U	52 U	51 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Fluoranthene	ug/kg	79 J	13 J	16 J	5.1 U	42 J	15	8.4	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Fluorene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Indeno (1,2,3-cd) pyrene	ug/kg	51 U	56 U	52 U	51 U	--	7.5	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Naphthalene	ug/kg	5.1 U	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
PAH High molecular weight	ug/kg	427	26	31	0	--	95.8	22.7	0	0	0	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	19	0	0	0	--	0	0	0	0	0	0	0	0	0	0	0

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5
	SAMPLE	AOC11e-3-6155	AOC11e-3-6156	AOC11e-3-6157	AOC11e-3-6158	AOC11e-3-6154	AOC11e-4-6159	AOC11e-4-6160	AOC11e-4-6161	AOC11e-4-6164	AOC11e-5-6165	AOC11e-5-6166	AOC11e-5-6167	AOC11e-5-6168	AOC11e-5-6169	AOC11e-5-6170	AOC11e-5-6171
	DATE	1/10/2016	1/10/2016	1/10/2016	1/10/2016	1/8/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/20/2016	1/21/2016
SAMPLE TOP DEPTH (FT)		2	5	9	13	0	0	2	5	14	14	19	29	39	49	59	69
SAMPLE BOTTOM DEPTH (FT)		3	6	10	14	1	1	3	6	15	15	20	30	40	50	60	70
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	14	0.5	0.5	3	6	15	15	20	30	40	50	60	70
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
Phenanthrene	ug/kg	19 J	5.6 U	5.2 U	5.1 U	--	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Pyrene	ug/kg	75 J	13 J	15 J	5.1 U	35 J	14	7	5.3 U	5.1 U	5.4 U	5.2 U	5.3 U	5.4 U	5.1 U	5.3 U	5.5 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5
	SAMPLE	AOC11e-3-6155	AOC11e-3-6156	AOC11e-3-6157	AOC11e-3-6158	AOC11e-3-6154	AOC11e-4-6159	AOC11e-4-6160	AOC11e-4-6161	AOC11e-4-6164	AOC11e-5-6165	AOC11e-5-6166	AOC11e-5-6167	AOC11e-5-6168	AOC11e-5-6169	AOC11e-5-6170	AOC11e-5-6171
	DATE	1/10/2016	1/10/2016	1/10/2016	1/10/2016	1/8/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/20/2016	1/21/2016	1/21/2016
	SAMPLE TOP DEPTH (FT)	2	5	9	13	0	0	2	5	14	14	19	29	39	49	59	69
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	14	1	1	3	6	15	15	20	30	40	50	60	70
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	14	0.5	0.5	3	6	15	15	20	30	40	50	60	70
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-3	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-4	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5	AOC11e-5
	SAMPLE	AOC11e-3-6155	AOC11e-3-6156	AOC11e-3-6157	AOC11e-3-6158	AOC11e-3-6154	AOC11e-4-6159	AOC11e-4-6160	AOC11e-4-6161	AOC11e-4-6164	AOC11e-5-6165	AOC11e-5-6166	AOC11e-5-6167	AOC11e-5-6168	AOC11e-5-6169	AOC11e-5-6170	AOC11e-5-6171
	DATE	1/10/2016	1/10/2016	1/10/2016	1/10/2016	1/8/2016	1/28/2016	1/28/2016	1/28/2016	1/28/2016	1/19/2016	1/19/2016	1/19/2016	1/19/2016	1/20/2016	1/21/2016	1/21/2016
	SAMPLE TOP DEPTH (FT)	2	5	9	13	0	0	2	5	14	14	19	29	39	49	59	69
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	14	1	1	3	6	15	15	20	30	40	50	60	70
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	14	0.5	0.5	3	6	15	15	20	30	40	50	60	70
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-6	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	PA-07	PA-09	
	SAMPLE	AOC11E-6-6172	AOC11e-SS-1-6075	AOC11e-SS-1-6076	AOC11e-SS-1-6077	AOC11e-SS-1-6078	AOC11e-SS-2-6079	AOC11e-SS-2-6080	AOC11e-SS-2-6082	AOC11e-SS-2-6083	AOC11e-SS-2-6081	300b-103-1080	300b-103-1081	300b-103-1082	300b-103-1083	PA-07-1	PA-09-01	
	DATE	12/3/2015	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	11/9/2015	1/27/2016
	SAMPLE TOP DEPTH (FT)	0	0	2.5	5.5	9.5	0	2.5	5.5	9.5	5.5	0	2.5	5.5	8.5	0	0	
	SAMPLE BOTTOM DEPTH (FT)	1	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	1	1	
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	0.5	0.5	
	SAMPLE TYPE								Field Duplicate									
ANALYTE	UNITS																	
Dioxins																		
1,2,3,4,6,7,8-HpCDD	ng/kg	49 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,4,6,7,8-HpCDF	ng/kg	3.5 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,4,7,8-HxCDD	ng/kg	0.3 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,4,7,8-HxCDF	ng/kg	1.6 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,4,7,8,9-HpCDF	ng/kg	0.7 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,6,7,8-HxCDD	ng/kg	1.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,6,7,8-HxCDF	ng/kg	1.4 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,7,8-PeCDD	ng/kg	0.63 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,7,8-PeCDF	ng/kg	4.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,7,8,9-HxCDD	ng/kg	0.97 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3,7,8,9-HxCDF	ng/kg	0.54 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,3,4,6,7,8-HxCDF	ng/kg	24 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,3,4,7,8-PeCDF	ng/kg	2.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,3,7,8-TCDD	ng/kg	0.093 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,3,7,8-TCDF	ng/kg	10 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OCDD	ng/kg	230 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
OCDF	ng/kg	5.5 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	ng/kg	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Human	ng/kg	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	ng/kg	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
General																		
pH	PHUNITS	7.7	--	--	--	--	--	--	--	--	--	8	7.8	7.8	7.8	--	--	
Metals																		
Antimony	mg/kg	2.1 U	2 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	--	--	--	--	2 U	2 U	2 U	
Arsenic	mg/kg	4.6	4.6	4.6	4.6	4.7	4.5	6.6	--	4.5	4.8	--	--	--	8.3	4.9	4.2	
Barium	mg/kg	130	96 J	87	110	100	120	110	100	100	--	--	--	--	220	160	95	
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	2 U	--	1.1 U	1 U	--	--	--	1 U	1 U	1 U	
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	--	--	1 U	1 U	1 U	
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chromium, Hexavalent	mg/kg	16	0.7	0.41 U	0.41 U	0.41 U	1.4	0.44	--	0.5	0.47	--	--	--	0.4 UJ	1.9	0.2 U	
Chromium, total	mg/kg	320	20	21	9.2	10	28	21	27	21	--	--	--	--	26	66	21	
Cobalt	mg/kg	4.9	3.9	4.5	3.8	3.2	4.3	6.2	--	7.4	6.3	--	--	--	9.6	4.9	6.7	
Copper	mg/kg	12	8.7	7.7	5.1	10	8.1	9.7	--	11	10	--	--	--	11	19	13	
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead	mg/kg	8.4	8.6	4.8	5.2	5.4	9.5	7.4	5.5	3.8	--	--	--	--	4.1	17	150	
Mercury	mg/kg	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	--	0.11 UJ	0.1 UJ	--	--	--	0.1 UJ	0.1 U	0.18	
Molybdenum	mg/kg	1.6	1 U	1 U	1 U	1 U	1 U	2 U	--	1.1 U	1 U	--	--	--	7.1	1.3	1 U	
Nickel	mg/kg	9.6	8.7	8.3	6	6.3	8.7	13	--	15	13	--	--	--	18	13	13	
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	--	--	1 U	1 U	1 U	
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	2 U	--	1.1 U	1 U	--	--	--	1 U	1 U	1 U	
Thallium	mg/kg	2.1 U	2 U	2 U	2 U	2 U	2 U	4.1 U	2 U	2.1 U	--	--	--	--	2 U	2 U	2 U	
Vanadium	mg/kg	18	18	20	16	15	17	24	--	34	28	--	--	--	45	22	32	
Zinc	mg/kg	37	35 J	27	20	19	39	35	--	37	39	--	--	--	61	170	130	
Metals CLP																		
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium	mg/kg	45000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	mg/kg	14000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium	mg/kg	10000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	mg/kg	260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium	mg/kg	2400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium	mg/kg	4300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-6	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	PA-07	PA-09
	SAMPLE	AOC11E-6-6172	AOC11e-SS-1-6075	AOC11e-SS-1-6076	AOC11e-SS-1-6077	AOC11e-SS-1-6078	AOC11e-SS-2-6079	AOC11e-SS-2-6080	AOC11e-SS-2-6082	AOC11e-SS-2-6083	AOC11e-SS-2-6081	300b-103-1080	300b-103-1081	300b-103-1082	300b-103-1083	PA-07-1	PA-09-01
	DATE	12/3/2015	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	11/9/2015	1/27/2016
	SAMPLE TOP DEPTH (FT)	0	0	2.5	5.5	9.5	0	2.5	5.5	9.5	5.5	0	2.5	5.5	8.5	0	0
	SAMPLE BOTTOM DEPTH (FT)	1	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	1	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	0.5	0.5
	SAMPLE TYPE								Field Duplicate								
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	33 U	33 U	33 U	34 U	33 U	34 U	--	35 U	34 U	33 U	33 U	33 U	33 U	34 U	33 U
Aroclor 1232	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	30	17 U	17 U	17 U	40	17 U	--	18 U	30	140	190	17 U	17 U	100	51
Aroclor 1260	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	17 U	17 U	17 U	17 U	17 U	17 U	--	18 U	17 U	--	--	--	--	--	--
Total PCBs	ug/kg	--	38.5	17 U	17 U	17 U	48.5	17 U	--	18 U	38.5	149	199	17 U	17 U	126	76.5
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	10 U	5 U	5 U	5 U	5.1 U	5 U
2-Methyl naphthalene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	100 U	50 U	50 U	50 U	5.1 U	5 U
Acenaphthene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	10 U	5 U	5 U	5 U	5.1 U	5 U
Acenaphthylene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	10 U	5 U	5 U	5 U	5.1 U	5 U
Anthracene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	10 U	5 U	5 U	5 U	5.1 U	5 U
B(a)P Equivalent	ug/kg	5.9 R	39	5.9 U	5.9 U	5.9 U	36	5.9 U	--	6.2 U	17	340	56	6	6.1	470	64
Benzo (a) anthracene	ug/kg	5.1 R	16	5.1 U	5.1 U	5.1 U	14	5.1 U	--	5.4 U	13	120	20	5 U	5 U	230	12
Benzo (a) pyrene	ug/kg	5.1 R	25	5.1 U	5.1 U	5.1 U	23	5.1 U	--	5.4 U	11	240	40	5 U	5 U	300	50 U
Benzo (b) fluoranthene	ug/kg	5.1 R	34	5.1 U	5.1 U	5.1 U	29	5.1 U	--	5.4 U	16	300	55	5	5.4	640	100
Benzo (ghi) perylene	ug/kg	5.1 R	25	5.1 U	5.1 U	5.1 U	24	5.1 U	--	5.4 U	7.7	170	26	5 U	5 U	170	50 U
Benzo (k) fluoranthene	ug/kg	5.1 R	27	5.1 U	5.1 U	5.1 U	26	5.1 U	--	5.4 U	12	10 U	5 U	5 U	5 U	250	50 U
Chrysene	ug/kg	5.1 R	36	5.1 U	5.1 U	5.1 U	31	5.1 U	--	5.4 U	20	200	31	5 U	5 U	410	20
Dibenzo (a,h) anthracene	ug/kg	5.1 R	6.6	5.1 U	5.1 U	5.1 U	6.7	5.1 U	5.1 U	5.4 U	--	42	6.4	5 U	5 U	68	50 U
Fluoranthene	ug/kg	5.1 R	53	5.1 U	5.1 U	5.1 U	44	5.1 U	--	5.4 U	38 J	300	40	5 U	5 U	540	23
Fluorene	ug/kg	5.1 R	5 U	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.4 U	--	10 U	5 U	5 U	5 U	5.1 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 R	23	5.1 U	5.1 U	5.1 U	21	5.1 U	--	5.4 U	7.3	150	23	5 U	5 U	170	50 U
Naphthalene	ug/kg	5.1 R	5 U	4.5 U	3.9 U	4.3 U	5 U	4.5 U	4.7 U	4.7 U	--	100 U	9.5 U	8.9 U	6.8 U	5.1 U	5 U
PAH High molecular weight	ug/kg	0 R	295	0	0	0	261	0	--	0	156	1810	278	5	5.4	3310	175
PAH Low molecular weight	ug/kg	0 R	19	0	0	0	16	0	--	0	28	65	7.4	0	0	180	10

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-6	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	PA-07	PA-09	
	SAMPLE	AOC11E-6-6172	AOC11e-SS-1-6075	AOC11e-SS-1-6076	AOC11e-SS-1-6077	AOC11e-SS-1-6078	AOC11e-SS-2-6079	AOC11e-SS-2-6080	AOC11e-SS-2-6082	AOC11e-SS-2-6083	AOC11e-SS-2-6081	300b-103-1080	300b-103-1081	300b-103-1082	300b-103-1083	PA-07-1	PA-09-01
	DATE	12/3/2015	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	11/9/2015	1/27/2016
	SAMPLE TOP DEPTH (FT)	0	0	2.5	5.5	9.5	0	2.5	5.5	9.5	5.5	0	2.5	5.5	8.5	0	0
	SAMPLE BOTTOM DEPTH (FT)	1	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	1	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	0.5	0.5
	SAMPLE TYPE																
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.1 R	19	5.1 U	5.1 U	5.1 U	16	5.1 U	--	5.4 U	28 J	65	7.4	5 U	5 U	180	10
Pyrene	ug/kg	5.1 R	49	5.1 U	5.1 U	5.1 U	42	5.1 U	--	5.4 U	31 J	290	37	5 U	5 U	530	20
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	1300 U	660 U	660 U	660 U	6700 U	660 U
4-Bromophenyl phenyl ether	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	--	660 U	670 U	670 U	670 U	660 U	670 U	670 U	710 U	--	1300 U	660 U	660 U	660 U	670 U	660 U
4-Chloroaniline	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	1300 U	660 U	660 U	660 U	670 U	660 U
4-Chlorophenyl phenyl ether	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	--	660 U	670 U	670 U	670 U	660 U	670 U	670 U	710 U	--	1300 U	660 U	660 U	660 U	670 U	660 U
bis (2-chloroethoxy) methane	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	3300 U	330 U
Butylbenzylphthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	3300 U	330 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	3300 U	3300 U
Dibenzofuran	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	3300 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	--	10 J	10 UJ	75	20	15	10 U	63	12
TPH as gasoline	mg/kg	--	--	0.91 U	0.97 U	0.97 U	--	1 U	0.84 U	1.1 UJ	--	--	1.7 U	1.6 U	1.7 U	--	--
TPH as motor oil	mg/kg	--	10 UJ	10 UJ	10.5 J	10 UJ	10 UJ	10 UJ	--	10 UJ	10 UJ	340	65	31	10 U	360 J	220
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-6	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	PA-07	PA-09
	SAMPLE	AOC11E-6-6172	AOC11e-SS-1-6075	AOC11e-SS-1-6076	AOC11e-SS-1-6077	AOC11e-SS-1-6078	AOC11e-SS-2-6079	AOC11e-SS-2-6080	AOC11e-SS-2-6082	AOC11e-SS-2-6083	AOC11e-SS-2-6081	300b-103-1080	300b-103-1081	300b-103-1082	300b-103-1083	PA-07-1	PA-09-01
	DATE	12/3/2015	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	11/9/2015	1/27/2016
	SAMPLE TOP DEPTH (FT)	0	0	2.5	5.5	9.5	0	2.5	5.5	9.5	5.5	0	2.5	5.5	8.5	0	0
	SAMPLE BOTTOM DEPTH (FT)	1	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	1	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	0.5	0.5
	SAMPLE TYPE								Field Duplicate								
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1-Dichloropropene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1,1-Trichloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1,2-Trichloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2-Dibromoethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2-Dichlorobenzene	ug/kg	--	330 U	4.5 U	3.9 U	4.3 U	330 U	4.5 U	4.7 U	4.7 U	--	660 U	9.5 U	8.9 U	6.8 U	330 U	330 U
1,2-Dichloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2-Dichloropropane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2,3-Trichloropropane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,2,4-Trichlorobenzene	ug/kg	--	330 U	4.5 U	3.9 U	4.3 U	330 U	4.5 U	4.7 U	4.7 U	--	660 U	9.5 U	8.9 U	6.8 U	330 U	330 U
1,2,4-Trimethylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,3-Dichlorobenzene	ug/kg	--	330 U	4.5 U	3.9 U	4.3 U	330 U	4.5 U	4.7 U	4.7 U	--	660 U	9.5 U	8.9 U	6.8 U	330 U	330 U
1,3-Dichloropropane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
1,4-Dichlorobenzene	ug/kg	--	330 U	4.5 U	3.9 U	4.3 U	330 U	4.5 U	4.7 U	4.7 U	--	660 U	9.5 U	8.9 U	6.8 U	330 U	330 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 UJ	8.9 UJ	6.8 UJ	--	--
2,4,5-Trichlorophenol	ug/kg	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1700 U	1600 U	660 U	330 U	330 U	330 U	330 U	330 U
2,4,6-Trichlorophenol	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Acetone	ug/kg	--	--	45 U	39 U	43 U	--	45 U	47 U	--	--	--	95 U	89 U	68 U	--	--
Acrolein	ug/kg	--	--	90 U	78 U	86 U	--	91 U	93 U	94 U	--	--	190 U	180 U	140 U	--	--
Acrylonitrile	ug/kg	--	--	45 U	39 U	43 U	--	45 U	47 U	47 U	--	--	95 U	89 U	68 U	--	--
Benzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
bis (2-chloroethyl) ether	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Bromochloromethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Bromodichloromethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Bromoform	ug/kg	--	--	4.5 UJ	3.9 UJ	4.3 UJ	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Bromomethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Carbon disulfide	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Carbon tetrachloride	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Chloro methane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Chlorobenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Chloroethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Chloroform	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Dibromomethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Dichlorodifluoromethane	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Ethyl- benzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Hexachlorobutadiene	ug/kg	--	330 U	4.5 U	3.9 U	4.3 U	330 U	4.5 U	4.7 U	4.7 U	--	1300 U	9.5 U	8.9 U	6.8 U	670 U	660 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC11e-6	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-1	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11e-SS-2	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	AOC11g-OS1	PA-07	PA-09
	SAMPLE	AOC11E-6-6172	AOC11e-SS-1-6075	AOC11e-SS-1-6076	AOC11e-SS-1-6077	AOC11e-SS-1-6078	AOC11e-SS-2-6079	AOC11e-SS-2-6080	AOC11e-SS-2-6082	AOC11e-SS-2-6083	AOC11e-SS-2-6081	300b-103-1080	300b-103-1081	300b-103-1082	300b-103-1083	PA-07-1	PA-09-01
	DATE	12/3/2015	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	9/23/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	11/9/2015	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	0	2.5	5.5	9.5	5.5	0	2.5	5.5	8.5	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	0.5	3	6	10	6	0.5	3	6	9	0.5	0.5
SAMPLE TYPE									Field Duplicate								
ANALYTE	UNITS																
Isophorone	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	45 U	39 U	43 U	--	45 U	47 U	47 U	--	--	95 U	89 U	68 U	--	--
Methyl isobutyl ketone	ug/kg	--	--	45 U	39 U	43 U	--	45 U	47 U	47 U	--	--	95 U	89 U	68 U	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
N-Butylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
N-Propylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Nitrobenzene	ug/kg	--	330 U	330 U	330 U	340 U	330 U	340 U	--	350 U	340 U	660 U	330 U	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
sec-Butylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Styrene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
tert-Butylbenzene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Tetrachloroethene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Toluene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Trichloroethene	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Vinyl chloride	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Xylene, m,p-	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Xylene, o-	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--
Xylenes, total	ug/kg	--	--	4.5 U	3.9 U	4.3 U	--	4.5 U	4.7 U	4.7 U	--	--	9.5 U	8.9 U	6.8 U	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-10	PA-10	PA-11	PA-11	PA-11	PA-12	PA-12	SD-08	SD-08	SD-08	SD-09	SD-09	SD-09	SD-10	SD-10	SD-11
	SAMPLE	PA-10-01	PA-10-02	PA-11-01	PA-11-02	PA-11-03	PA-12-01	PA-12-02	SD-8-01-FD	SD-8-03	SD-8-01	SD-9-01	SD-9-03	SD-9-05	SD-10-01	SD-10-03	SD-11-0
	DATE	1/27/2016	1/26/2017	1/27/2016	1/25/2017	1/25/2017	1/27/2016	1/25/2017	11/11/2015	11/11/2015	11/11/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	12/6/2015
SAMPLE TOP DEPTH (FT)	0	2	0	2	2	2	0	2	0	2	0	0	2	5	0	2	0
SAMPLE BOTTOM DEPTH (FT)	1	3	1	3	3	3	1	3	1	3	1	1	3	6	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	0.5	3	3	3	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5
SAMPLE TYPE						Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	4600 J	--	3300 J	--	--	20000 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	320 J	--	340 J	--	--	1500 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	47 J	--	40 J	--	--	45 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	27 J	--	23 J	--	--	160 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	20 J	--	23 J	--	--	95 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	130 J	--	120 J	--	--	410 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	22 J	--	29 J	--	--	59 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	28 J	--	25 J	--	--	22 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	9.1 J	--	6.1 J	--	--	24 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	66 J	--	60 J	--	--	94 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	4.8 J	--	4.4 J	--	--	60 J	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	260 UJ	--	340 UJ	--	--	1900 UJ	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	10 J	--	9.7 J	--	--	42 J	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	2.3 UJ	--	2.4 UJ	--	--	3.3 UJ	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	3.9 J	--	5.3 J	--	--	9.5 J	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	41000 J	--	25000 J	--	--	290000 J	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	530 J	--	460 J	--	--	6000 J	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	85	--	83	--	--	280	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	140	--	120	--	--	520	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	140	--	120	--	--	520	--	--	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	--	2.1 U	2.1 U	--	2.1 U	2.1 U	--	2 U	2 U	2.1 U	2.1 U	2.1 UJ	2 U	2 U	2 U
Arsenic	mg/kg	7	--	4.3	4.9	--	6	5.6	--	8.9	3.2	4.3	4.6	5.3	3.3	2.4	2.9
Barium	mg/kg	150	--	140	180	--	190	150	--	92	91	260	240	260	83	82	99
Beryllium	mg/kg	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.95	--	0.35	--	--	0.56	--	0.26	2.7	--	0.21 U	0.21 U	0.21 U	0.2 U	1.4	0.2 U
Chromium, total	mg/kg	40	--	50	10	--	50	13	--	34	9.2 J	11	11	12	7.9	27	38
Cobalt	mg/kg	4.3	--	5.6	4	--	5.3	4.7	--	4	5.2	4.3	4.3	4.4	2.7	4.2	4.5
Copper	mg/kg	24	--	23	7.1	--	31	9.7	--	35	6	6.4	5.6	7.1	6.7	9	14
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	56	--	28	4.7	--	12	5.7	6.8 J	7.8	--	3.8	3.1	4.3	6.1	16	22
Mercury	mg/kg	0.1 U	--	0.1 U	0.1 U	--	0.1 U	0.1 U	--	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.37	0.1 U
Molybdenum	mg/kg	1 U	--	3.3	1 U	--	3.1	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Nickel	mg/kg	8	--	16	7.4	--	13	8.3	8.7 J	8.4	--	9.4	8.7	8.9	5.6	8.8	9.6
Selenium	mg/kg	1 U	--	1 U	1 UJ	--	1 U	1 UJ	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	--	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	--	2.1 U	2.1 U	--	2.1 U	2.1 U	--	2 U	2 U	2.1 U	2.1 U	2.1 U	2 U	2 U	2 U
Vanadium	mg/kg	20	--	20	19	--	25	18	18	23	--	22	21	25	14	19	22
Zinc	mg/kg	190	--	300	29	--	130	37 J	37	97	--	25	21	24	36	180	1100
Metals CLP																	
Aluminum	mg/kg	--	--	--	6300	--	--	6800	5900 J	5000	--	--	--	--	--	--	6800
Calcium	mg/kg	--	--	--	36000	--	--	27000	--	22000	20000	--	--	--	--	--	22000
Cyanide	mg/kg	--	--	--	0.22 UJ	--	--	0.21 UJ	--	0.2 UJ	0.2 UJ	--	--	--	--	--	0.2 U
Iron	mg/kg	--	--	--	8800	--	--	11000 J	--	11000	8700	--	--	--	--	--	15000
Magnesium	mg/kg	--	--	--	5600	--	--	5900	5300 J	5600	--	--	--	--	--	--	5700
Manganese	mg/kg	--	--	--	180	--	--	200	170	150	--	--	--	--	--	--	170
Potassium	mg/kg	--	--	--	1600	--	--	1700 J	1700	1300	--	--	--	--	--	--	2100
Sodium	mg/kg	--	--	--	590	--	--	820	--	270	170	--	--	--	--	--	220

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-10	PA-10	PA-11	PA-11	PA-11	PA-12	PA-12	SD-08	SD-08	SD-08	SD-09	SD-09	SD-09	SD-10	SD-10	SD-11
	SAMPLE	PA-10-01	PA-10-02	PA-11-01	PA-11-02	PA-11-03	PA-12-01	PA-12-02	SD-8-01-FD	SD-8-03	SD-8-01	SD-9-01	SD-9-03	SD-9-05	SD-10-01	SD-10-03	SD-11-0
	DATE	1/27/2016	1/26/2017	1/27/2016	1/25/2017	1/25/2017	1/27/2016	1/25/2017	11/11/2015	11/11/2015	11/11/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	12/6/2015
	SAMPLE TOP DEPTH (FT)	0	2	0	2	2	0	2	0	2	0	0	2	5	0	2	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	1	3	3	1	3	1	3	1	1	3	6	1	3	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	1.1 U	--	--	1 U	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	5.3 U	--	--	5.2 U	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	53 U	--	--	52 U	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	34 U	34 U	34 U	--	34 U	34 U	34 U	--	33 U	33 U	34 U	35 U	35 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	590	17 U	530	--	19	470 J	27	--	17 U	42	17 U	17 U	17 U	17 U	17 U	430
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	180 J
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	--	--	--	--	--	17 U
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	--	--	--	--	--	17 U
Total PCBs	ug/kg	616	34 U	556	--	44.5	496	52.5	--	34 U	67.5	34 U	34 U	34 U	34 U	34 U	627
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.2 U	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	14	5 U
2-Methyl naphthalene	ug/kg	7.5 J	5.1 U	10 J	5.2 U	--	10 J	5.2	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	7.5	18 J	5 U
Acenaphthene	ug/kg	11 J	5.1 U	5.2 U	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	5 U
Acenaphthylene	ug/kg	9.2 J	5.1 U	5.2 U	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	5 U
Anthracene	ug/kg	38 J	5.1 U	19 J	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	5 U
B(a)P Equivalent	ug/kg	2300	5.9 U	1000	--	11	200	25	--	58	21	42	6.3	6.5	25	31	130
Benzo (a) anthracene	ug/kg	1600 J	5.1 U	350 J	5.2 U	--	130 J	15	8.4	12	--	16	5.2 U	5.3 U	8.9	10	55
Benzo (a) pyrene	ug/kg	1600	5.1 U	550	--	6.6	130	16	--	51 U	14	29	5.2 U	5.3 U	16	20	84
Benzo (b) fluoranthene	ug/kg	2600	5.1 U	1500	8.7	--	250	34	--	51 U	28	67	5.6	6	41	59	150
Benzo (ghi) perylene	ug/kg	750	5.1 U	520 U	--	5.6	69	10	9.7	51 U	--	14	5.2 U	5.3 U	14	14 J	50 U
Benzo (k) fluoranthene	ug/kg	930	5.1 UJ	520 U	5.2 UJ	--	86	5.6 J	--	51 U	8.7	23	5.2 U	5.3 U	11	17	54
Chrysene	ug/kg	2600 J	5.1 U	600	--	7	170	18	--	21	14	36	5.2 U	5.3 U	17	20	100 J
Dibenzo (a,h) anthracene	ug/kg	210	5.1 U	520 U	5.2 U	--	52 U	5.2 U	--	51 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	50 U
Fluoranthene	ug/kg	3700 J	5.1 U	770	8.7	--	170 J	37	26	39	--	35	5.2 U	5.3 U	18	26	180
Fluorene	ug/kg	8.9 J	5.1 U	5.2 U	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	790	5.1 U	520 U	5.2 U	--	66	9.7	9.4	51 U	--	14	5.2 U	5.3 U	13	14	50 U
Naphthalene	ug/kg	8.6 J	5.1 U	10 J	5.2 U	--	5.2 U	5.2 U	--	5.1 U	5 U	5.2 U	5.2 U	5.3 U	5.1 U	5.1 U	5 U
PAH High molecular weight	ug/kg	18200	0	4490	--	51	1220	177	138	111	--	269	5.6	6	157	205	793
PAH Low molecular weight	ug/kg	1380	0	289	0	--	150	28.2	9.7	6.8	--	10	0	0	7.5	39.1	57

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Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-10	PA-10	PA-11	PA-11	PA-11	PA-12	PA-12	SD-08	SD-08	SD-08	SD-09	SD-09	SD-09	SD-10	SD-10	SD-11
	SAMPLE	PA-10-01	PA-10-02	PA-11-01	PA-11-02	PA-11-03	PA-12-01	PA-12-02	SD-8-01-FD	SD-8-03	SD-8-01	SD-9-01	SD-9-03	SD-9-05	SD-10-01	SD-10-03	SD-11-0
	DATE	1/27/2016	1/26/2017	1/27/2016	1/25/2017	1/25/2017	1/27/2016	1/25/2017	11/11/2015	11/11/2015	11/11/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	2	0	2	0	2	0	0	2	5	0	2	0
SAMPLE BOTTOM DEPTH (FT)		1	3	1	3	3	1	3	1	3	1	1	3	6	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5
SAMPLE TYPE						Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Phenanthrene	ug/kg	1300 J	5.1 U	250 J	5.2 U	--	140 J	23	9.7	6.8	--	10	5.2 U	5.3 U	5.1 U	7.1	57
Pyrene	ug/kg	3400 J	5.1 U	720	--	9.8	150 J	32	24	39	--	35	5.2 U	5.3 U	18	25	170
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	740 U	--	--	730 U	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	740 U	--	--	730 U	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	740 U	--	--	730 U	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	680 UJ	--	6800 U	690 U	--	6900 U	690 U	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	680 UJ	--	680 U	690 U	--	690 U	690 U	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	680 UJ	--	680 U	690 U	--	690 U	690 U	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	740 U	--	--	730 U	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	740 U	--	--	730 U	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	740 U	--	--	730 UJ	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	680 UJ	--	680 U	690 U	--	690 U	690 U	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 UJ	--	3400 U	350 U	--	3400 U	350 U	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 UJ	--	3400 U	350 U	--	3400 U	350 U	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	350 U	--	--	350 UJ	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	350 U	--	--	350 U	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	34000 U	--	3400 U	350 U	--	3400 U	350 U	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 UJ	--	1700 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	53	--	28	--	--	15	--	--	10 U	10 U	13	30	11 U	10 U	26	54
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	1.4 U	--	--	1.2 U	1.9 U	--	1.4 U	--
TPH as motor oil	mg/kg	300	--	240	--	--	120	--	--	18	10 U	19	72	13	26	25	180
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--

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Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-10	PA-10	PA-11	PA-11	PA-11	PA-12	PA-12	SD-08	SD-08	SD-08	SD-09	SD-09	SD-09	SD-10	SD-10	SD-11
	SAMPLE	PA-10-01	PA-10-02	PA-11-01	PA-11-02	PA-11-03	PA-12-01	PA-12-02	SD-8-01-FD	SD-8-03	SD-8-01	SD-9-01	SD-9-03	SD-9-05	SD-10-01	SD-10-03	SD-11-0
	DATE	1/27/2016	1/26/2017	1/27/2016	1/25/2017	1/25/2017	1/27/2016	1/25/2017	11/11/2015	11/11/2015	11/11/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	2	0	2	0	2	0	0	2	5	0	2	0
SAMPLE BOTTOM DEPTH (FT)		1	3	1	3	3	1	3	1	3	1	1	3	6	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5
SAMPLE TYPE						Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	340 UJ	--	340 U	6 U	--	340 U	6.1 U	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	340 UJ	--	340 U	6 U	--	340 U	6.1 U	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	340 UJ	--	340 U	6 U	--	340 U	6.1 U	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	340 UJ	--	340 U	6 U	--	340 U	6.1 U	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	350 U	--	--	350 U	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	60 U	--	--	61 U	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	60 U	--	--	61 U	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	190 U	--	--	120 U	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	93 U	--	--	58 U	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	680 UJ	--	680 U	6 U	--	690 U	6.1 U	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	690 UJ	--	--	690 UJ	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-10	PA-10	PA-11	PA-11	PA-11	PA-12	PA-12	SD-08	SD-08	SD-08	SD-09	SD-09	SD-09	SD-10	SD-10	SD-11
	SAMPLE	PA-10-01	PA-10-02	PA-11-01	PA-11-02	PA-11-03	PA-12-01	PA-12-02	SD-8-01-FD	SD-8-03	SD-8-01	SD-9-01	SD-9-03	SD-9-05	SD-10-01	SD-10-03	SD-11-0
	DATE	1/27/2016	1/26/2017	1/27/2016	1/25/2017	1/25/2017	1/27/2016	1/25/2017	11/11/2015	11/11/2015	11/11/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/10/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	2	0	2	0	2	0	0	2	5	0	2	0
SAMPLE BOTTOM DEPTH (FT)		1	3	1	3	3	1	3	1	3	1	1	3	6	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5
SAMPLE TYPE						Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Isophorone	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	60 U	--	--	61 U	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	60 U	--	--	61 U	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	340 UJ	--	340 U	350 U	--	340 U	350 U	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	6 U	--	--	6.1 U	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-11	SD-11A	SD-11A	SD-11A	SD-12	SD-12	SD-13	SD-13	SD-20	SD-20	SD-20	SD-23	SD-23	SD-27	SD-OS37	SD-OS37
	SAMPLE	SD-11-3	SD-11-01	SD-11-02	SD-11-04	SD-12-01	SD-12-03	SD-13-01	SD-13-03	SD-20-01	SD-20-03	SD-20-01-FD	SD-23-01	SD-23-03	SD-27-02	SD-37-OS1-1001	SD-37-OS1-1002
	DATE	12/6/2015	3/7/2016	3/7/2016	3/7/2016	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/11/2015	11/11/2015	11/11/2015	3/9/2016	3/9/2016	2/15/2017	11/30/2016	11/30/2016
	SAMPLE TOP DEPTH (FT)	2	0	2	5	0	2	0	2	0	2	0	0	2	2	0	3
	SAMPLE BOTTOM DEPTH (FT)	3	1	3	6	1	3	1	3	1	3	1	1	3	3	0.5	3.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	0.5	3	6	0.5	3	0.5	3	0.5	3	0.5	0.5	3	3	0.5	3.5
	SAMPLE TYPE											Field Duplicate					
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	2700 J	3300 J	1800 J	--	--	--	--	--	--	--	460 J	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	2.9 UJ	3.5 UJ	260 J	--	--	--	--	--	--	--	38 J	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	42 J	28 UJ	16 J	--	--	--	--	--	--	--	5.9 J	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	55 J	41 J	3.7 UJ	--	--	--	--	--	--	--	3.4 J	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	67 J	59 J	20 UJ	--	--	--	--	--	--	--	2.4 UJ	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	130 J	110 J	64 J	--	--	--	--	--	--	--	14 J	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	50 J	23 J	12 J	--	--	--	--	--	--	--	3.4 J	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	130 UJ	51 UJ	15 UJ	--	--	--	--	--	--	--	3 UJ	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	2.9 UJ	240 R	3.8 UJ	--	--	--	--	--	--	--	0.68 UJ	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	80 J	44 UJ	35 J	--	--	--	--	--	--	--	8.2 J	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	3 UJ	5.4 UJ	4.3 UJ	--	--	--	--	--	--	--	0.26 UJ	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	2.7 UJ	4.8 UJ	380 UJ	--	--	--	--	--	--	--	37 UJ	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	11 UJ	250 UJ	4 UJ	--	--	--	--	--	--	--	2.3 J	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	4.4 UJ	4.1 UJ	1.6 UJ	--	--	--	--	--	--	--	0.16 UJ	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	14 UJ	12 UJ	2.6 UJ	--	--	--	--	--	--	--	0.22 UJ	--	--	--	--
OCDD	ng/kg	--	18000 J	33000 J	18000 J	--	--	--	--	--	--	--	4300 J	--	--	--	--
OCDF	ng/kg	--	1000 J	1800 J	670 J	--	--	--	--	--	--	--	67 J	--	--	--	--
TEQ Avian	ng/kg	--	110	190 JH	44	--	--	--	--	--	--	--	9.1	--	--	--	--
TEQ Human	ng/kg	--	140	130 JH	67	--	--	--	--	--	--	--	14	--	--	--	--
TEQ Mammals	ng/kg	--	140	130 JH	67	--	--	--	--	--	--	--	14	--	--	--	--
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2.1 U	2 UJ	2 U	--	2.1 U	2.2 U	2.1 U	2 U	2 U
Arsenic	mg/kg	2.7	3.7	2.9	2.6	2.8	2.5	3.2	2.4	3.4	3.8	--	2.4	2.2	2.4	3.5	3.1
Barium	mg/kg	62	88	90	71	79	92	100	70	--	75	74 J	65	51	56	120	93
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	1.2	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	1	0.51	0.63	0.79	0.2 U	0.51	0.92	0.34	--	0.2 U	0.61	0.27	0.22 U	0.21 U	0.41	0.24
Chromium, total	mg/kg	21	110	90	23	8.1	16	33	25	18 J	8.9	33	19	31	20	35	16
Cobalt	mg/kg	3.3	3.8	4.5	3.7	2.7	4.4	4.7	7.7	4.2	2.6	--	6.3	9.2	6.1	5.2	3.2
Copper	mg/kg	10	19	44	11	5.1	8.9	7.8	9.4	--	4.3	7.3	11	14	9	21	9.4
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	6.2	20	36	11	7.2	4.1	3.6	3	5.3	2.7	--	5.6	3	1 U	36	5.4
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	--	0.1 U	0.099 U	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	2.7
Nickel	mg/kg	6	7.3	8.8	6.6	5.1	7.7	7.9	15	8.8	4.3	--	14	21	12	12	7
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	1 UJ	1 UJ	1 UJ
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	1 UJ	1 U	1 U
Thallium	mg/kg	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2.1 U	2 U	2 U	--	2.1 U	2.2 U	2.1 UJ	2 UJ	2 UJ
Vanadium	mg/kg	17	18	21	18	15	19	19	33	21	13	--	26	38	23	20	13
Zinc	mg/kg	42	170	310	88	38	27	30	40	--	17	71 J	87	39	34	92	24
Metals CLP																	
Aluminum	mg/kg	4600	--	--	--	--	--	6600	11000	5500	3500	--	--	--	--	--	--
Calcium	mg/kg	21000	--	--	--	--	--	22000	20000	23000	28000	--	--	--	--	--	--
Cyanide	mg/kg	0.21 U	--	--	--	--	--	0.21 UJ	0.21 UJ	--	0.21 UJ	0.2 UJ	--	--	--	--	--
Iron	mg/kg	8200	--	--	--	--	--	13000	19000	--	6800	9600 J	--	--	--	--	--
Magnesium	mg/kg	4800	--	--	--	--	--	5600	8000	5300	5500	--	--	--	--	--	--
Manganese	mg/kg	130	--	--	--	--	--	200	200	160	130	--	--	--	--	--	--
Potassium	mg/kg	1100	--	--	--	--	--	1700	1900	1200	860	--	--	--	--	--	--
Sodium	mg/kg	480	--	--	--	--	--	400	2400	260 J	270	--	--	--	--	--	--

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Dataset for AOC 11 HHERA

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PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-11	SD-11A	SD-11A	SD-11A	SD-12	SD-12	SD-13	SD-13	SD-20	SD-20	SD-20	SD-23	SD-23	SD-27	SD-OS37	SD-OS37
	SAMPLE	SD-11-3	SD-11-01	SD-11-02	SD-11-04	SD-12-01	SD-12-03	SD-13-01	SD-13-03	SD-20-01	SD-20-03	SD-20-01-FD	SD-23-01	SD-23-03	SD-27-02	SD-37-OS1-1001	SD-37-OS1-1002
	DATE	12/6/2015	3/7/2016	3/7/2016	3/7/2016	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/11/2015	11/11/2015	11/11/2015	3/9/2016	3/9/2016	2/15/2017	11/30/2016	11/30/2016
	SAMPLE TOP DEPTH (FT)	2	0	2	5	0	2	0	2	0	2	0	0	2	2	0	3
	SAMPLE BOTTOM DEPTH (FT)	3	1	3	6	1	3	1	3	1	3	1	1	3	3	0.5	3.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	0.5	3	6	0.5	3	0.5	3	0.5	3	0.5	0.5	3	3	0.5	3.5
	SAMPLE TYPE											Field Duplicate					
ANALYTE	UNITS																
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	70	17 U	17 U	16 U	17 U	17 U	18 U	17 U	17 U	--	18 U	18 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	35 U	34 U	33 U	34 U	33 U	35 U	33 U	33 U	--	35 U	36 U	34 U	33 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	16 U	17 U	17 U	18 U	17 U	17 U	--	18 U	18 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	16 U	17 U	17 U	18 U	17 U	17 U	--	18 U	18 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	16 U	17 U	17 U	18 U	17 U	17 U	--	18 U	18 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	250	240	110	16 U	17 U	17 U	18 U	17 U	17 U	--	250	18 U	17 U	1600	110
Aroclor 1260	ug/kg	17 U	1000	360	110	16 U	17 U	17 U	18 U	17 U	17 U	--	18 U	18 U	17 U	310	38
Aroclor 1262	ug/kg	17 U	--	--	--	--	--	17 U	18 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	--	--	--	--	--	17 U	18 U	17 U	17 U	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	1330	617	237	32 U	34 U	34 U	36 U	34 U	34 U	--	277	36 U	34 U	1930	165
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	6.1	5.1 U
Anthracene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	18	5.1 U
B(a)P Equivalent	ug/kg	57 U	48	66	60	56	5.9 U	130	6.4	95	5.9 U	--	180	9.7	6 U	760	21
Benzo (a) anthracene	ug/kg	5.1 U	5 U	20 J	5.2 U	12	5.1 U	39	5.3 U	42 J	5.1 U	--	150 J	5.4 U	5.2 U	370	8.2
Benzo (a) pyrene	ug/kg	51 U	16 J	52 U	52 U	50 U	5.1 U	74	5.3 U	51	5.1 U	--	130 J	5.4	5.2 U	600 J	14
Benzo (b) fluoranthene	ug/kg	51 U	44 J	90 J	48 J	50 U	5.1 U	160	5.7	--	5.1 U	67	260	10	5.2 U	1000 J	27
Benzo (ghi) perylene	ug/kg	51 U	50 U	9.1 J	52 U	50 U	5.1 U	120	5.3 U	--	5.1 U	50 U	32 J	5.4 U	5.2 U	120 J	10
Benzo (k) fluoranthene	ug/kg	51 U	20 J	43 J	25 J	50 U	5.1 U	51	5.3 U	--	5.1 U	50 U	110 J	5.4 U	5.2 U	410 J	7.8
Chrysene	ug/kg	5.1 U	71 J	51 J	5.2 U	20	5.1 U	65	5.3 U	58 J	5.1 U	--	150 J	7.6	5.2 U	690	18
Dibenzo (a,h) anthracene	ug/kg	51 U	50 U	52 U	52 U	50 U	5.1 U	51 U	5.3 U	--	5.1 U	50 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Fluoranthene	ug/kg	5.1 U	5 U	72 J	49 J	30	5.1 U	89	5.3 U	88	5.1 U	--	220 J	10	5.2 U	1200	24
Fluorene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	51 U	50 U	52 U	52 U	50 U	5.1 U	95	5.3 U	--	5.1 U	50 U	28 J	5.4 U	5.2 U	140 J	9.5
Naphthalene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	5 U	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	151	285	122	87	0	781	5.7	445	0	--	1270	42.7	0	5630	143
PAH Low molecular weight	ug/kg	0	21	27	20	20	0	11	0	27	0	--	30	0	0	384	6.8

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-11	SD-11A	SD-11A	SD-11A	SD-12	SD-12	SD-13	SD-13	SD-20	SD-20	SD-20	SD-23	SD-23	SD-27	SD-OS37	SD-OS37
	SAMPLE	SD-11-3	SD-11-01	SD-11-02	SD-11-04	SD-12-01	SD-12-03	SD-13-01	SD-13-03	SD-20-01	SD-20-03	SD-20-01-FD	SD-23-01	SD-23-03	SD-27-02	SD-37-OS1-1001	SD-37-OS1-1002
	DATE	12/6/2015	3/7/2016	3/7/2016	3/7/2016	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/11/2015	11/11/2015	11/11/2015	3/9/2016	3/9/2016	2/15/2017	11/30/2016	11/30/2016
	SAMPLE TOP DEPTH (FT)	2	0	2	5	0	2	0	2	0	2	0	0	2	2	0	3
	SAMPLE BOTTOM DEPTH (FT)	3	1	3	6	1	3	1	3	1	3	1	1	3	3	0.5	3.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	0.5	3	6	0.5	3	0.5	3	0.5	3	0.5	0.5	3	3	0.5	3.5
	SAMPLE TYPE											Field Duplicate					
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.1 U	21 J	27 J	20 J	20	5.1 U	11	5.3 U	--	5.1 U	7.7	30 J	5.4 U	5.2 U	360	6.8
Pyrene	ug/kg	5.1 U	5 U	5.2 U	5.2 U	25	5.1 U	88	5.3 U	96	5.1 U	--	190 J	9.7	5.2 U	1100	24
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	590	840 J	940	240	10 U	26	10 U	11 U	--	10 U	23	47	11 U	10 U	21	19
TPH as gasoline	mg/kg	1.2 U	--	1.3 U	1.6 U	--	1.2 U	--	1.5 U	--	1.6 U	--	--	1.5 U	1.1 U	2.2 U	1.2 U
TPH as motor oil	mg/kg	1200	1400	1500	440	29	56	11	11 U	39 J	10 U	--	140	11 U	10 U	130	46
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-11	SD-11A	SD-11A	SD-11A	SD-12	SD-12	SD-13	SD-13	SD-20	SD-20	SD-20	SD-23	SD-23	SD-27	SD-OS37	SD-OS37
	SAMPLE	SD-11-3	SD-11-01	SD-11-02	SD-11-04	SD-12-01	SD-12-03	SD-13-01	SD-13-03	SD-20-01	SD-20-03	SD-20-01-FD	SD-23-01	SD-23-03	SD-27-02	SD-37-OS1-1001	SD-37-OS1-1002
	DATE	12/6/2015	3/7/2016	3/7/2016	3/7/2016	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/11/2015	11/11/2015	11/11/2015	3/9/2016	3/9/2016	2/15/2017	11/30/2016	11/30/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	0	2	0	2	0	0	2	2	0	3
SAMPLE BOTTOM DEPTH (FT)		3	1	3	6	1	3	1	3	1	3	1	1	3	3	0.5	3.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	0.5	3	0.5	3	0.5	0.5	3	3	0.5	3.5
SAMPLE TYPE												Field Duplicate					
ANALYTE	UNITS																
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-11	SD-11A	SD-11A	SD-11A	SD-12	SD-12	SD-13	SD-13	SD-20	SD-20	SD-20	SD-23	SD-23	SD-27	SD-OS37	SD-OS37
	SAMPLE	SD-11-3	SD-11-01	SD-11-02	SD-11-04	SD-12-01	SD-12-03	SD-13-01	SD-13-03	SD-20-01	SD-20-03	SD-20-01-FD	SD-23-01	SD-23-03	SD-27-02	SD-37-OS1-1001	SD-37-OS1-1002
	DATE	12/6/2015	3/7/2016	3/7/2016	3/7/2016	11/10/2015	11/10/2015	11/10/2015	11/10/2015	11/11/2015	11/11/2015	11/11/2015	3/9/2016	3/9/2016	2/15/2017	11/30/2016	11/30/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	0	2	0	2	0	0	2	2	0	3
SAMPLE BOTTOM DEPTH (FT)		3	1	3	6	1	3	1	3	1	3	1	1	3	3	0.5	3.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	0.5	3	0.5	3	0.5	0.5	3	3	0.5	3.5
SAMPLE TYPE												Field Duplicate					
ANALYTE	UNITS																
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS37
	SAMPLE	SD-37-OS1-1003
	DATE	11/30/2016
SAMPLE TOP DEPTH (FT)		5
SAMPLE BOTTOM DEPTH (FT)		5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		5.5
SAMPLE TYPE		
ANALYTE	UNITS	
Dioxins		
1,2,3,4,6,7,8-HpCDD	ng/kg	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--
1,2,3,4,7,8-HxCDD	ng/kg	--
1,2,3,4,7,8-HxCDF	ng/kg	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--
1,2,3,6,7,8-HxCDD	ng/kg	--
1,2,3,6,7,8-HxCDF	ng/kg	--
1,2,3,7,8-PeCDD	ng/kg	--
1,2,3,7,8-PeCDF	ng/kg	--
1,2,3,7,8,9-HxCDD	ng/kg	--
1,2,3,7,8,9-HxCDF	ng/kg	--
2,3,4,6,7,8-HxCDF	ng/kg	--
2,3,4,7,8-PeCDF	ng/kg	--
2,3,7,8-TCDD	ng/kg	--
2,3,7,8-TCDF	ng/kg	--
OCDD	ng/kg	--
OCDF	ng/kg	--
TEQ Avian	ng/kg	--
TEQ Human	ng/kg	--
TEQ Mammals	ng/kg	--
General		
pH	PHUNITS	--
Metals		
Antimony	mg/kg	2 U
Arsenic	mg/kg	2.9
Barium	mg/kg	110
Beryllium	mg/kg	1 U
Cadmium	mg/kg	1 U
Chromium-SPLP	mg/L	--
Chromium, Hexavalent	mg/kg	0.2 U
Chromium, total	mg/kg	14
Cobalt	mg/kg	4.1
Copper	mg/kg	7.4
CR6 SPLP	mg/L	--
Lead	mg/kg	3.3
Mercury	mg/kg	0.1 U
Molybdenum	mg/kg	1 U
Nickel	mg/kg	11
Selenium	mg/kg	1 UJ
Silver	mg/kg	1 U
Thallium	mg/kg	2 UJ
Vanadium	mg/kg	16
Zinc	mg/kg	20
Metals CLP		
Aluminum	mg/kg	--
Calcium	mg/kg	--
Cyanide	mg/kg	--
Iron	mg/kg	--
Magnesium	mg/kg	--
Manganese	mg/kg	--
Potassium	mg/kg	--
Sodium	mg/kg	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS37
	SAMPLE	SD-37-OS1-1003
	DATE	11/30/2016
SAMPLE TOP DEPTH (FT)		5
SAMPLE BOTTOM DEPTH (FT)		5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		5.5
SAMPLE TYPE		
ANALYTE	UNITS	
Pesticides		
4,4-DDD	ug/kg	--
4,4-DDE	ug/kg	--
4,4-DDT	ug/kg	--
Aldrin	ug/kg	--
alpha-BHC	ug/kg	--
alpha-Chlordane	ug/kg	--
beta-BHC	ug/kg	--
delta-BHC	ug/kg	--
Dieldrin	ug/kg	--
Endo sulfan I	ug/kg	--
Endo sulfan II	ug/kg	--
Endosulfan sulfate	ug/kg	--
Endrin	ug/kg	--
Endrin aldehyde	ug/kg	--
Endrin ketone	ug/kg	--
gamma-BHC	ug/kg	--
gamma-Chlordane	ug/kg	--
Heptachlor	ug/kg	--
Heptachlor Epoxide	ug/kg	--
Methoxy chlor	ug/kg	--
Toxaphene	ug/kg	--
Polychlorinated Biphenyls		
Aroclor 1016	ug/kg	17 U
Aroclor 1221	ug/kg	34 U
Aroclor 1232	ug/kg	17 U
Aroclor 1242	ug/kg	17 U
Aroclor 1248	ug/kg	17 U
Aroclor 1254	ug/kg	26
Aroclor 1260	ug/kg	17 U
Aroclor 1262	ug/kg	--
Aroclor 1268	ug/kg	--
Total PCBs	ug/kg	51.5
Polycyclic Aromatic Hydrocarbons		
1-Methyl naphthalene	ug/kg	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U
Acenaphthene	ug/kg	5.1 U
Acenaphthylene	ug/kg	5.1 U
Anthracene	ug/kg	5.1 U
B(a)P Equivalent	ug/kg	25
Benzo (a) anthracene	ug/kg	14
Benzo (a) pyrene	ug/kg	17
Benzo (b) fluoranthene	ug/kg	28
Benzo (ghi) perylene	ug/kg	14
Benzo (k) fluoranthene	ug/kg	8.9
Chrysene	ug/kg	21
Dibenzo (a,h) anthracene	ug/kg	5.1 U
Fluoranthene	ug/kg	32
Fluorene	ug/kg	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	12
Naphthalene	ug/kg	5.1 U
PAH High molecular weight	ug/kg	179
PAH Low molecular weight	ug/kg	9.2

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS37
	SAMPLE	SD-37-OS1-1003
	DATE	11/30/2016
SAMPLE TOP DEPTH (FT)		5
SAMPLE BOTTOM DEPTH (FT)		5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		5.5
SAMPLE TYPE		
ANALYTE	UNITS	
Phenanthrene	ug/kg	9.2
Pyrene	ug/kg	32
Semi-Volatile Organic Compounds		
1,1'-Biphenyl	ug/kg	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--
2-Chloro naphthalene	ug/kg	--
2-Chlorophenol	ug/kg	--
2-Methylphenol	ug/kg	--
2-Nitroaniline	ug/kg	--
2-Nitrophenol	ug/kg	--
2,3,4,6-Tetrachlorophenol	ug/kg	--
2,4-Dichlorophenol	ug/kg	--
2,4-Dimethylphenol	ug/kg	--
2,4-Dinitrophenol	ug/kg	--
2,4-Dinitrotoluene	ug/kg	--
2,6-Dinitrotoluene	ug/kg	--
3-Nitroaniline	ug/kg	--
3,3-Dichlorobenzidene	ug/kg	--
4-Bromophenyl phenyl ether	ug/kg	--
4-Chloro-3-methylphenol	ug/kg	--
4-Chloroaniline	ug/kg	--
4-Chlorophenyl phenyl ether	ug/kg	--
4-Methylphenol	ug/kg	--
4-Nitroaniline	ug/kg	--
4-Nitrophenol	ug/kg	--
4,6-Dinitro-2-methylphenol	ug/kg	--
Acetophenone	ug/kg	--
Atrazine	ug/kg	--
Benzaldehyde	ug/kg	--
Benzoic acid	ug/kg	--
Benzyl alcohol	ug/kg	--
bis (2-chloroethoxy) methane	ug/kg	--
bis (2-ethylhexyl) phthalate	ug/kg	--
Butylbenzylphthalate	ug/kg	--
Caprolactam	ug/kg	--
Carbazole	ug/kg	--
Di-n-butyl phthalate	ug/kg	--
Di-n-octyl phthalate	ug/kg	--
Dibenzofuran	ug/kg	--
Diethyl phthalate	ug/kg	--
Dimethyl phthalate	ug/kg	--
Hexachlorobenzene	ug/kg	--
Hexachloroethane	ug/kg	--
n-Nitroso-di-n-propylamine	ug/kg	--
N-nitrosodiphenylamine	ug/kg	--
Pentachlorophenol	ug/kg	--
Phenol	ug/kg	--
Total Petroleum Hydrocarbons		
TPH as diesel	mg/kg	10 U
TPH as gasoline	mg/kg	1 U
TPH as motor oil	mg/kg	12
Volatile Organic Compounds		
1,1-Dichloroethane	ug/kg	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS37
	SAMPLE	SD-37-OS1-1003
	DATE	11/30/2016
SAMPLE TOP DEPTH (FT)		5
SAMPLE BOTTOM DEPTH (FT)		5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		5.5
SAMPLE TYPE		
ANALYTE	UNITS	
1,1-Dichloroethene	ug/kg	--
1,1-Dichloropropene	ug/kg	--
1,1,1-Trichloroethane	ug/kg	--
1,1,1,2-Tetrachloroethane	ug/kg	--
1,1,2-Trichloroethane	ug/kg	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--
1,1,2,2-Tetrachloroethane	ug/kg	--
1,2-Dibromo-3-chloropropane	ug/kg	--
1,2-Dibromoethane	ug/kg	--
1,2-Dichlorobenzene	ug/kg	--
1,2-Dichloroethane	ug/kg	--
1,2-Dichloropropane	ug/kg	--
1,2,3-Trichlorobenzene	ug/kg	--
1,2,3-Trichloropropane	ug/kg	--
1,2,4-Trichlorobenzene	ug/kg	--
1,2,4-Trimethylbenzene	ug/kg	--
1,3-Dichlorobenzene	ug/kg	--
1,3-Dichloropropane	ug/kg	--
1,3,5-Trimethylbenzene	ug/kg	--
1,4-Dichlorobenzene	ug/kg	--
1,4-Dioxane	ug/kg	--
2-Chlorotoluene	ug/kg	--
2-Hexanone	ug/kg	--
2,2-Dichloropropane	ug/kg	--
2,4,5-Trichlorophenol	ug/kg	--
2,4,6-Trichlorophenol	ug/kg	--
4-Isopropyltoluene	ug/kg	--
Acetone	ug/kg	--
Acrolein	ug/kg	--
Acrylonitrile	ug/kg	--
Benzene	ug/kg	--
bis (2-chloroethyl) ether	ug/kg	--
bis (2-chloroisopropyl) ether	ug/kg	--
Bromobenzene	ug/kg	--
Bromochloromethane	ug/kg	--
Bromodichloromethane	ug/kg	--
Bromoform	ug/kg	--
Bromomethane	ug/kg	--
Carbon disulfide	ug/kg	--
Carbon tetrachloride	ug/kg	--
Chloro methane	ug/kg	--
Chlorobenzene	ug/kg	--
Chloroethane	ug/kg	--
Chloroform	ug/kg	--
cis-1,2-Dichloroethene	ug/kg	--
cis-1,3-Dichloropropene	ug/kg	--
Cyclohexane	ug/kg	--
Dibromochloromethane	ug/kg	--
Dibromomethane	ug/kg	--
Dichlorodifluoromethane	ug/kg	--
Ethyl- benzene	ug/kg	--
Hexachlorobutadiene	ug/kg	--
Hexachlorocyclopentadiene	ug/kg	--

Table AOC11-A1
Dataset for AOC 11 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS37
	SAMPLE	SD-37-OS1-1003
	DATE	11/30/2016
SAMPLE TOP DEPTH (FT)		5
SAMPLE BOTTOM DEPTH (FT)		5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		5.5
SAMPLE TYPE		
ANALYTE	UNITS	
Isophorone	ug/kg	--
Isopropylbenzene	ug/kg	--
Methyl acetate	ug/kg	--
Methyl ethyl ketone	ug/kg	--
Methyl isobutyl ketone	ug/kg	--
Methyl tert-butyl ether (MTBE)	ug/kg	--
Methylcyclohexane	ug/kg	--
Methylene chloride	ug/kg	--
N-Butylbenzene	ug/kg	--
N-Propylbenzene	ug/kg	--
Nitrobenzene	ug/kg	--
p-Chlorotoluene	ug/kg	--
sec-Butylbenzene	ug/kg	--
Styrene	ug/kg	--
tert-Butylbenzene	ug/kg	--
Tetrachloroethene	ug/kg	--
Toluene	ug/kg	--
trans-1,2-Dichloroethene	ug/kg	--
trans-1,3-Dichloropropene	ug/kg	--
Trichloroethene	ug/kg	--
Trichlorofluoromethane (Freon 11)	ug/kg	--
Vinyl chloride	ug/kg	--
Xylene, m,p-	ug/kg	--
Xylene, o-	ug/kg	--
Xylenes, total	ug/kg	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

AOC11-A3 Appendix Figure List

Exposure Unit: AOC 11

Reference Figure: AOC11-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC11-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC11-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC11-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC11-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC11-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIIUM
AOC11-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC11-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC11-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC11-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC11-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC11-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC11-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC11-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC11-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC11-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC11-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC11-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC11-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
AOC11-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC11-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC11-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC11-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC11-A3.23	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC11-A3.24	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC11-A3.25	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC11-A3.26	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC11-A3.27	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
AOC11-A3.28	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC11-A3.29	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC11-A3.30	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC11-A3.31	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC11-A3.32	0 - 0.5 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC11-A3.33	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC11-A3.34	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC11-A3.35	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC11-A3.36	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC11-A3.37	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC11-A3.38	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC11-A3.39	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIIUM
AOC11-A3.40	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC11-A3.41	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC11-A3.42	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC11-A3.43	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC11-A3.44	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC11-A3.45	0 - 3 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC11-A3.46	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC11-A3.47	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC11-A3.48	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC11-A3.49	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC11-A3.50	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC11-A3.51	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC11-A3.52	0 - 3 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
AOC11-A3.53	0 - 3 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC11-A3.54	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC11-A3.55	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC11-A3.56	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC11-A3.57	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC11-A3.58	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC11-A3.59	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC11-A3.60	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC11-A3.61	0 - 3 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
AOC11-A3.62	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC11-A3.63	0 - 3 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC11-A3.64	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC11-A3.65	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC11-A3.66	0 - 3 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC11-A3.67	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC11-A3.68	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL

Exposure Unit: AOC 11

Reference Figure: AOC11-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC11-A3.69	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC11-A3.70	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC11-A3.71	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC11-A3.72	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC11-A3.73	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC11-A3.74	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC11-A3.75	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC11-A3.76	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC11-A3.77	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC11-A3.78	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC11-A3.79	0 - 6 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC11-A3.80	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC11-A3.81	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC11-A3.82	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC11-A3.83	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC11-A3.84	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC11-A3.85	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC11-A3.86	0 - 6 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
AOC11-A3.87	0 - 6 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC11-A3.88	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC11-A3.89	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC11-A3.90	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC11-A3.91	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC11-A3.92	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC11-A3.93	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC11-A3.94	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC11-A3.95	0 - 6 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
AOC11-A3.96	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC11-A3.97	0 - 6 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC11-A3.98	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC11-A3.99	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC11-A3.100	0 - 6 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC11-A3.101	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC11-A3.102	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC11-A3.103	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC11-A3.104	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC11-A3.105	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC11-A3.106	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC11-A3.107	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC11-A3.108	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC11-A3.109	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC11-A3.110	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC11-A3.111	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC11-A3.112	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC11-A3.113	0 - 10 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC11-A3.114	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC11-A3.115	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC11-A3.116	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC11-A3.117	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC11-A3.118	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC11-A3.119	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC11-A3.120	0 - 10 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
AOC11-A3.121	0 - 10 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC11-A3.122	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC11-A3.123	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC11-A3.124	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC11-A3.125	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC11-A3.126	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC11-A3.127	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC11-A3.128	0 - 10 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC11-A3.129	0 - 10 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
AOC11-A3.130	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC11-A3.131	0 - 10 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC11-A3.132	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC11-A3.133	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC11-A3.134	0 - 10 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC11-A3.135	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC11-A3.136	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC11-A3.137	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC11-A3.138	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT

Exposure Unit: AOC 11
Reference Figure: AOC11-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC11-A3.139	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC11-A3.140	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC11-A3.141	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC11-A3.142	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC11-A3.143	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC11-A3.144	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.24 - 3.50
	≥3.50 - 12.00
	≥12.00 - 26.00
	≥26.00 - 110.00
	≥110.00 - 280.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.1

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN

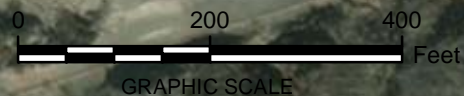


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.24 - 4.50
- $\geq 4.50 - 18.00$
- $\geq 18.00 - 42.00$
- $\geq 42.00 - 140.00$
- $\geq 140.00 - 520.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.2

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TEQ MAMMALS

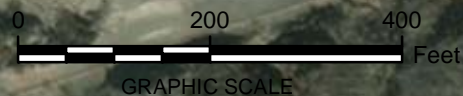


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.24 - 4.50
	≥4.50 - 18.00
	≥18.00 - 42.00
	≥42.00 - 140.00
	≥140.00 - 520.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.3

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC

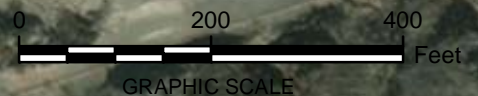


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	2.40 - 3.10
	≥3.10 - 4.00
	≥4.00 - 5.20
	≥5.20 - 7.20
	≥7.20 - 9.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



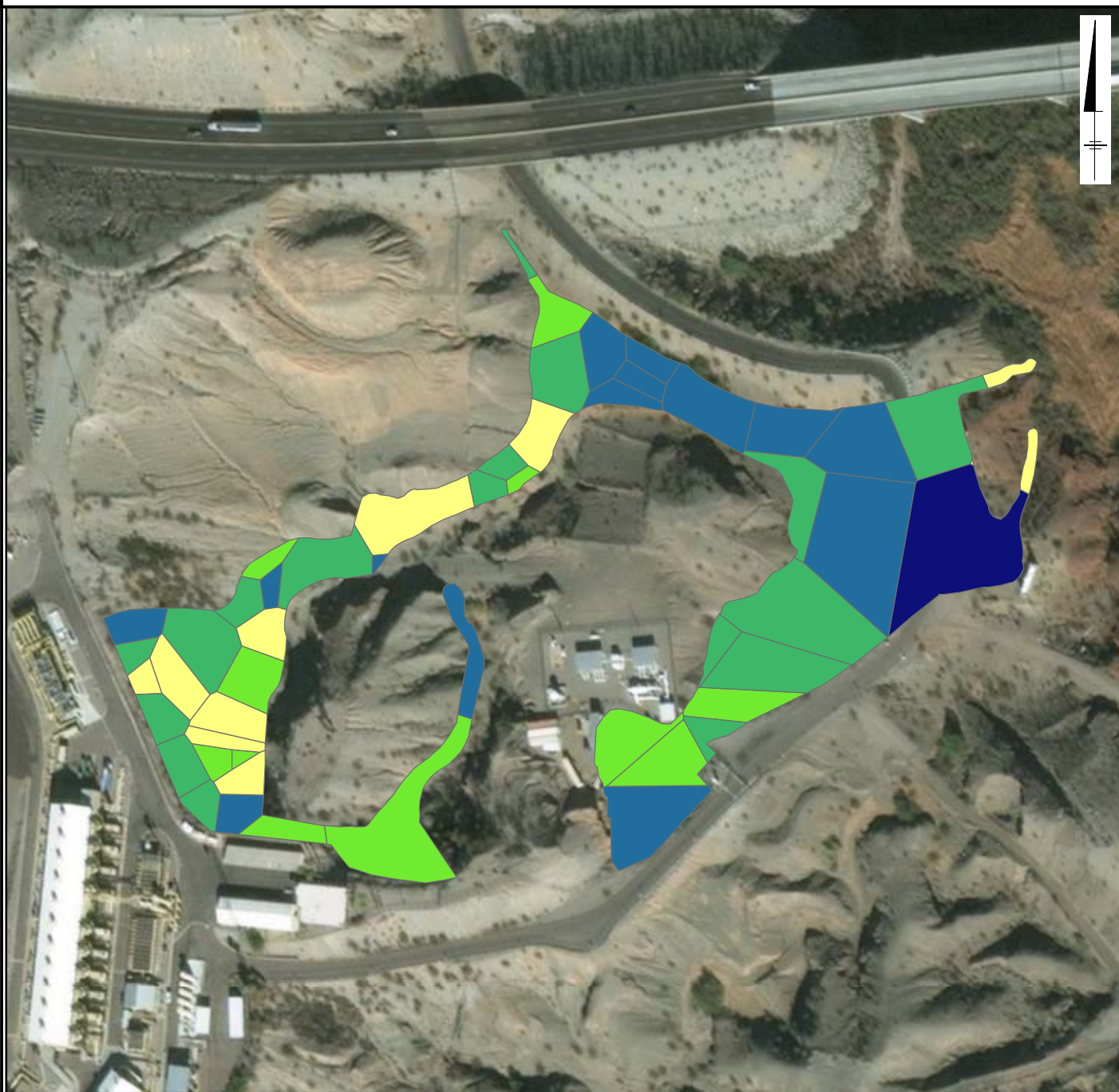
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FIGURE
AOC11-A3.4

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM

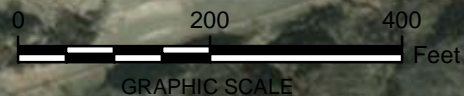


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	57.00 - 83.00
	≥83.00 - 110.00
	≥110.00 - 170.00
	≥170.00 - 310.00
	≥310.00 - 500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
AOC11-A3.5**

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.35
	≥0.35 - 0.74
	≥0.74 - 1.40
	≥1.40 - 2.30
	≥2.30 - 16.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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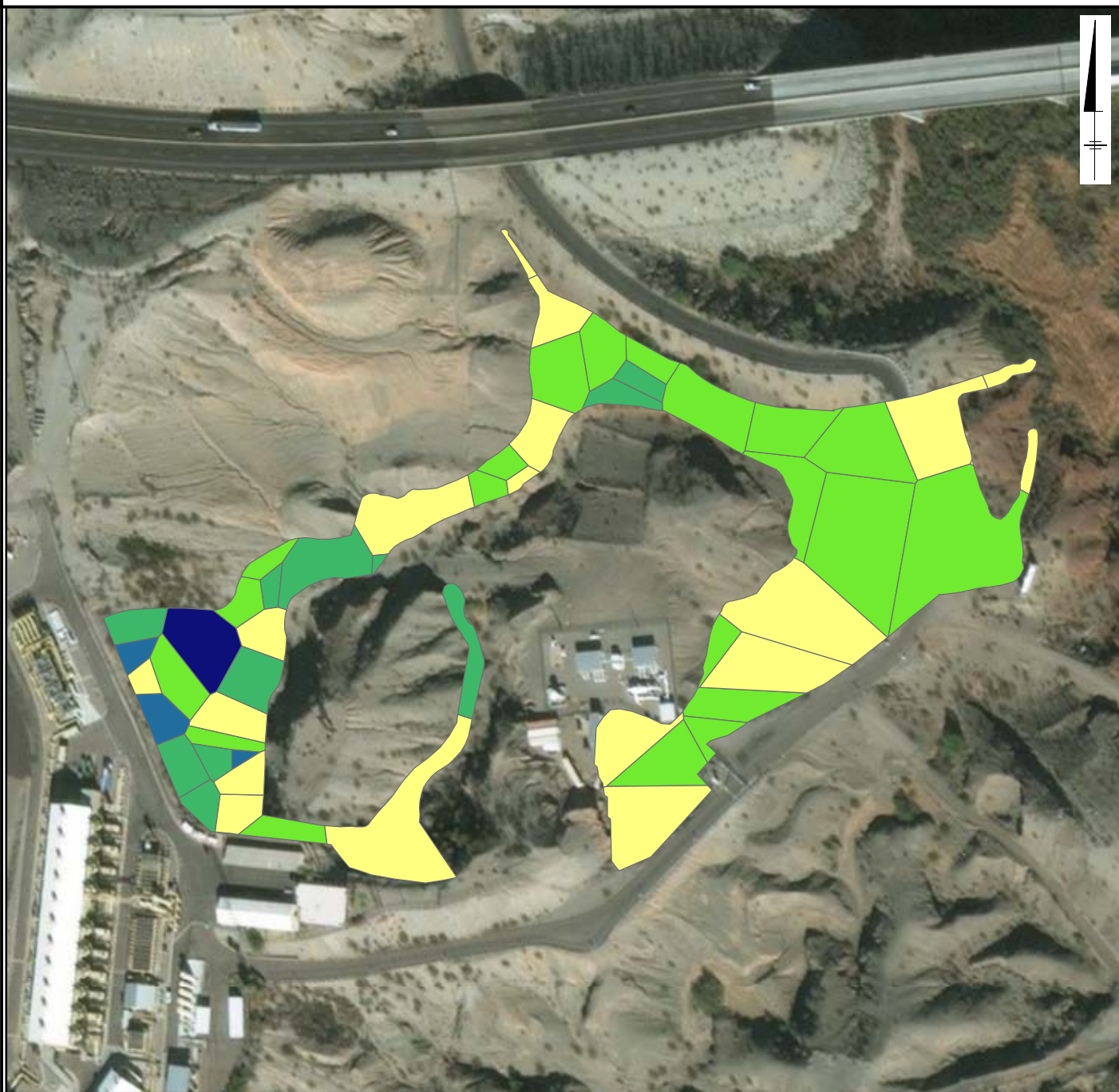
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FIGURE
AOC11-A3.6

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

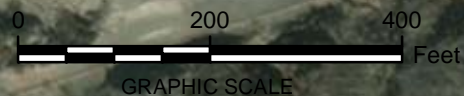


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 7.90 - 17.00
- ≥ 17.00 - 29.00
- ≥ 29.00 - 50.00
- ≥ 50.00 - 110.00
- ≥ 110.00 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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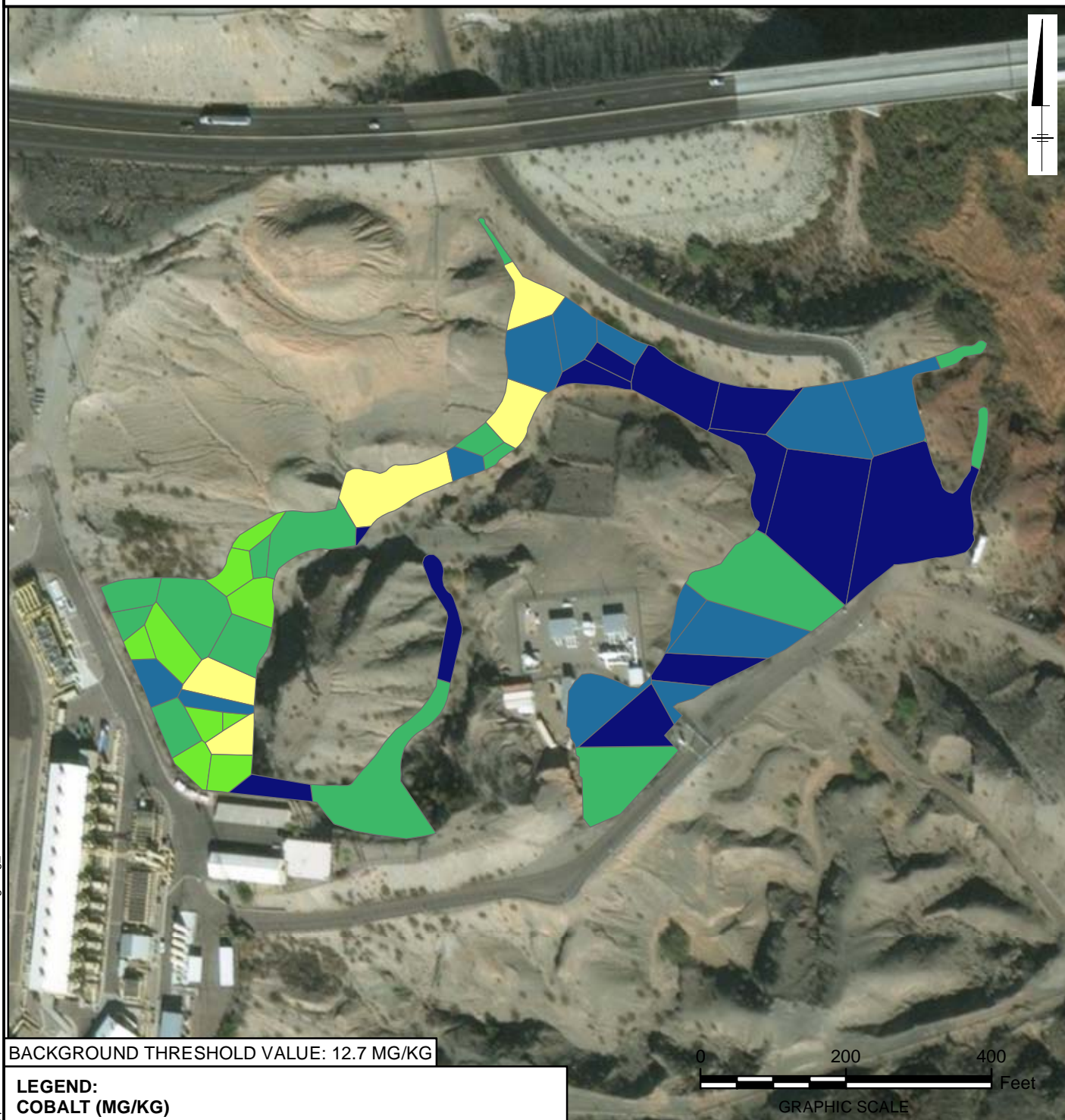
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FIGURE
AOC11-A3.7

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 2.70 - 3.40
- $\geq 3.40 - 4.50$
- $\geq 4.50 - 5.40$
- $\geq 5.40 - 6.40$
- $\geq 6.40 - 8.60$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.8

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 4.90 - 6.70
- ≥ 6.70 - 10.00
- ≥ 10.00 - 14.00
- ≥ 14.00 - 21.00
- ≥ 21.00 - 31.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

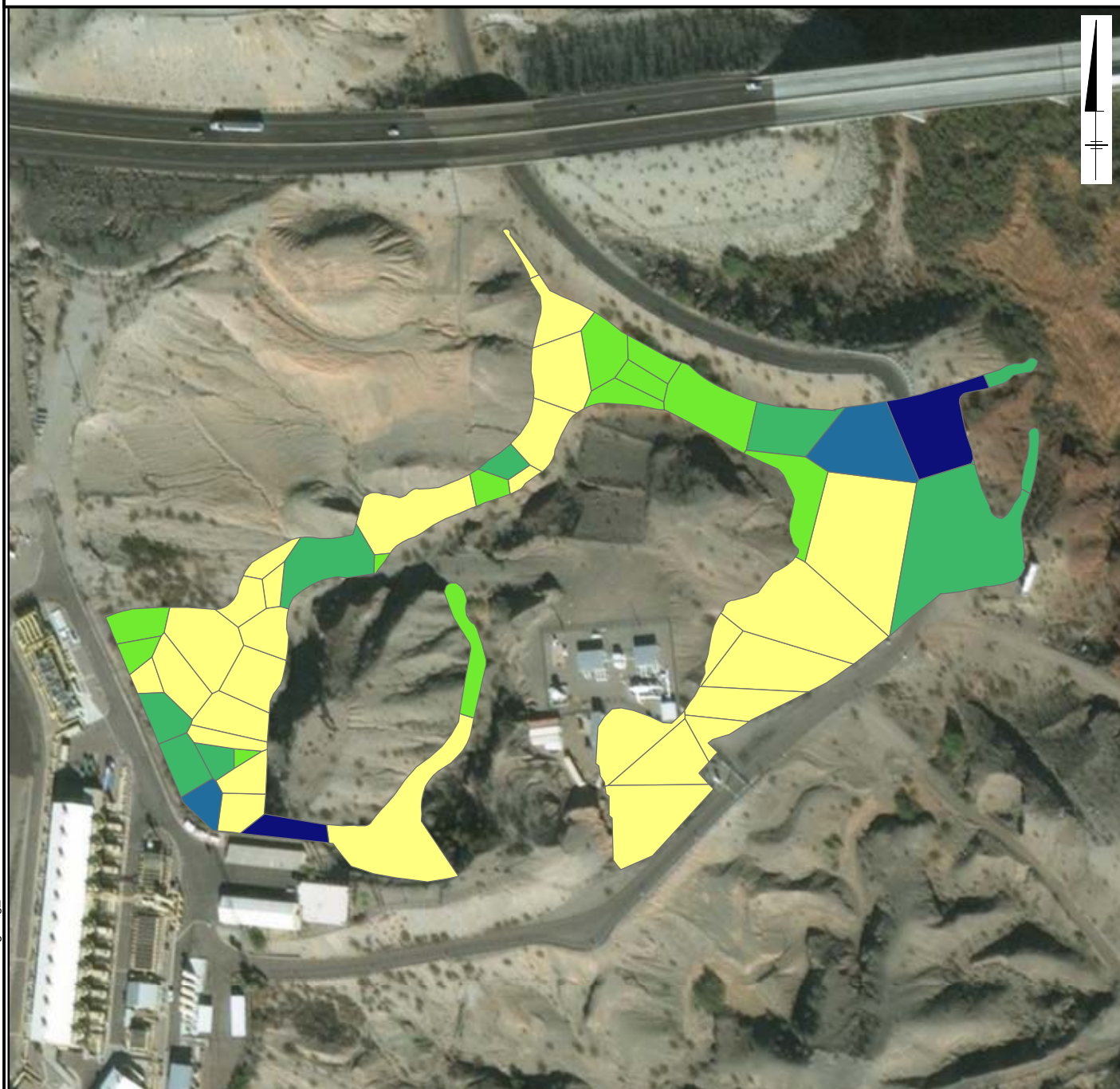
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FIGURE
AOC11-A3.9

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE LEAD

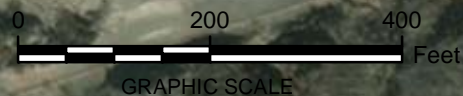


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	2.40 - 10.00
	≥10.00 - 20.00
	≥20.00 - 36.00
	≥36.00 - 56.00
	≥56.00 - 220.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.10

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE MOLYBDENUM

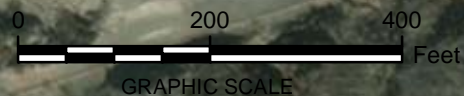


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.50 - 0.60
	≥0.60 - 1.10
	≥1.10 - 1.30
	≥1.30 - 1.70
	≥1.70 - 3.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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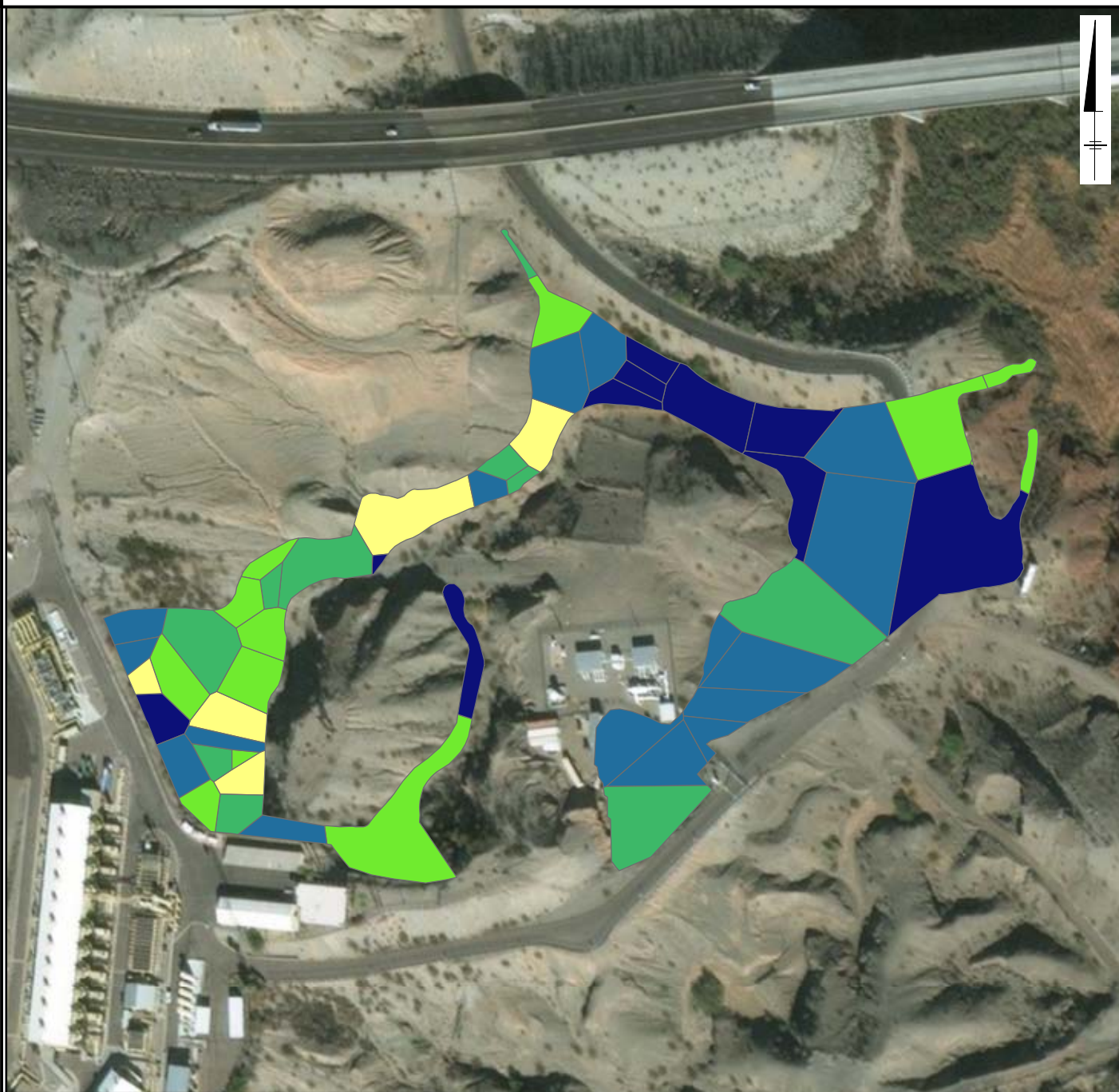
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FIGURE
AOC11-A3.11

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL

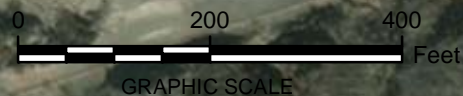


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	5.10 - 6.80
	≥6.80 - 9.10
	≥9.10 - 11.00
	≥11.00 - 15.00
	≥15.00 - 20.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.12

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

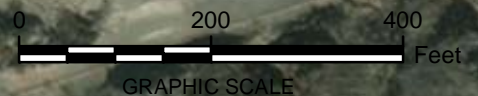


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	13.00 - 15.00
	≥15.00 - 21.00
	≥21.00 - 27.00
	≥27.00 - 36.00
	≥36.00 - 44.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.13

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE ZINC



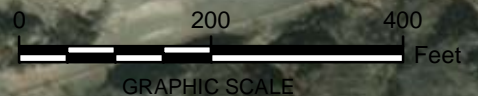
BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND:

ZINC (MG/KG)

	NOT DETECTED
	23.00 - 43.00
	≥43.00 - 67.00
	≥67.00 - 130.00
	≥130.00 - 300.00
	≥300.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



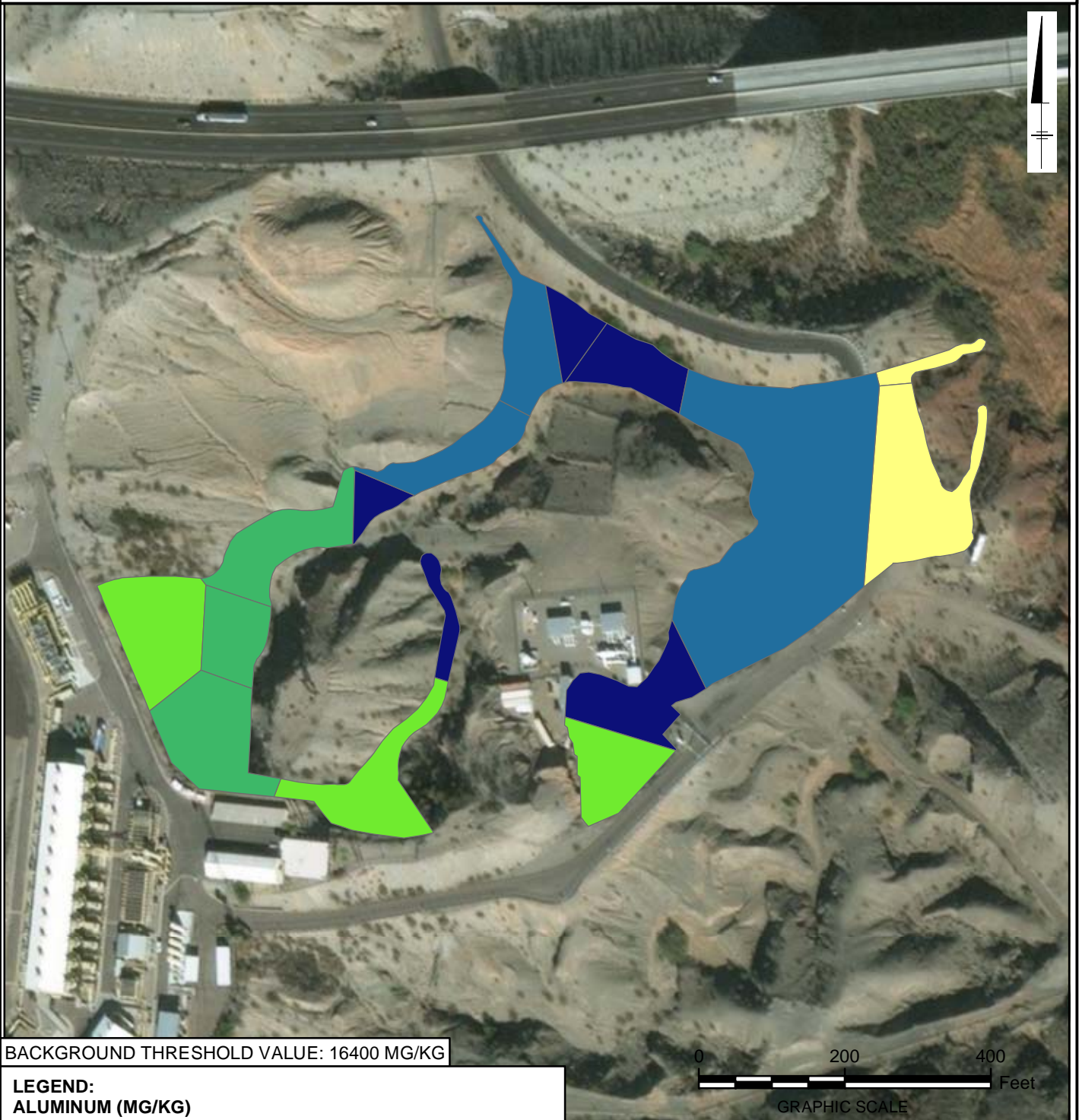
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FIGURE
AOC11-A3.14

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE ALUMINUM



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**FIGURE
AOC11-A3.15**

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE IRON

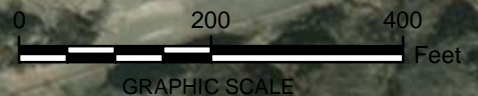


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	8700.00 - 9600.00
	≥9600.00 - 13000.00
	≥13000.00 - 16000.00
	≥16000.00 - 20000.00
	≥20000.00 - 26000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.16

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE MANGANESE

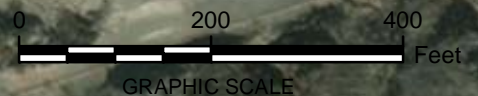


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

- NOT DETECTED
- 160.00 - 170.00
- ≥170.00 - 220.00
- ≥220.00 - 300.00
- ≥300.00 - 350.00
- ≥350.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.17

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 3.10
	≥3.10 - 7.50
	≥7.50 - 12.50
	≥12.50 - 50.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.18

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.75
- $\geq 2.75 - 3.10$
- $\geq 3.10 - 5.00$
- $\geq 5.00 - 19.00$
- $\geq 19.00 - 38.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

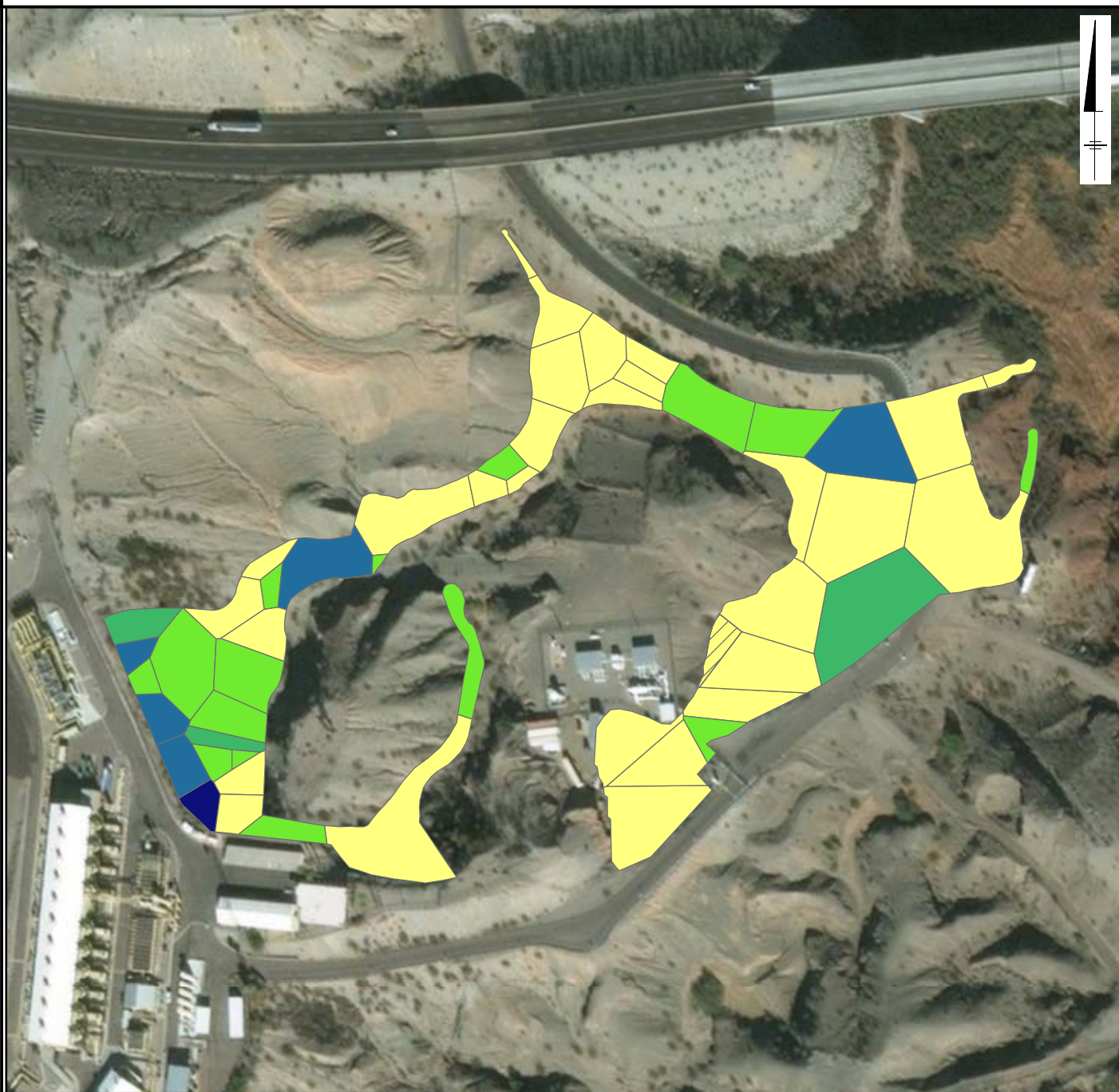
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**FIGURE
AOC11-A3.19**

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

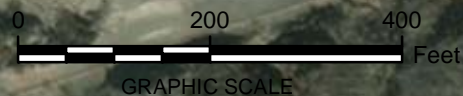


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 42.00
- ≥ 42.00 - 130.00
- ≥ 130.00 - 340.00
- ≥ 340.00 - 1000.00
- ≥ 1000.00 - 2300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.20

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 16.00
	≥16.00 - 55.00
	≥55.00 - 230.00
	≥230.00 - 440.00
	≥440.00 - 1600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400 Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.21

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 51.00
	≥51.00 - 130.00
	≥130.00 - 380.00
	≥380.00 - 600.00
	≥600.00 - 1600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.22

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 51.00
	≥51.00 - 160.00
	≥160.00 - 640.00
	≥640.00 - 1500.00
	≥1500.00 - 2600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.23

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE







BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (GHI) PERYLENE (UG/KG)

-  NOT DETECTED
-  2.50 - 14.00
-  ≥14.00 - 69.00
-  ≥69.00 - 170.00
-  ≥170.00 - 260.00
-  ≥260.00 - 750.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.24

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 20.00
	≥20.00 - 61.00
	≥61.00 - 140.00
	≥140.00 - 410.00
	≥410.00 - 930.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.25

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

-  NOT DETECTED
-  2.50 - 41.00
-  ≥41.00 - 100.00
-  ≥100.00 - 200.00
-  ≥200.00 - 690.00
-  ≥690.00 - 2600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.26

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

DIBENZO (A,H) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 3.10
	≥3.10 - 12.50
	≥12.50 - 26.00
	≥26.00 - 68.00
	≥68.00 - 260.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.27

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE

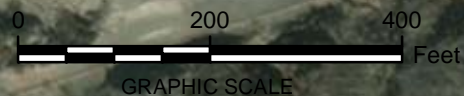


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 75.00
-  ≥75.00 - 300.00
-  ≥300.00 - 860.00
-  ≥860.00 - 1500.00
-  ≥1500.00 - 3700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.28

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

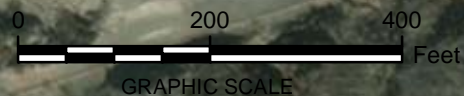


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 14.00
	≥14.00 - 38.00
	≥38.00 - 95.00
	≥95.00 - 260.00
	≥260.00 - 790.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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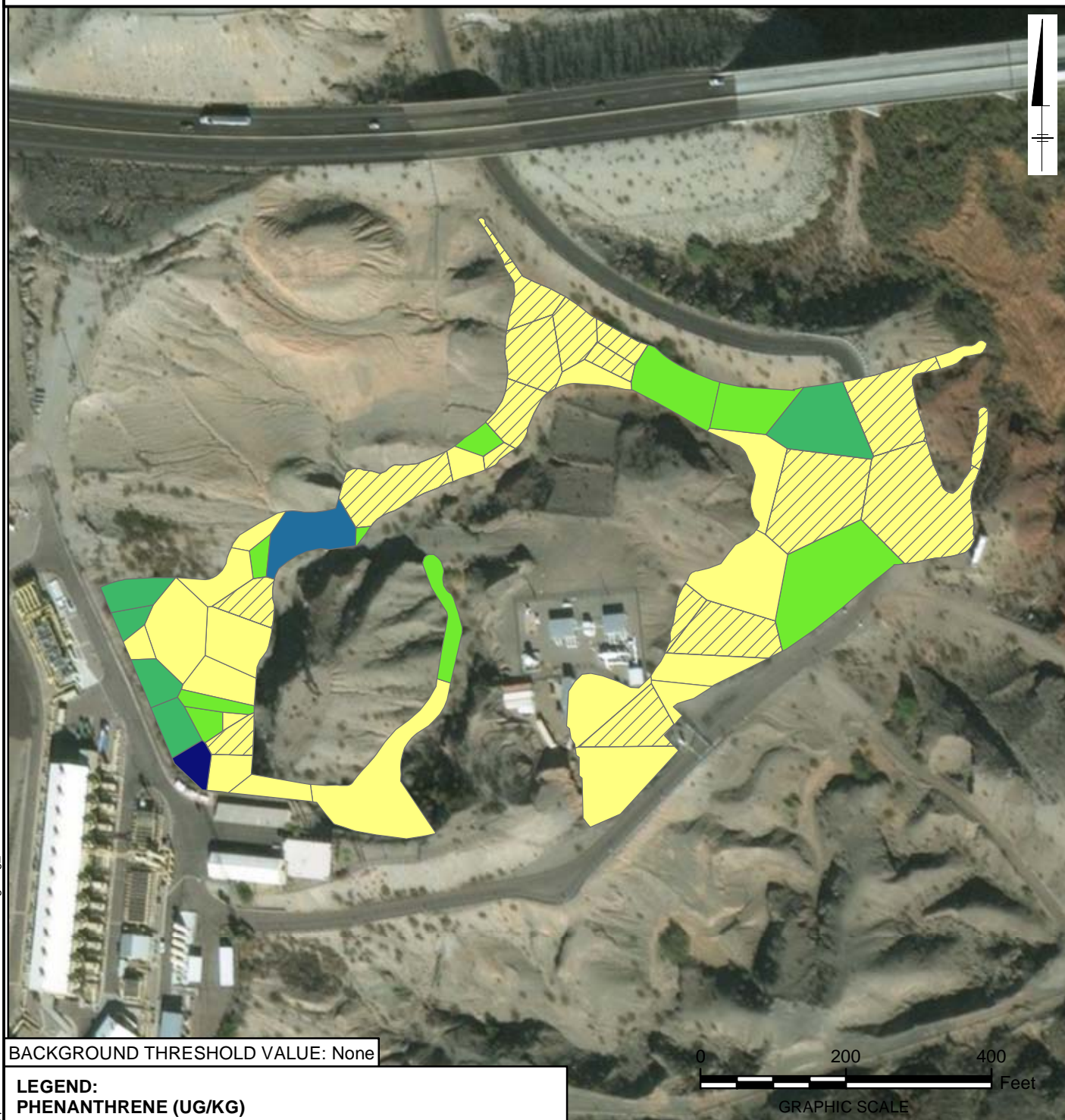
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FIGURE
AOC11-A3.29

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.50 - 21.00
- ≥21.00 - 65.00
- ≥65.00 - 360.00
- ≥360.00 - 590.00
- ≥590.00 - 1300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

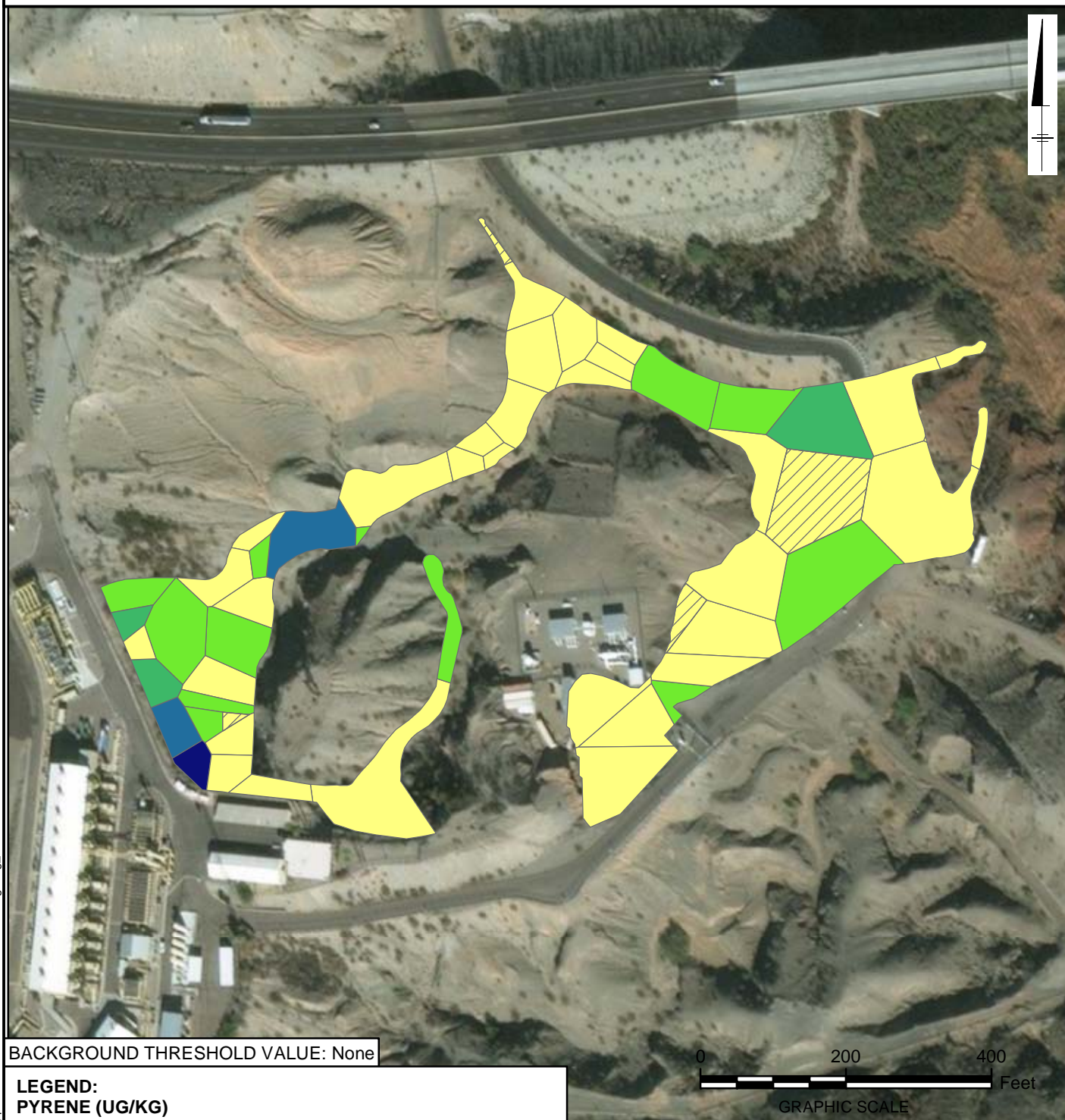
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FIGURE
AOC11-A3.30

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE



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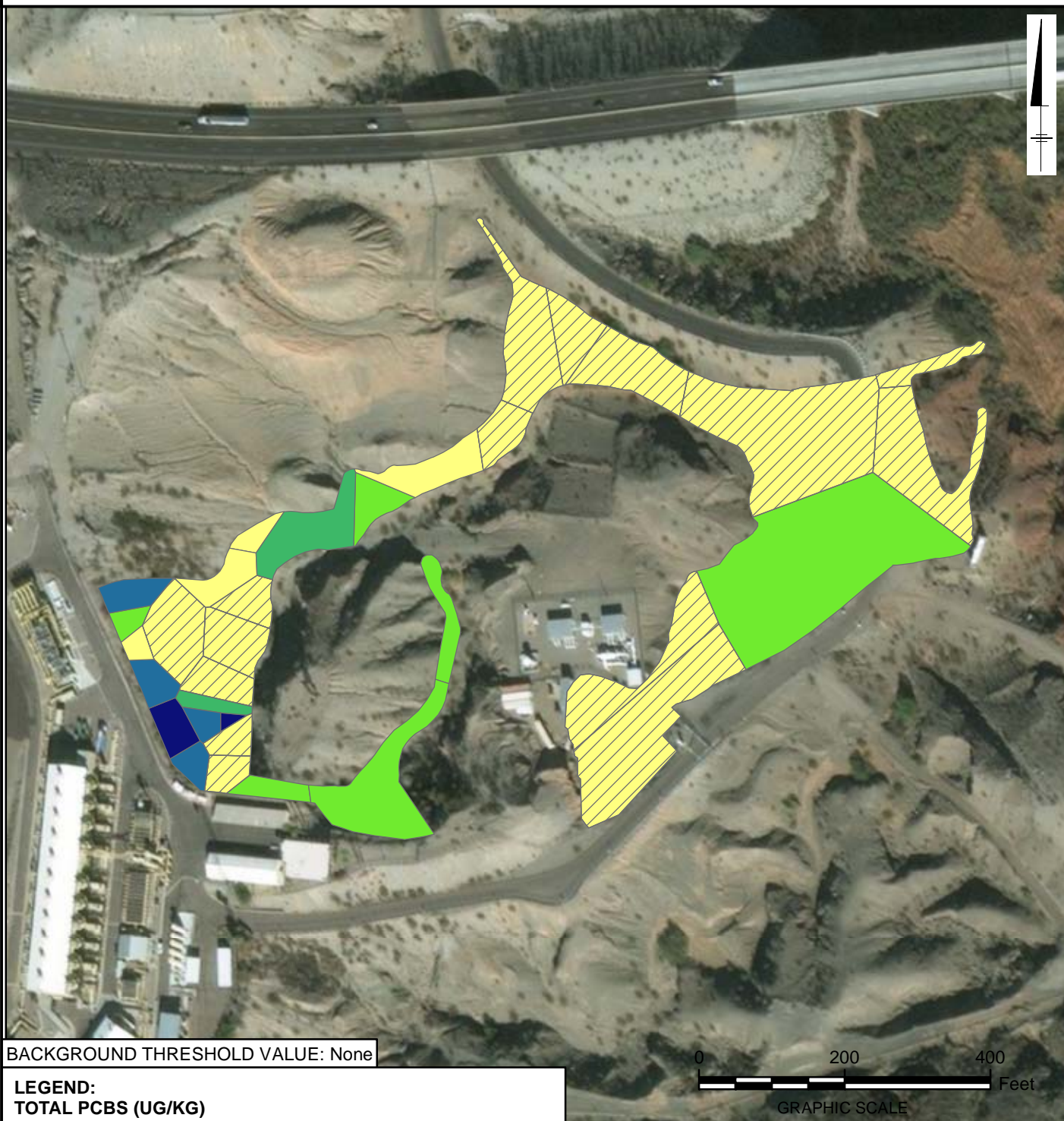
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FIGURE
AOC11-A3.31

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

	NOT DETECTED
	17.00 - 48.50
	≥48.50 - 149.00
	≥149.00 - 430.00
	≥430.00 - 627.00
	≥627.00 - 1930.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.32

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 6.00
- ≥6.00 - 15.00
- ≥15.00 - 28.00
- ≥28.00 - 75.00
- ≥75.00 - 840.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.33

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL

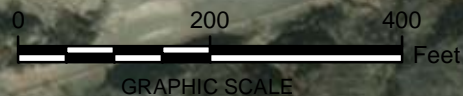


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS MOTOR OIL (MG/KG)

	NOT DETECTED
	5.00 - 19.00
	≥19.00 - 72.00
	≥72.00 - 240.00
	≥240.00 - 360.00
	≥360.00 - 1400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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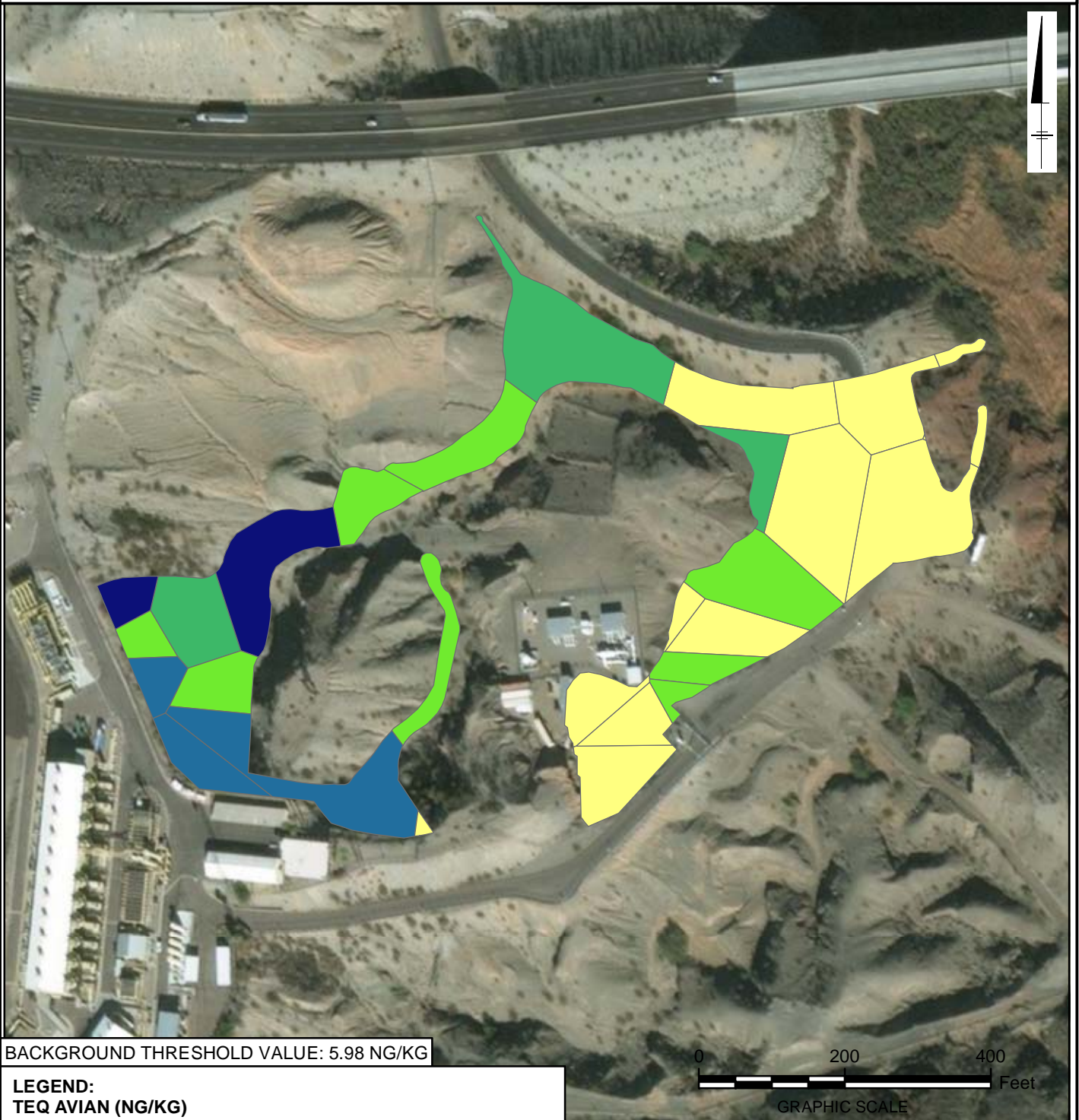
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FIGURE
AOC11-A3.34

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.19 - 2.80
	≥2.80 - 9.10
	≥9.10 - 22.30
	≥22.30 - 137.00
	≥137.00 - 280.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

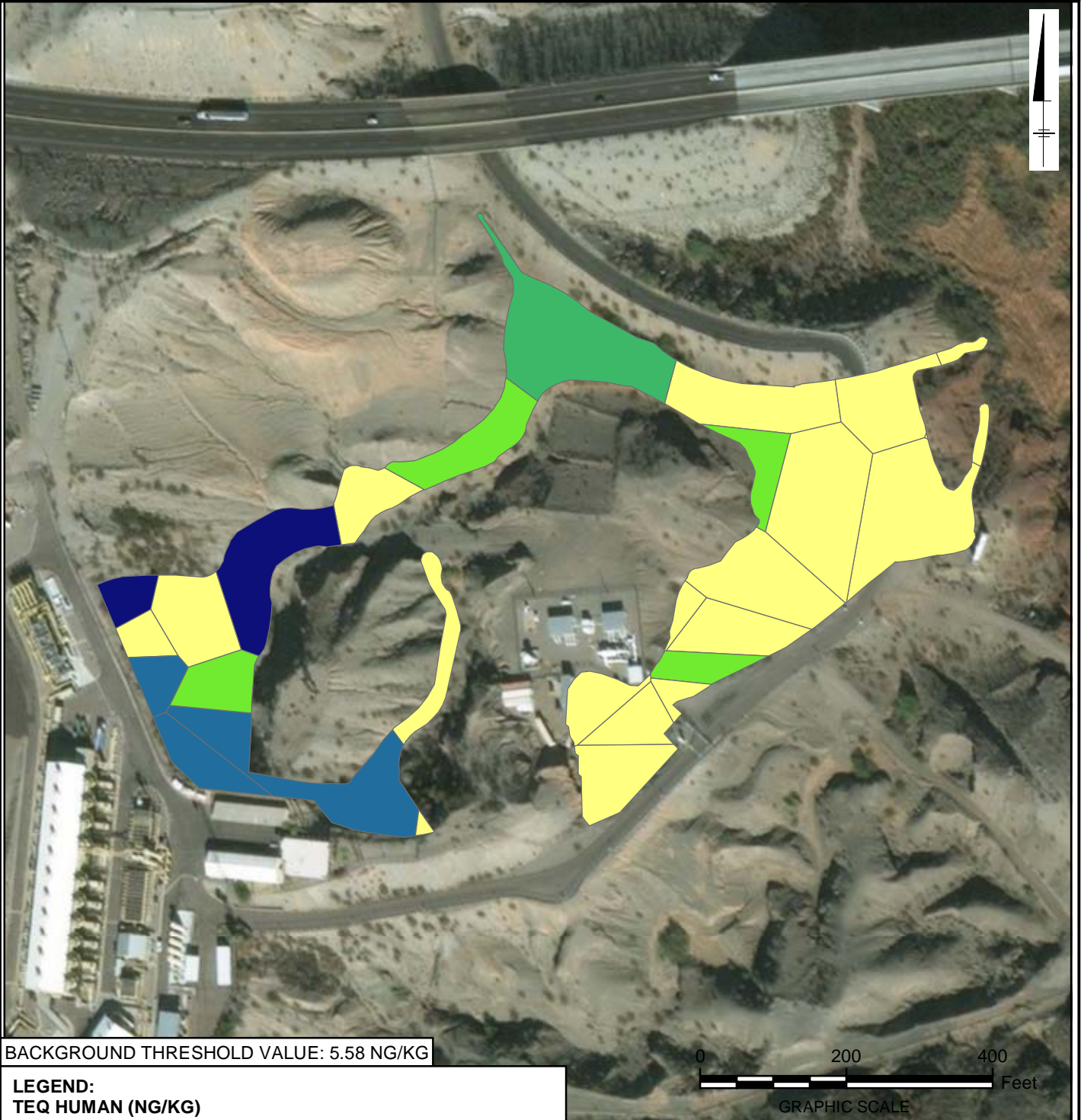
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FIGURE
AOC11-A3.35

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.18 - 6.30
- ≥ 6.30 - 20.20
- ≥ 20.20 - 36.30
- ≥ 36.30 - 140.00
- ≥ 140.00 - 520.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

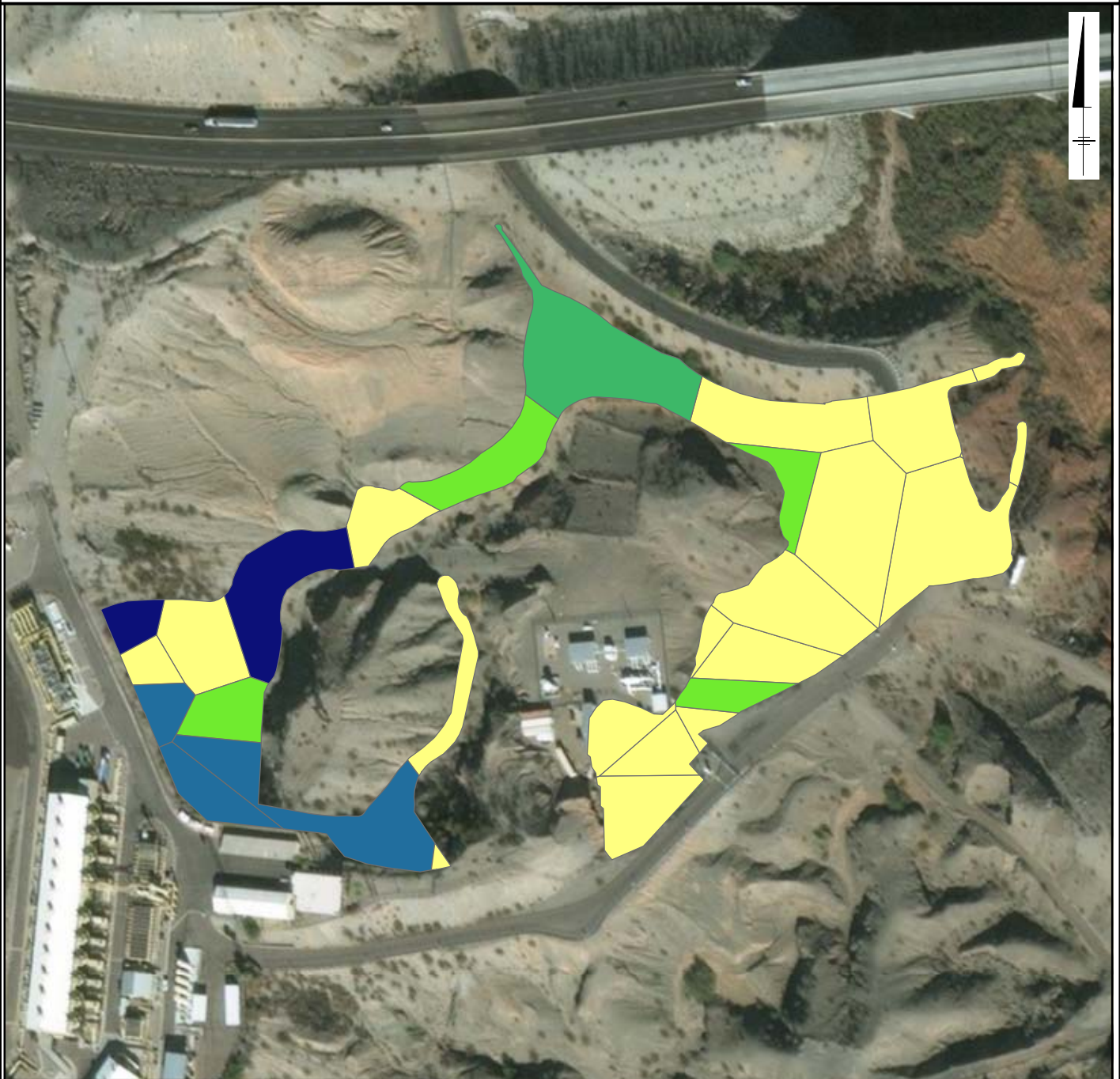
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FIGURE
AOC11-A3.36

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS

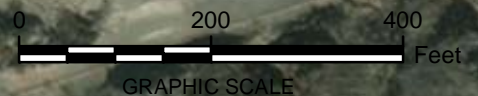


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.18 - 6.30
- ≥ 6.30 - 20.20
- ≥ 20.20 - 36.30
- ≥ 36.30 - 140.00
- ≥ 140.00 - 520.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



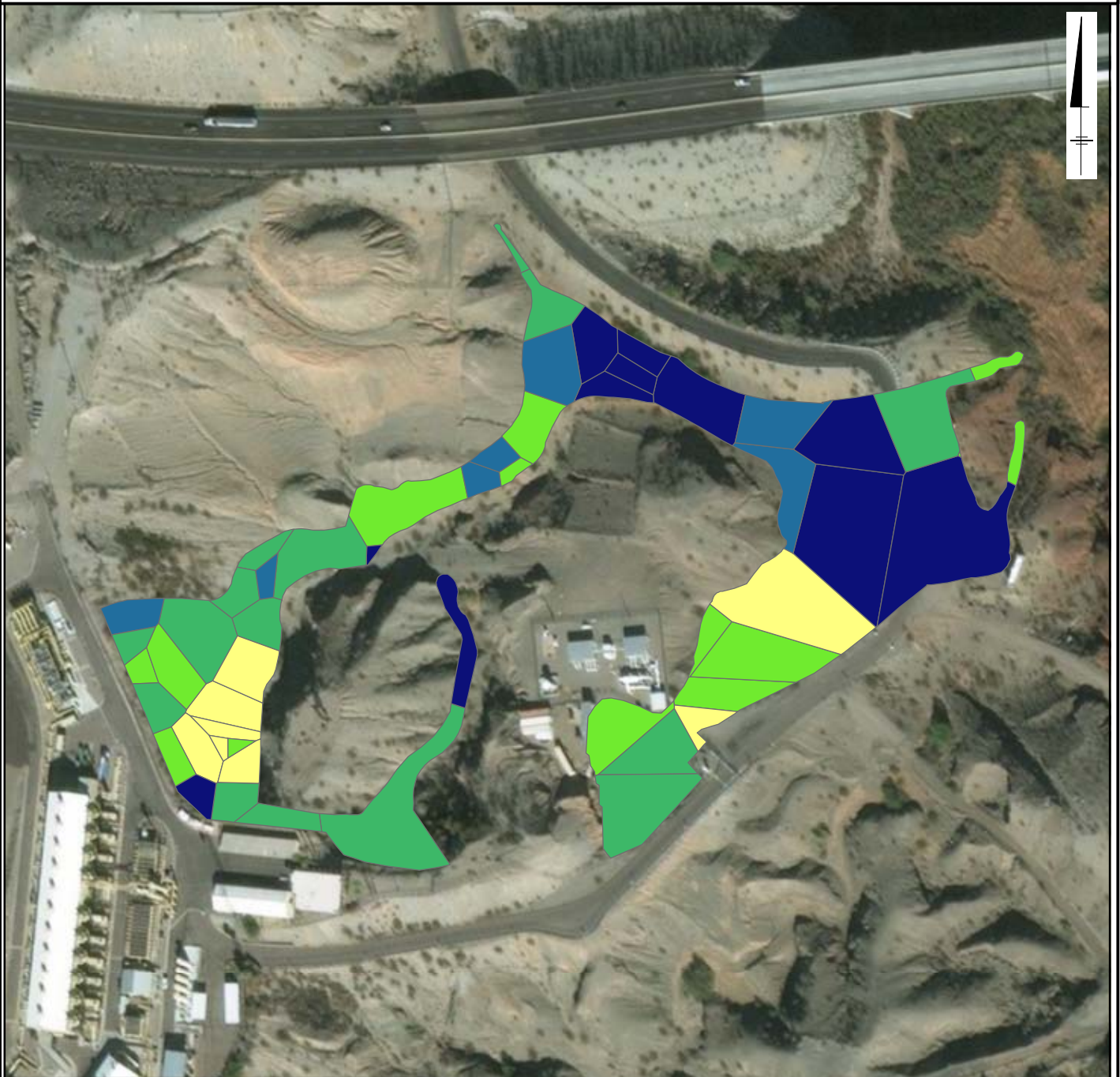
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FIGURE
AOC11-A3.37

AOC 11 0 - 3 FEET BELOW GROUND SURFACE ARSENIC

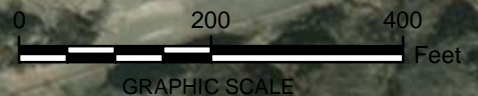


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	2.33 - 3.07
	≥3.07 - 3.83
	≥3.83 - 5.23
	≥5.23 - 6.67
	≥6.67 - 8.93

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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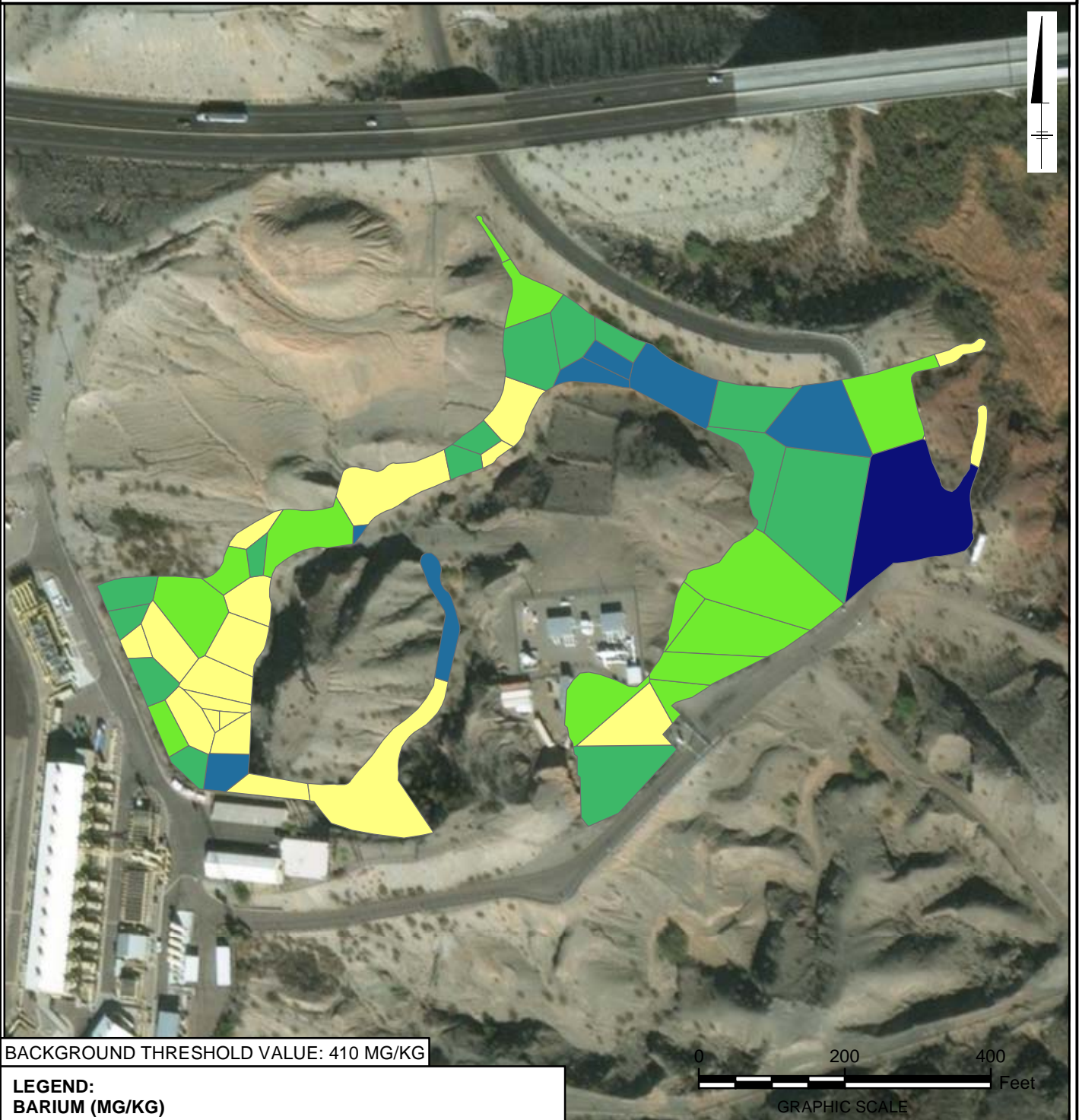
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FIGURE
AOC11-A3.38

AOC 11 0 - 3 FEET BELOW GROUND SURFACE BARIUM



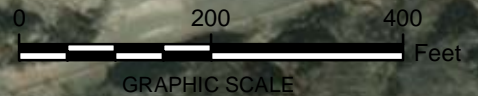
BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:

BARIUM (MG/KG)

- NOT DETECTED
- 55.70 - 95.00
- ≥95.00 - 140.00
- ≥140.00 - 200.00
- ≥200.00 - 273.00
- ≥273.00 - 497.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



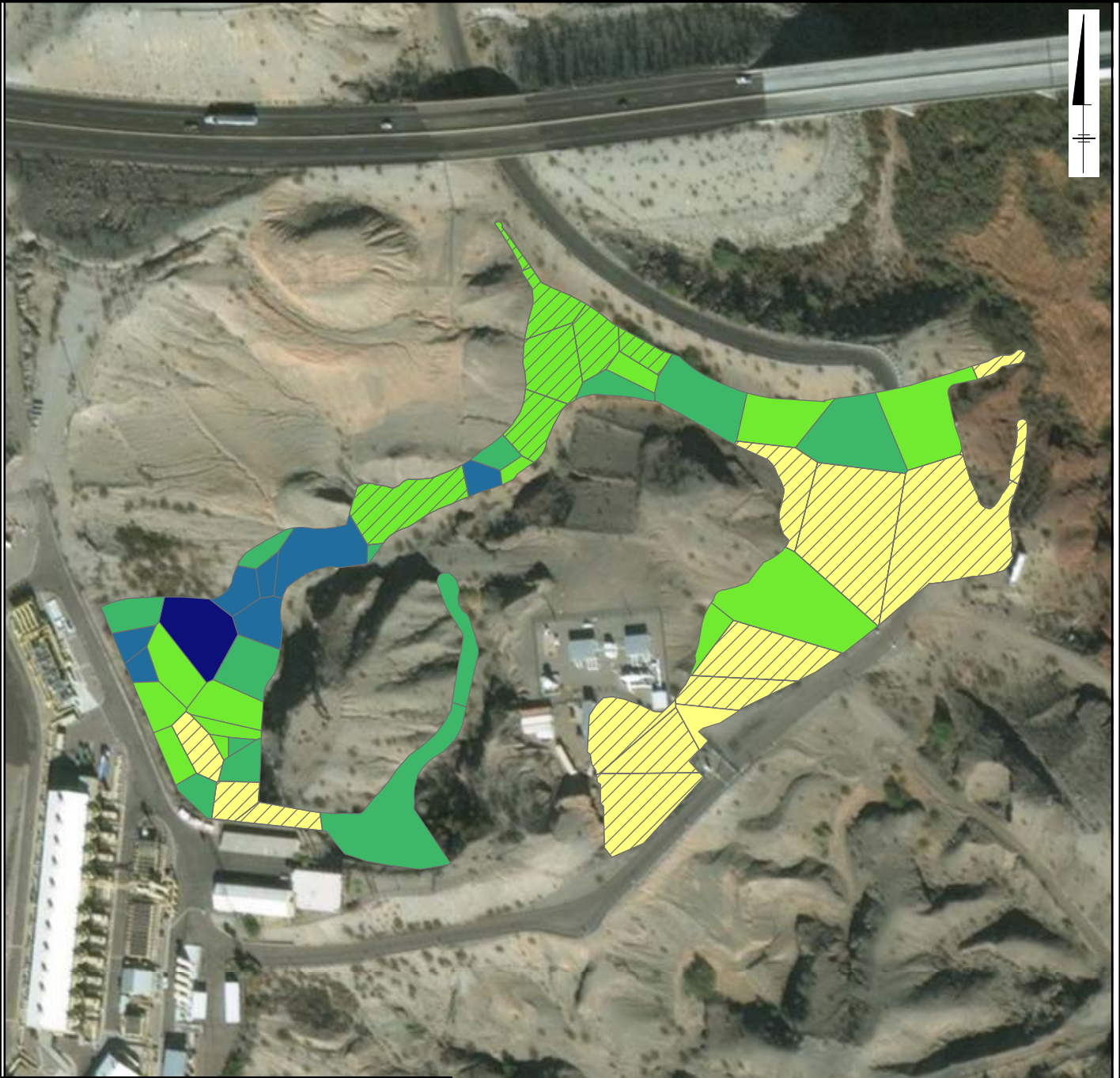
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FIGURE
AOC11-A3.39

AOC 11 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

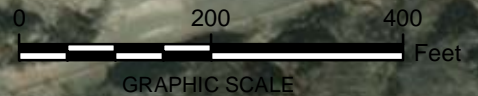


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.18
	≥0.18 - 0.44
	≥0.44 - 1.07
	≥1.07 - 2.20
	≥2.20 - 16.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



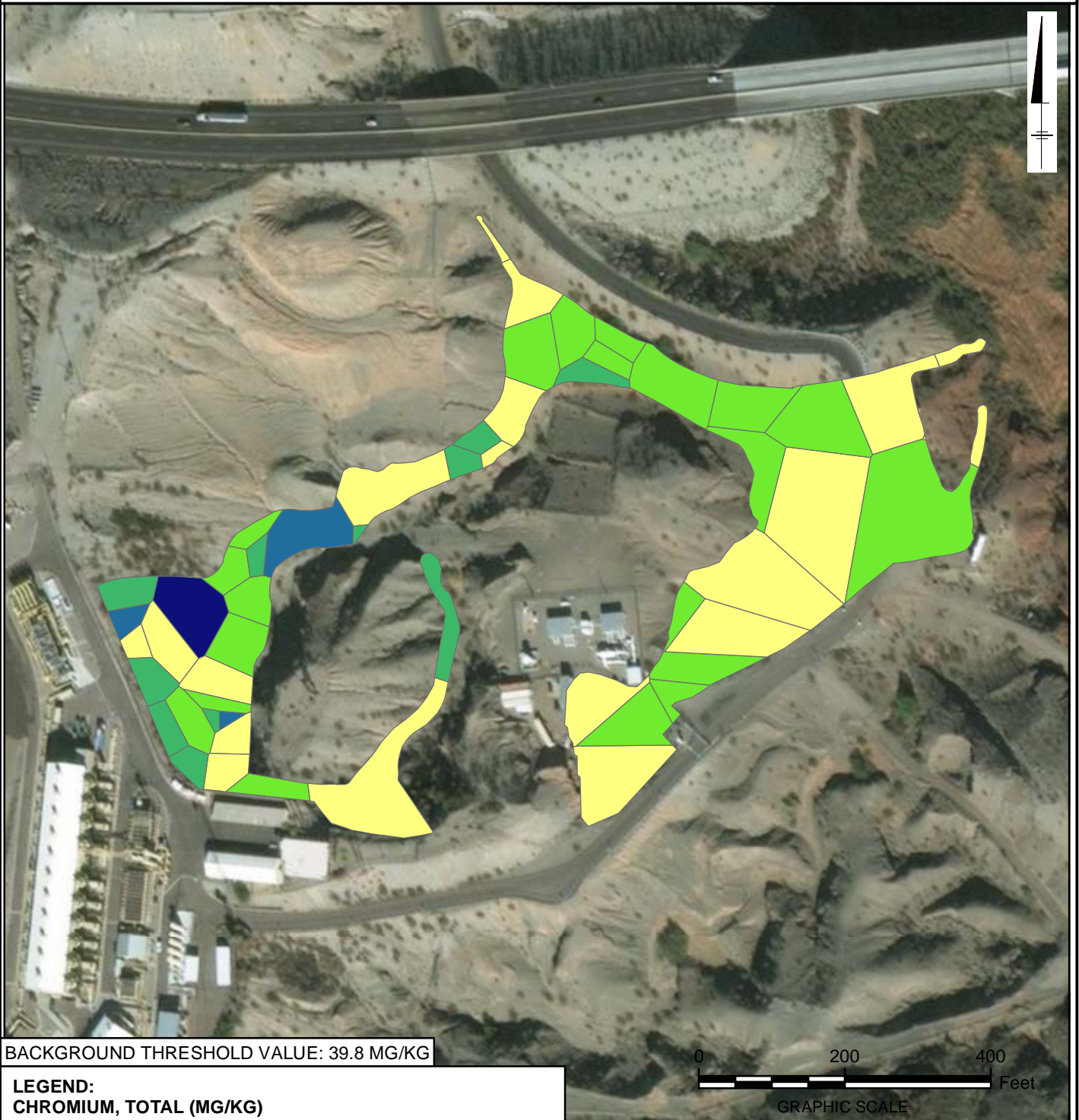
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FIGURE
AOC11-A3.40

AOC 11 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	10.10 - 17.50
	≥17.50 - 30.30
	≥30.30 - 51.20
	≥51.20 - 103.00
	≥103.00 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

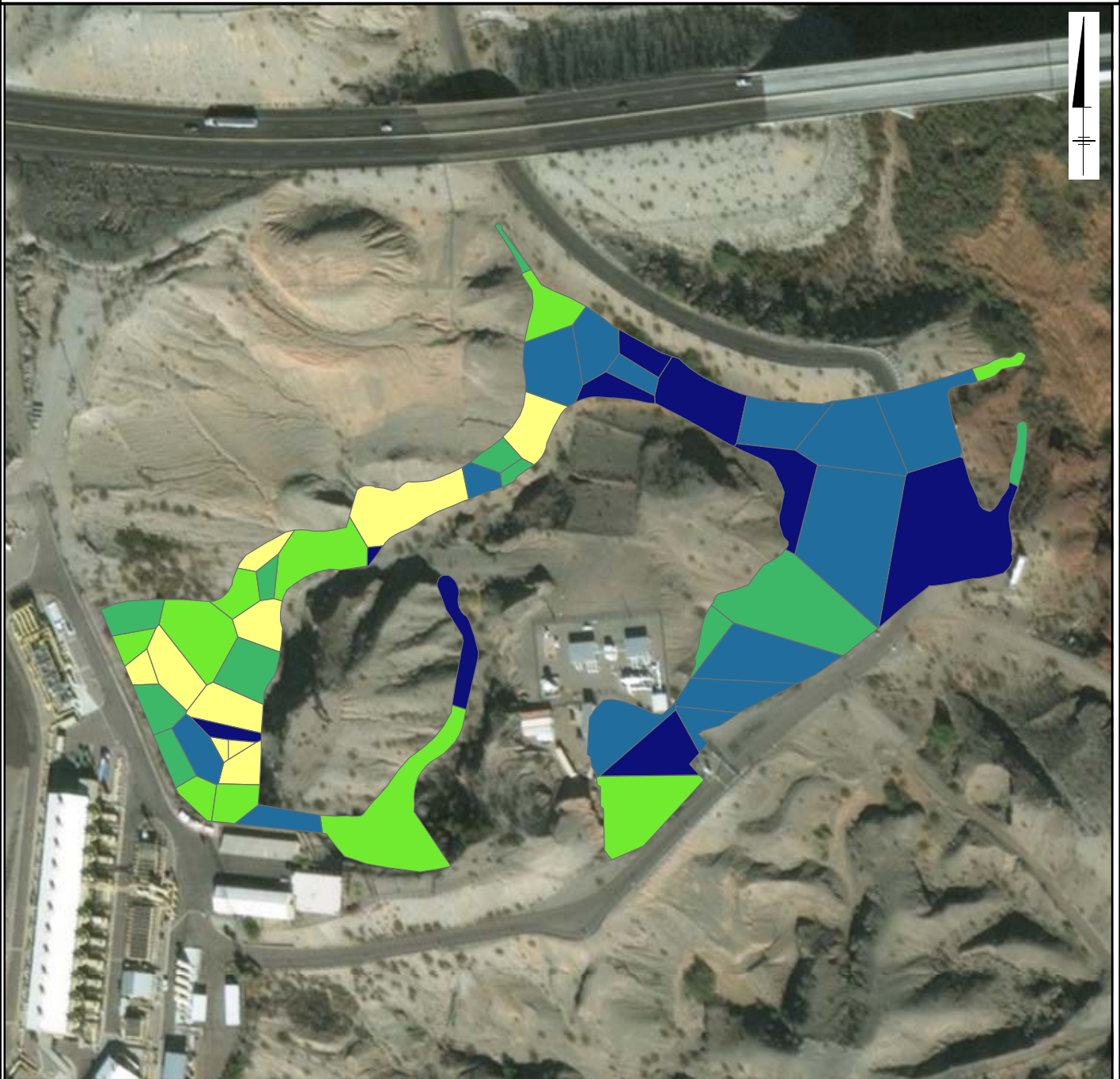
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FIGURE
AOC11-A3.41

AOC 11 0 - 3 FEET BELOW GROUND SURFACE COBALT

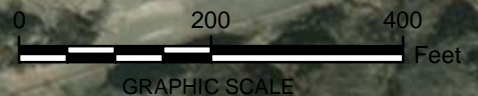


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	3.20 - 4.13
	≥4.13 - 4.90
	≥4.90 - 5.70
	≥5.70 - 6.83
	≥6.83 - 8.67

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



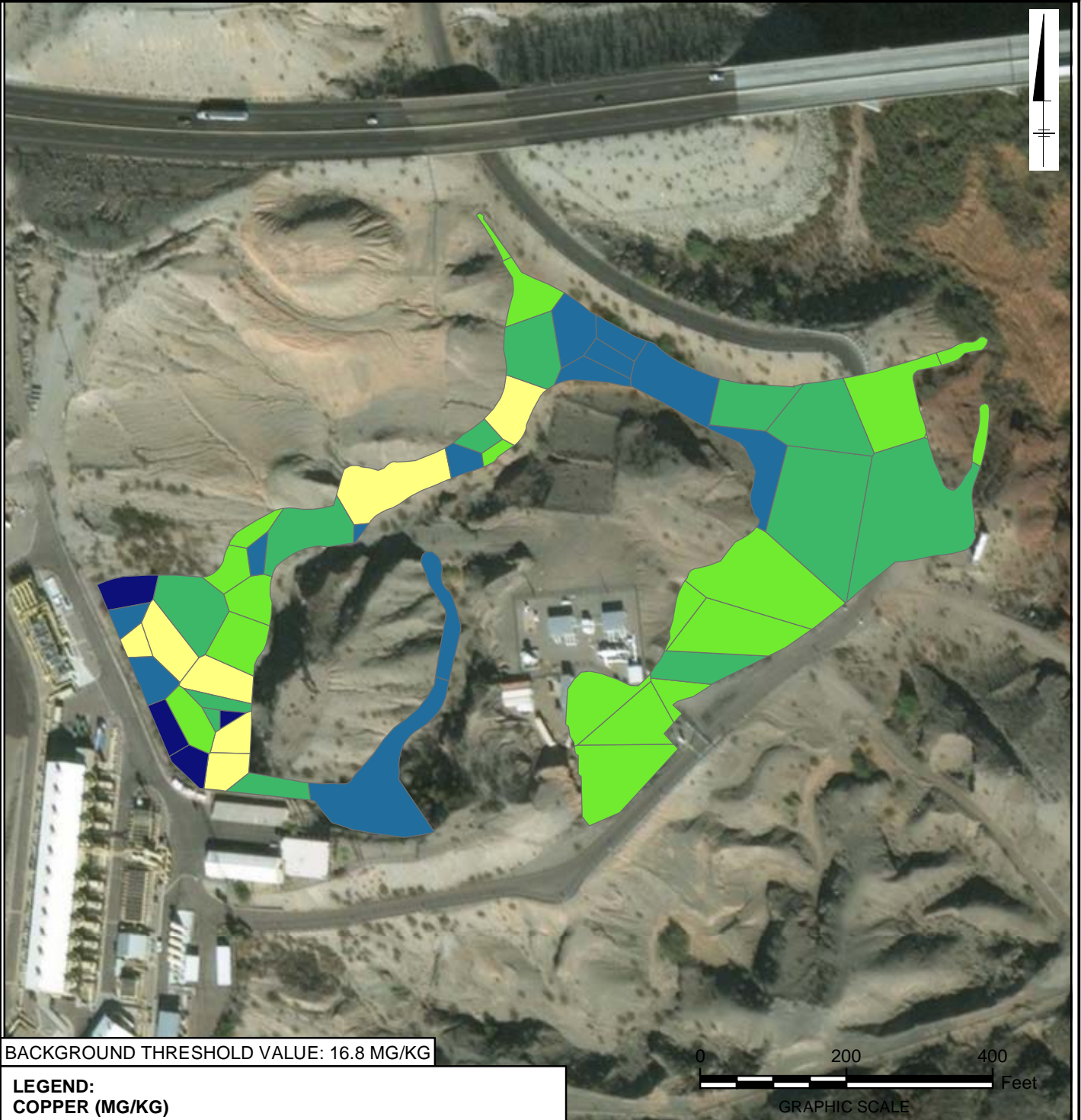
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FIGURE
AOC11-A3.42

AOC 11 0 - 3 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 4.90 - 7.47
- ≥7.47 - 10.40
- ≥10.40 - 14.30
- ≥14.30 - 19.00
- ≥19.00 - 27.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

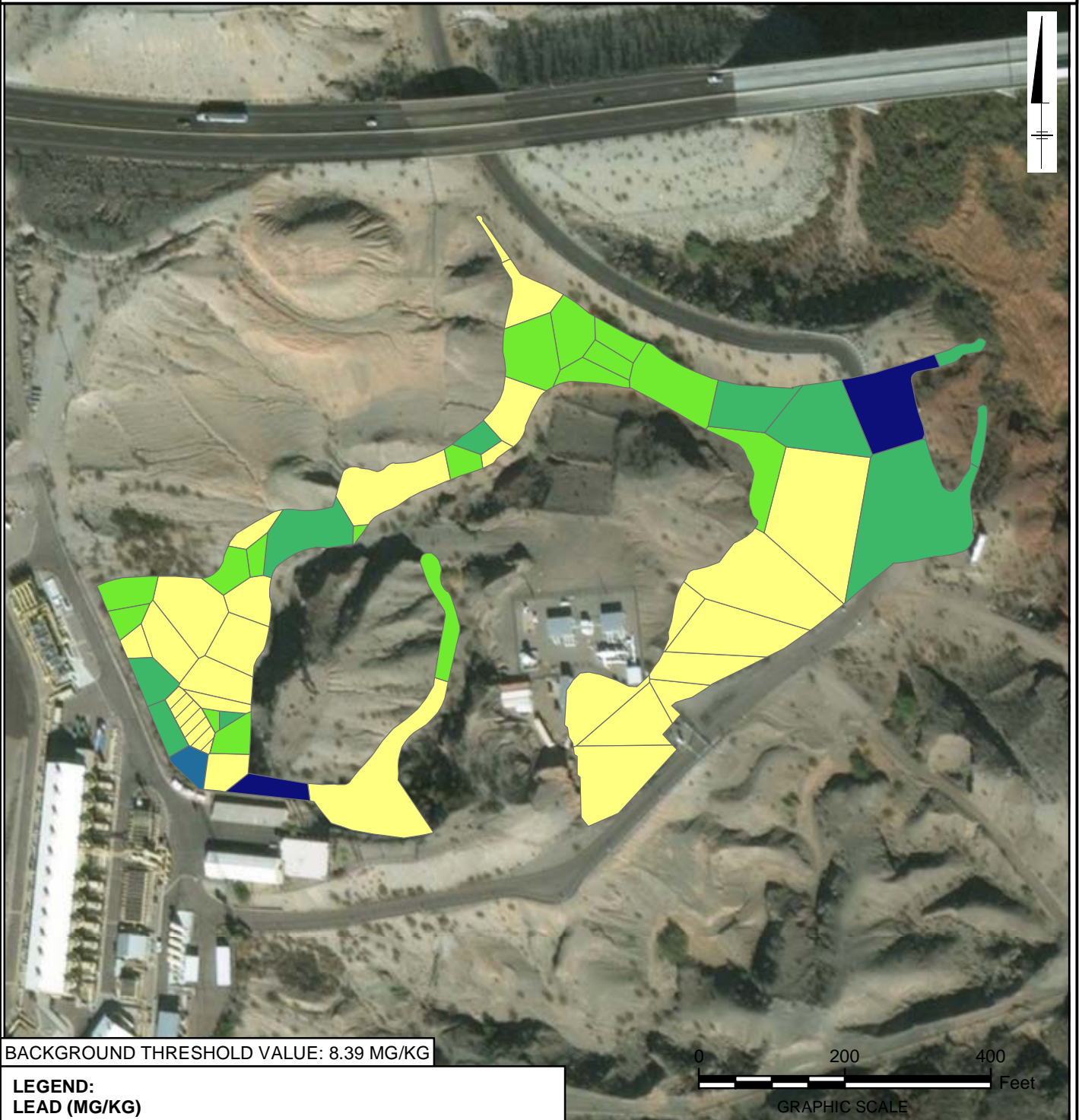
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FIGURE
AOC11-A3.43

AOC 11 0 - 3 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:
LEAD (MG/KG)

	NOT DETECTED
	0.50 - 8.40
	≥8.40 - 17.00
	≥17.00 - 36.00
	≥36.00 - 56.00
	≥56.00 - 157.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

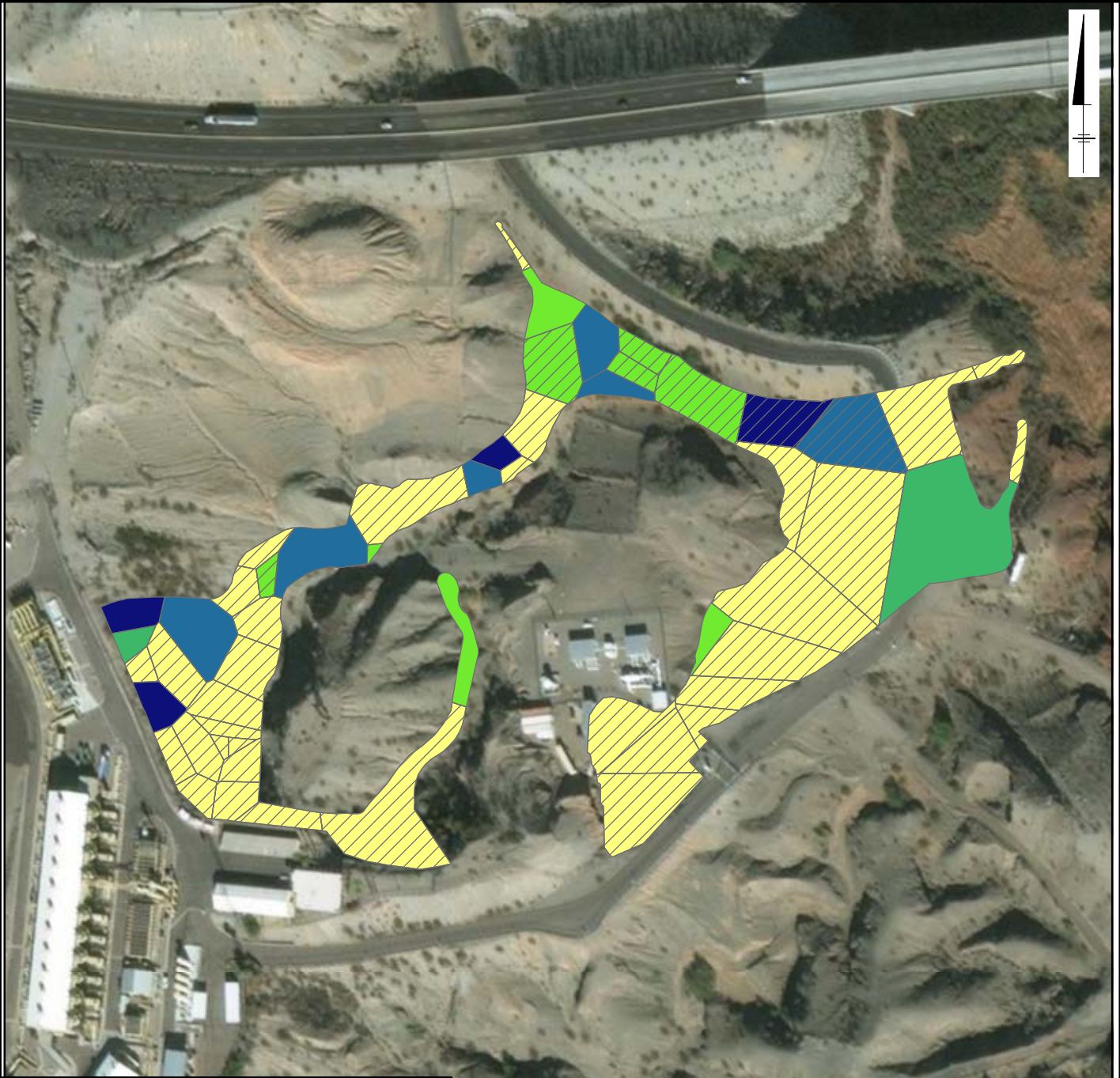
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**FIGURE
AOC11-A3.44**

AOC 11 0 - 3 FEET BELOW GROUND SURFACE MOLYBDENUM

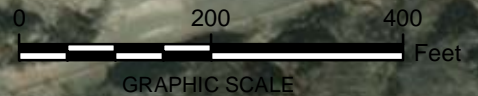


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

- NOT DETECTED
- 0.50 - 0.58
- ≥0.58 - 1.07
- ≥1.07 - 1.30
- ≥1.30 - 1.70
- ≥1.70 - 2.57

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



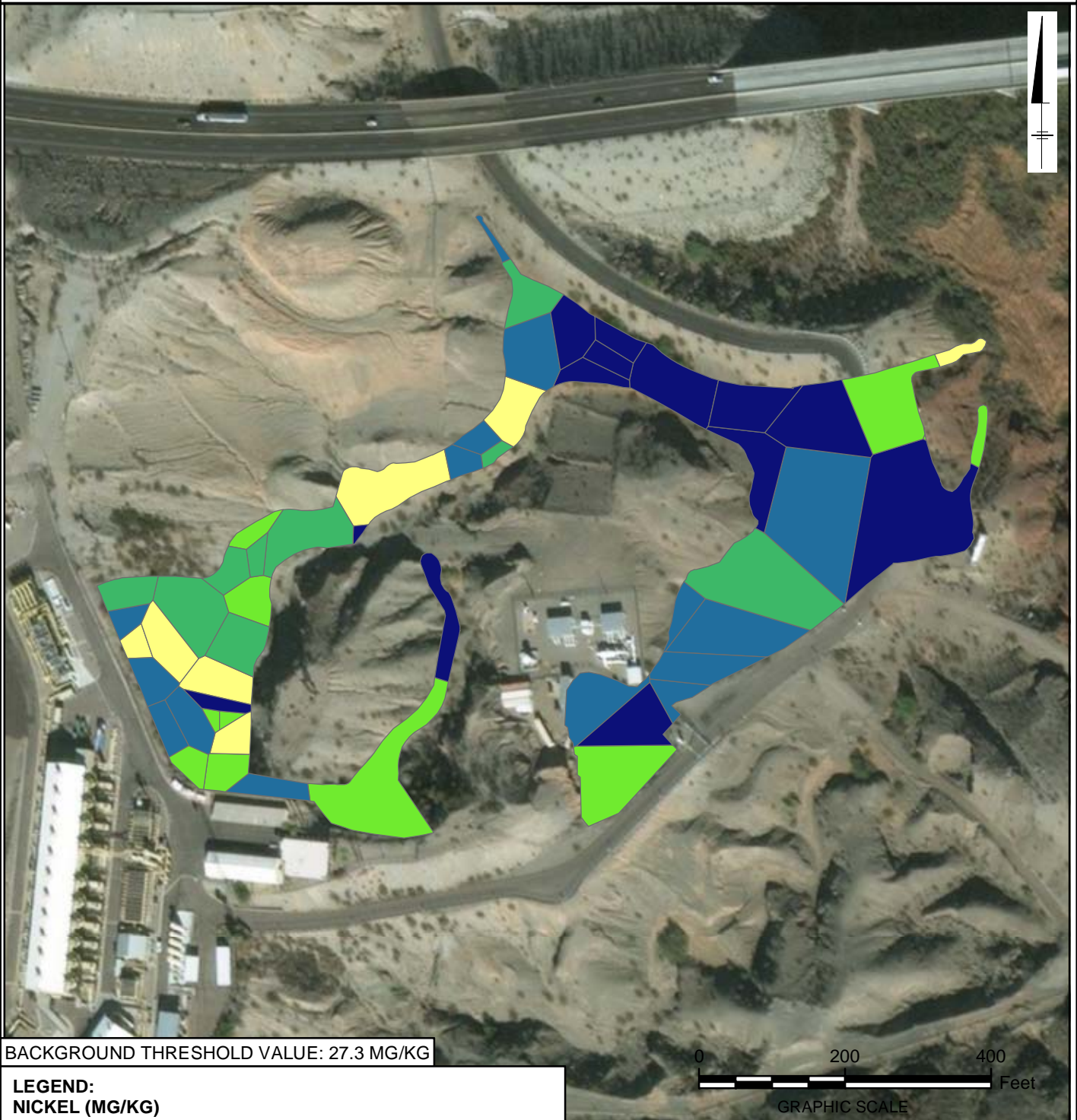
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FIGURE
AOC11-A3.45

AOC 11 0 - 3 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 5.97 - 7.40
- $\geq 7.40 - 9.17$
- $\geq 9.17 - 11.40$
- $\geq 11.40 - 14.30$
- $\geq 14.30 - 18.70$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

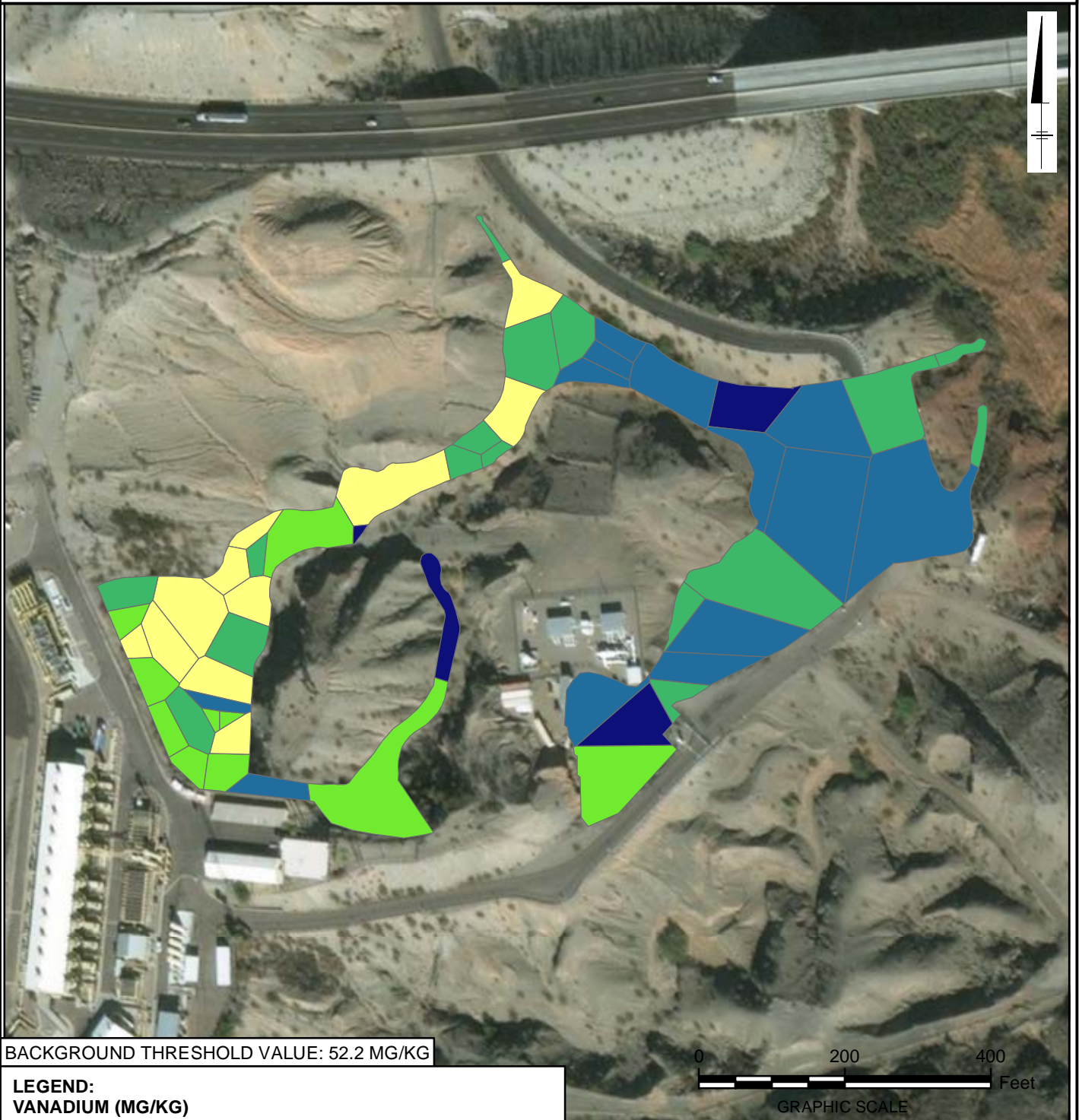
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FIGURE
AOC11-A3.46

AOC 11 0 - 3 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

- NOT DETECTED
- 14.70 - 18.70
- ≥18.70 - 22.00
- ≥22.00 - 28.00
- ≥28.00 - 34.30
- ≥34.30 - 42.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.47

AOC 11 0 - 3 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	23.70 - 48.70
	≥48.70 - 78.00
	≥78.00 - 130.00
	≥130.00 - 217.00
	≥217.00 - 747.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

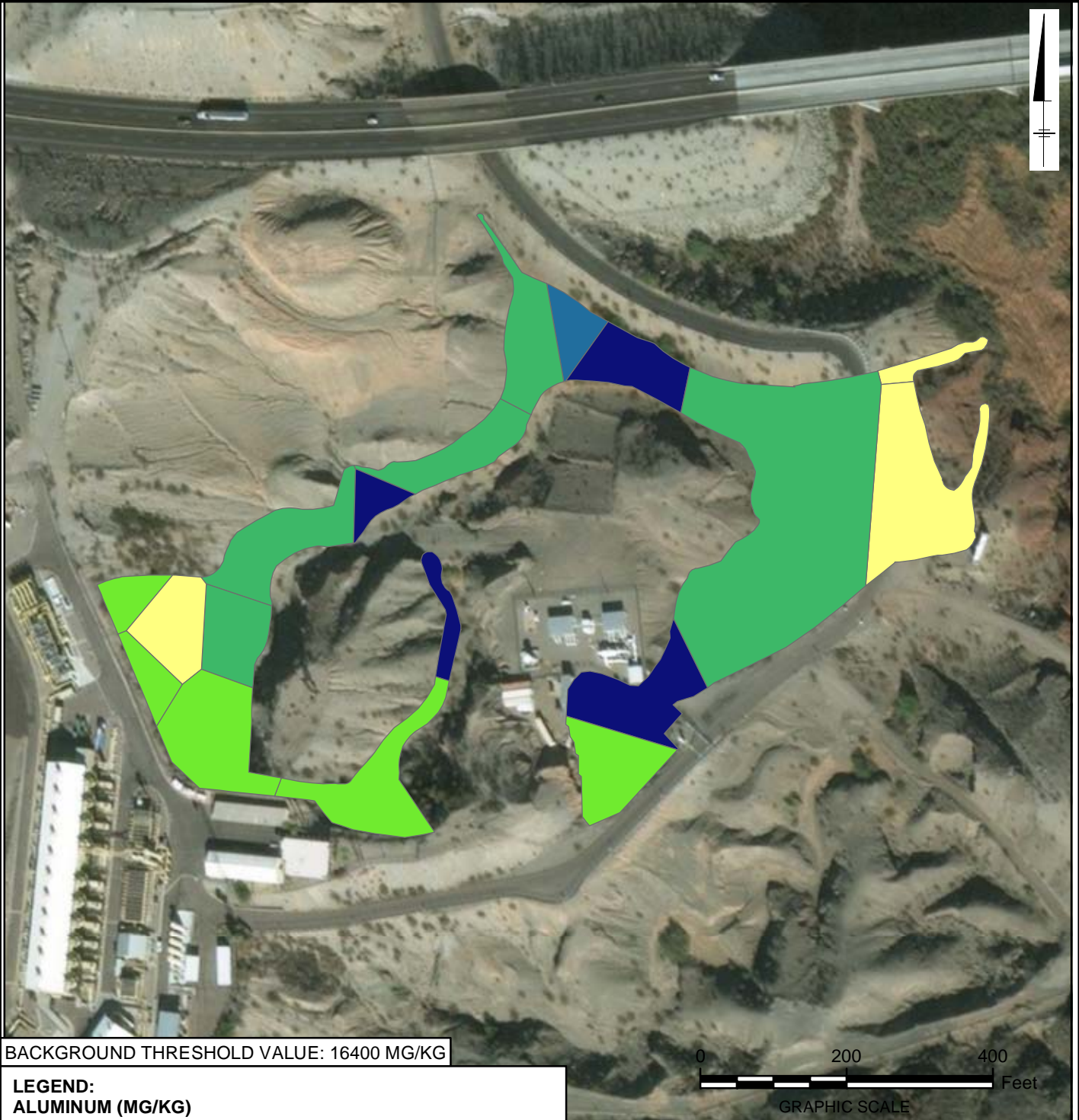
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FIGURE
AOC11-A3.48

AOC 11 0 - 3 FEET BELOW GROUND SURFACE ALUMINUM



BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

	NOT DETECTED
	4370.00 - 4830.00
	≥4830.00 - 6800.00
	≥6800.00 - 11000.00
	≥11000.00 - 15000.00
	≥15000.00 - 20000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.49

AOC 11 0 - 3 FEET BELOW GROUND SURFACE IRON

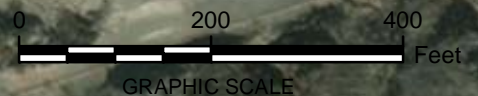


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	8670.00 - 9470.00
	≥9470.00 - 13000.00
	≥13000.00 - 16000.00
	≥16000.00 - 20000.00
	≥20000.00 - 26000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



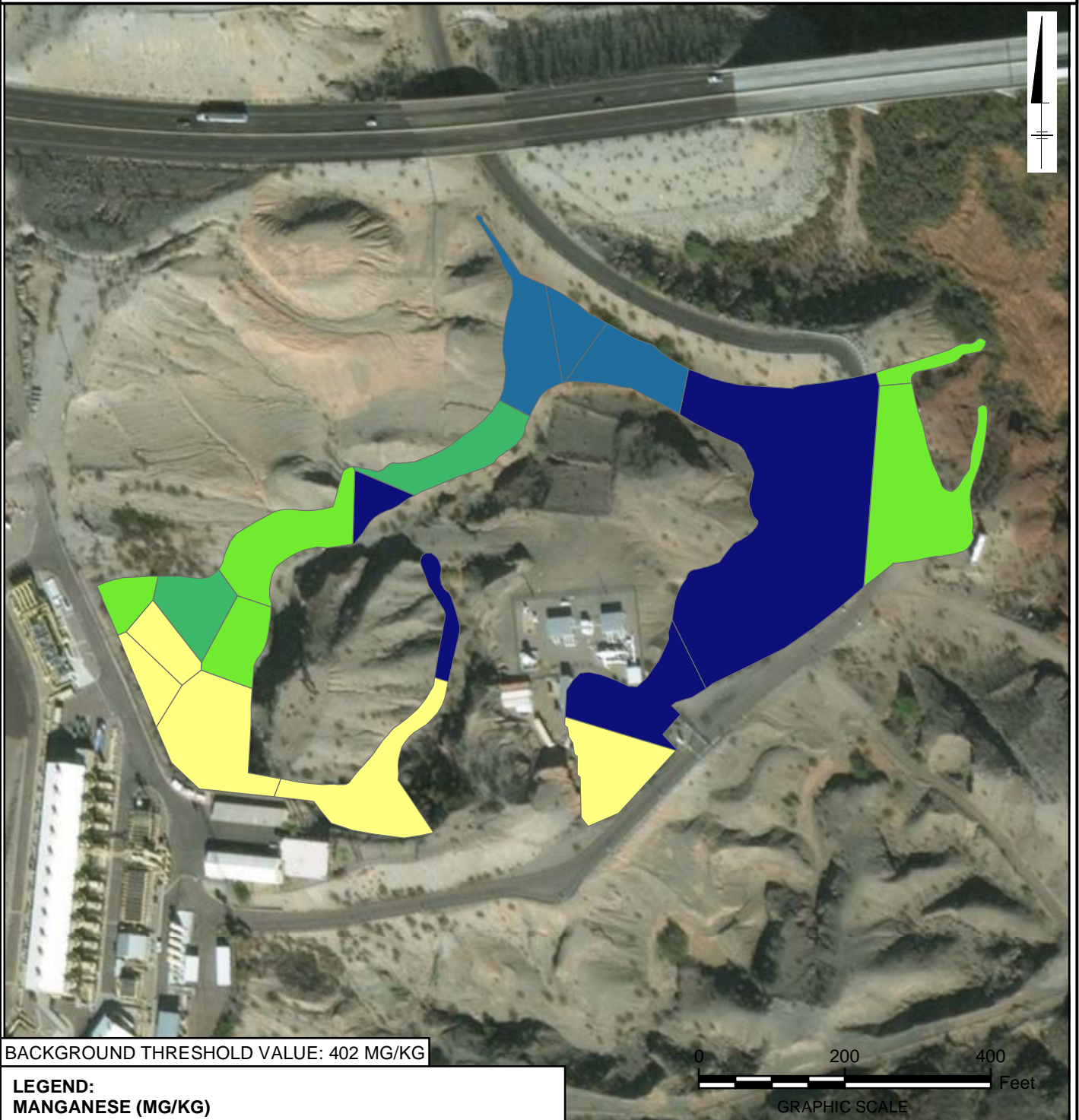
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FIGURE
AOC11-A3.50

AOC 11 0 - 3 FEET BELOW GROUND SURFACE MANGANESE



BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

- NOT DETECTED
- 150.00 - 180.00
- ≥180.00 - 220.00
- ≥220.00 - 300.00
- ≥300.00 - 350.00
- ≥350.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.51

AOC 11 0 - 3 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE

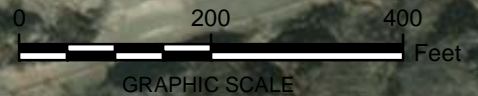


BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 2.60
	≥2.60 - 2.95
	≥2.95 - 8.40
	≥8.40 - 12.50
	≥12.50 - 45.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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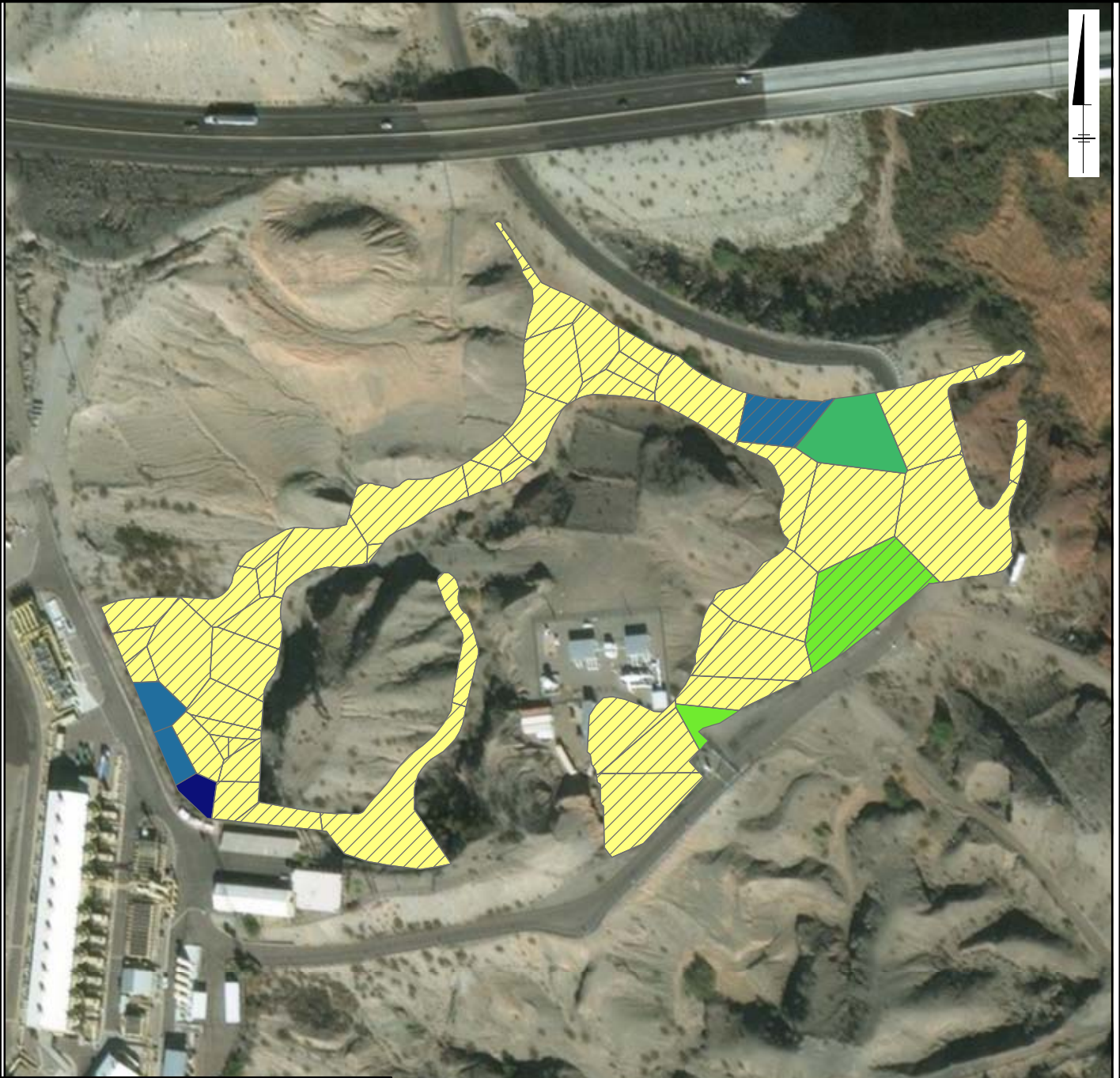
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FIGURE
AOC11-A3.52

AOC 11 0 - 3 FEET BELOW GROUND SURFACE ANTHRACENE

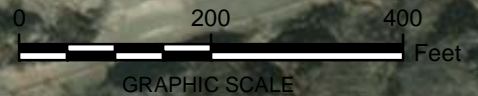


BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.95
- ≥2.95 - 4.58
- ≥4.58 - 8.85
- ≥8.85 - 18.00
- ≥18.00 - 26.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.53

AOC 11 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 42.00
- ≥ 42.00 - 142.00
- ≥ 142.00 - 470.00
- ≥ 470.00 - 760.00
- ≥ 760.00 - 1540.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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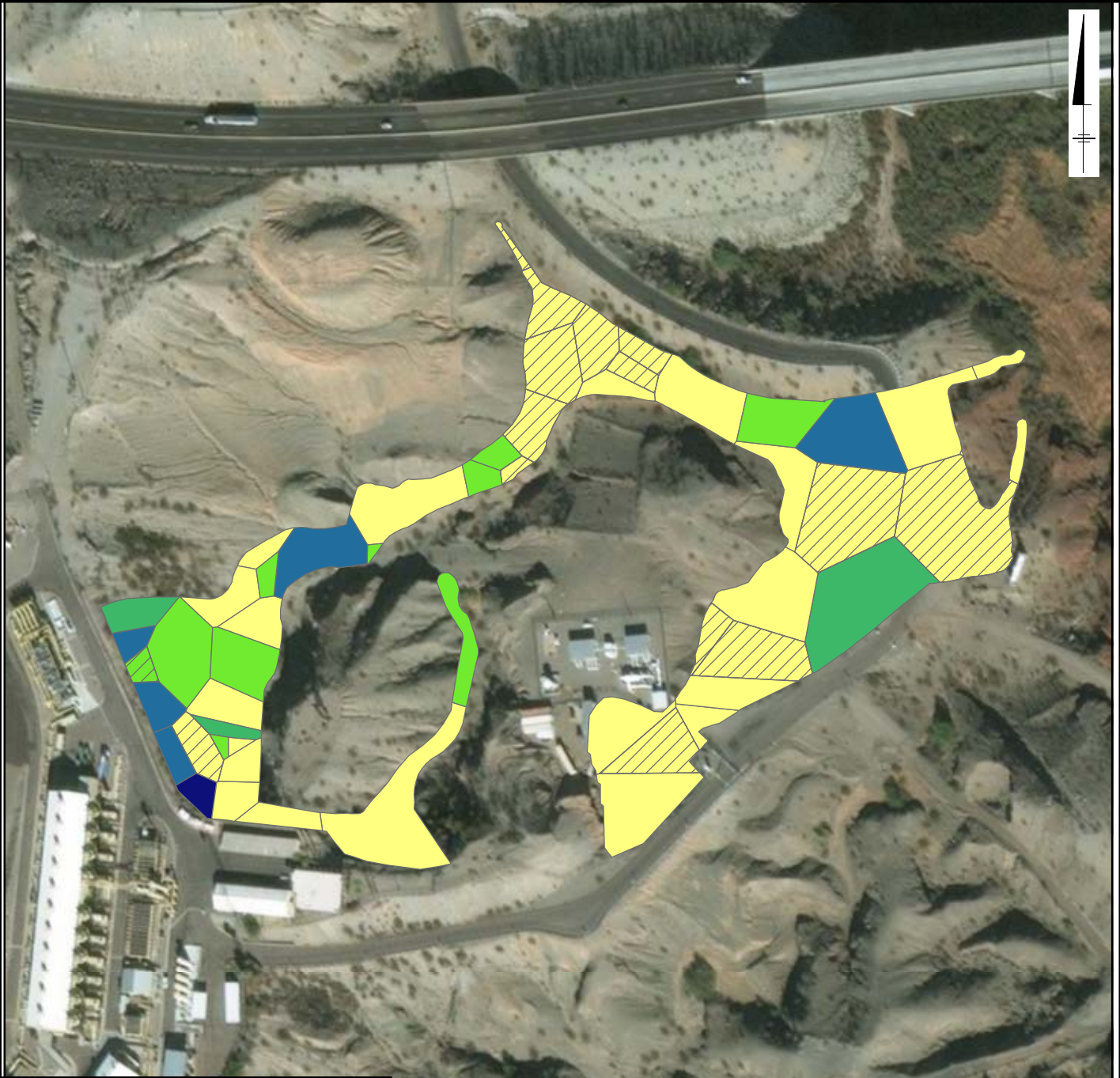


FIGURE
AOC11-A3.54

AOC 11

0 - 3 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

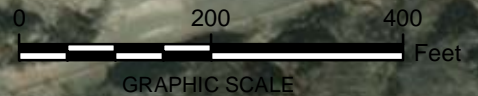


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 20.70
	≥20.70 - 60.00
	≥60.00 - 103.00
	≥103.00 - 370.00
	≥370.00 - 1070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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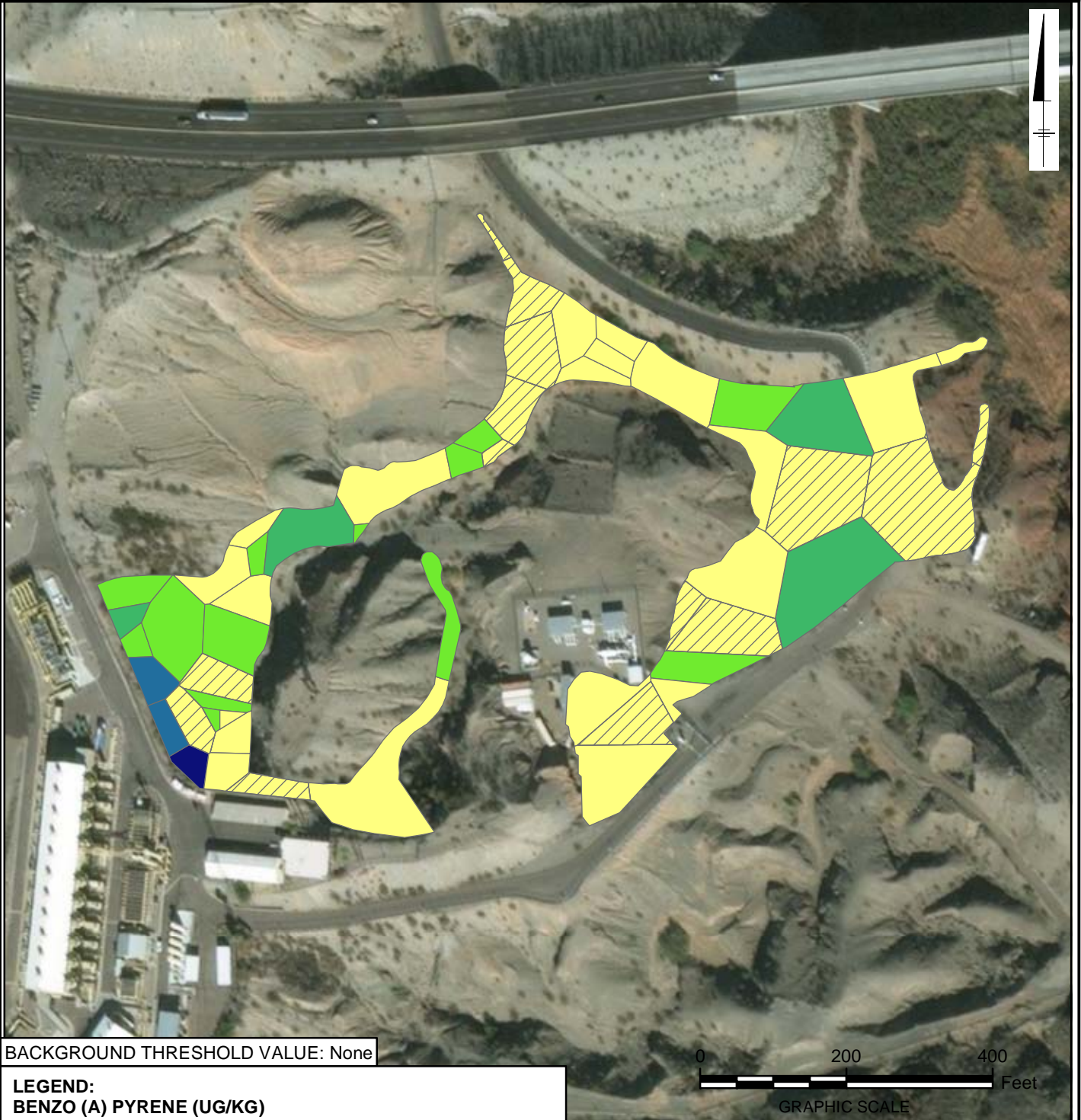
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FIGURE
AOC11-A3.55

AOC 11 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 25.50
-  ≥25.50 - 92.00
-  ≥92.00 - 300.00
-  ≥300.00 - 600.00
-  ≥600.00 - 1070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.56

AOC 11

0 - 3 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 40.20
- ≥ 40.20 - 115.00
- ≥ 115.00 - 361.00
- ≥ 361.00 - 1000.00
- ≥ 1000.00 - 1730.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.57

AOC 11

0 - 3 FEET BELOW GROUND SURFACE







BENZO (GHI) PERYLENE



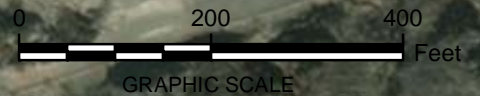
BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (GHI) PERYLENE (UG/KG)

-  NOT DETECTED
-  2.50 - 12.30
-  ≥12.30 - 36.30
-  ≥36.30 - 80.90
-  ≥80.90 - 175.00
-  ≥175.00 - 501.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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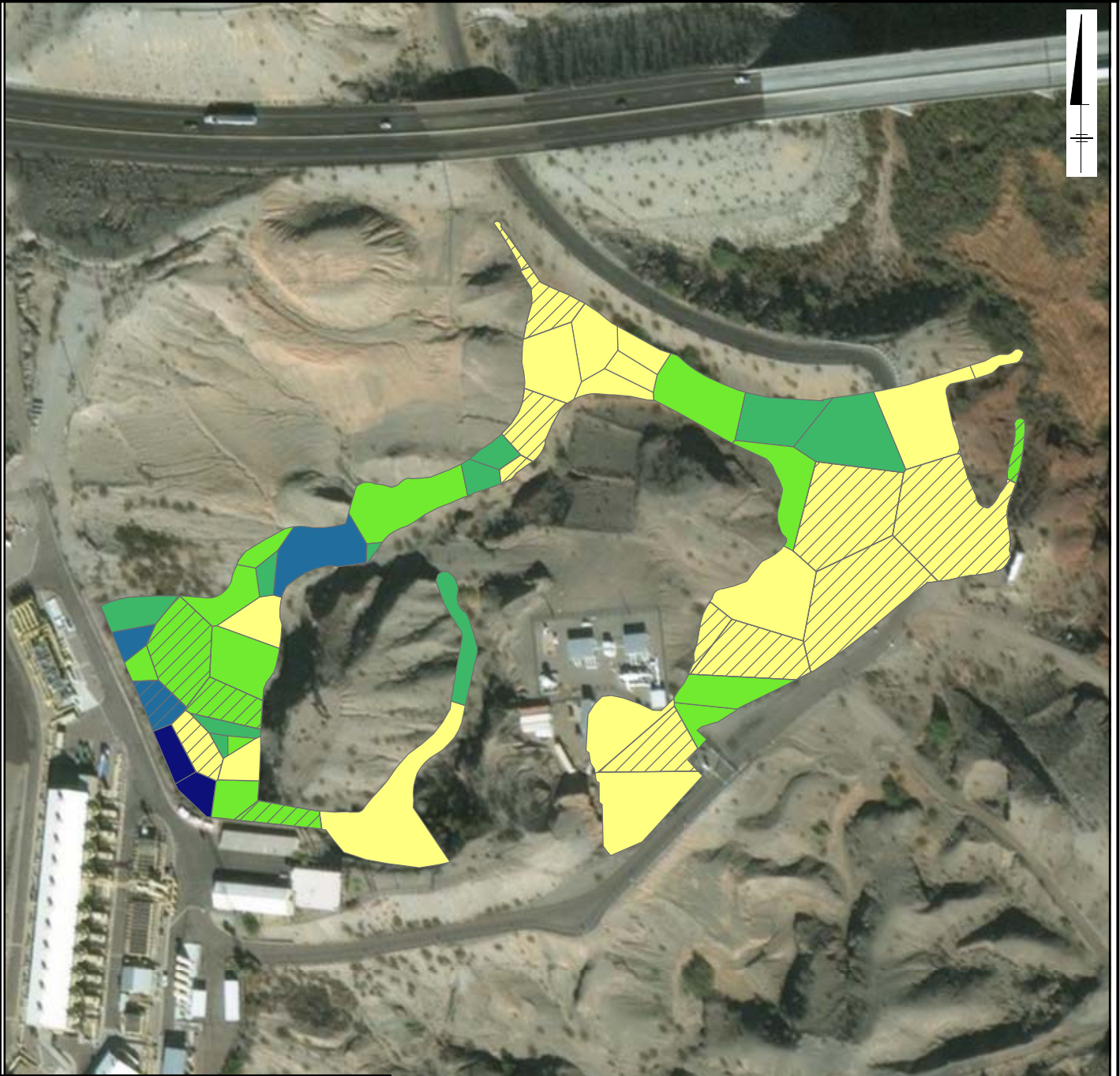


FIGURE
AOC11-A3.58

AOC 11

0 - 3 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 14.30
	≥14.30 - 34.90
	≥34.90 - 96.70
	≥96.70 - 254.00
	≥254.00 - 621.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400 Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.59

AOC 11 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE

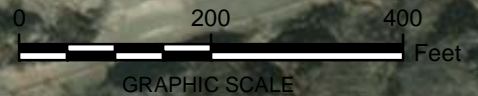


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

-  NOT DETECTED
-  2.50 - 30.40
-  ≥ 30.40 - 80.30
-  ≥ 80.30 - 172.00
-  ≥ 172.00 - 690.00
-  ≥ 690.00 - 1730.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.60

AOC 11

0 - 3 FEET BELOW GROUND SURFACE

DIBENZO (A,H) ANTHRACENE

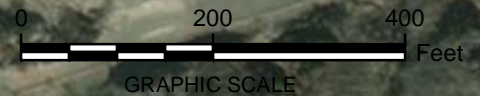


BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 6.01
	≥6.01 - 12.50
	≥12.50 - 25.50
	≥25.50 - 68.00
	≥68.00 - 174.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.61

AOC 11 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.58 - 37.10
- ≥ 37.10 - 100.00
- ≥ 100.00 - 257.00
- ≥ 257.00 - 1200.00
- ≥ 1200.00 - 2470.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.62

AOC 11 0 - 3 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

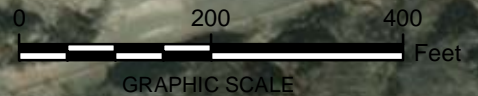


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 10.70
-  ≥10.70 - 33.30
-  ≥33.30 - 64.20
-  ≥64.20 - 174.00
-  ≥174.00 - 528.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



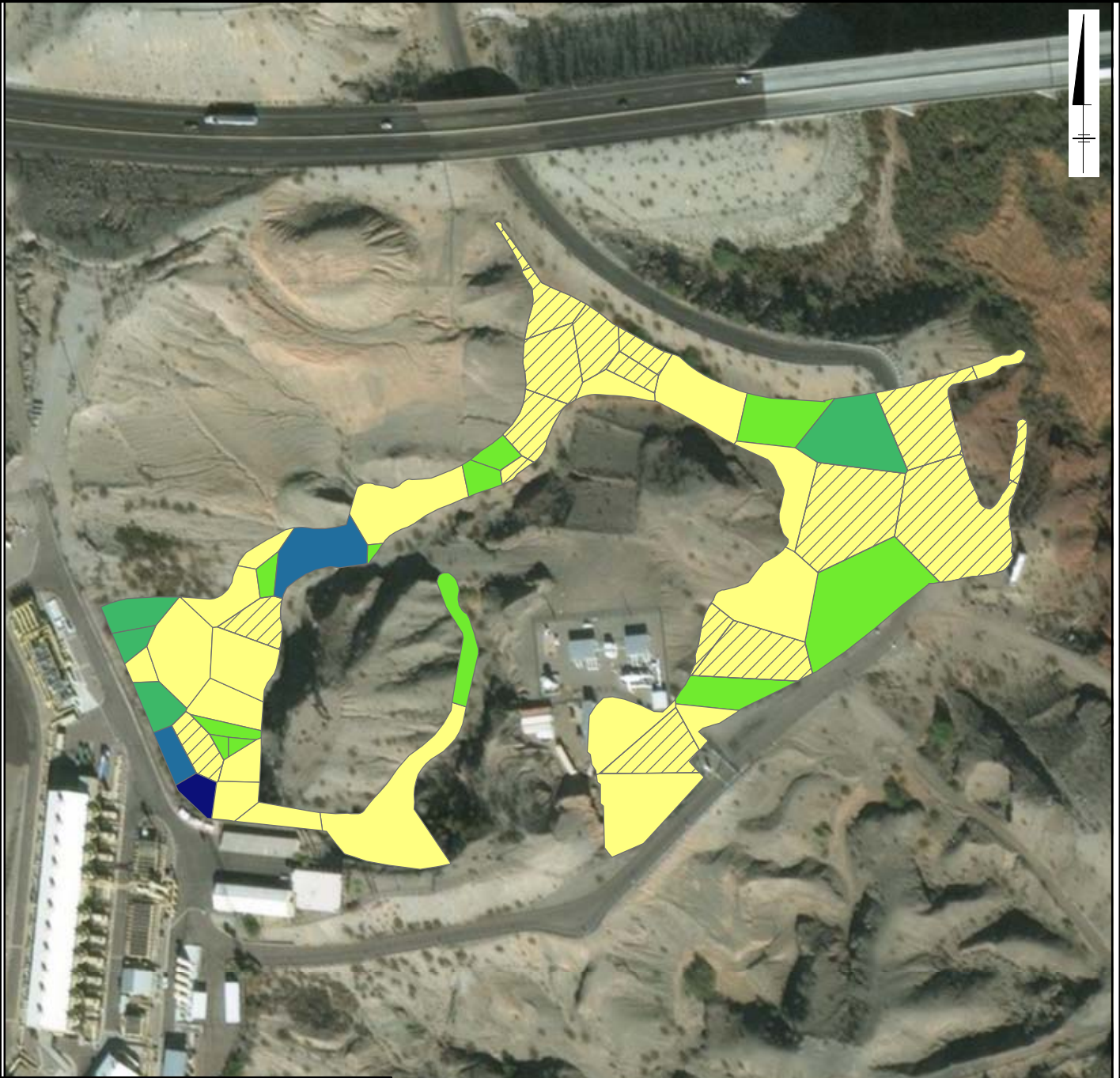
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FIGURE
AOC11-A3.63

AOC 11 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE

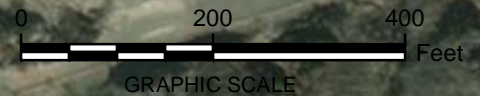


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 18.20
-  ≥18.20 - 55.40
-  ≥55.40 - 180.00
-  ≥180.00 - 395.00
-  ≥395.00 - 868.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



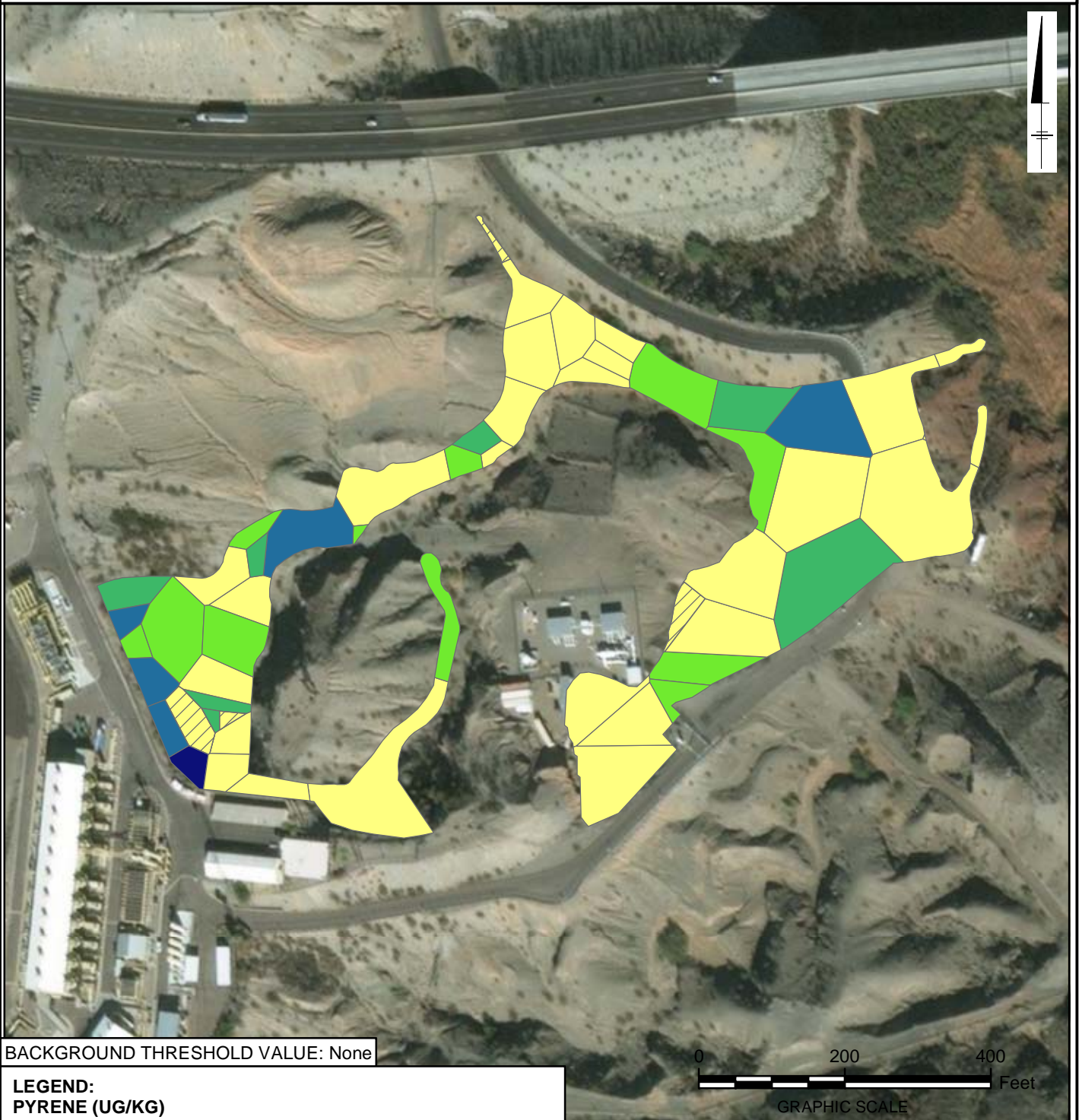
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FIGURE
AOC11-A3.64

AOC 11 0 - 3 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 35.40
- ≥35.40 - 83.80
- ≥83.80 - 248.00
- ≥248.00 - 1100.00
- ≥1100.00 - 2270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

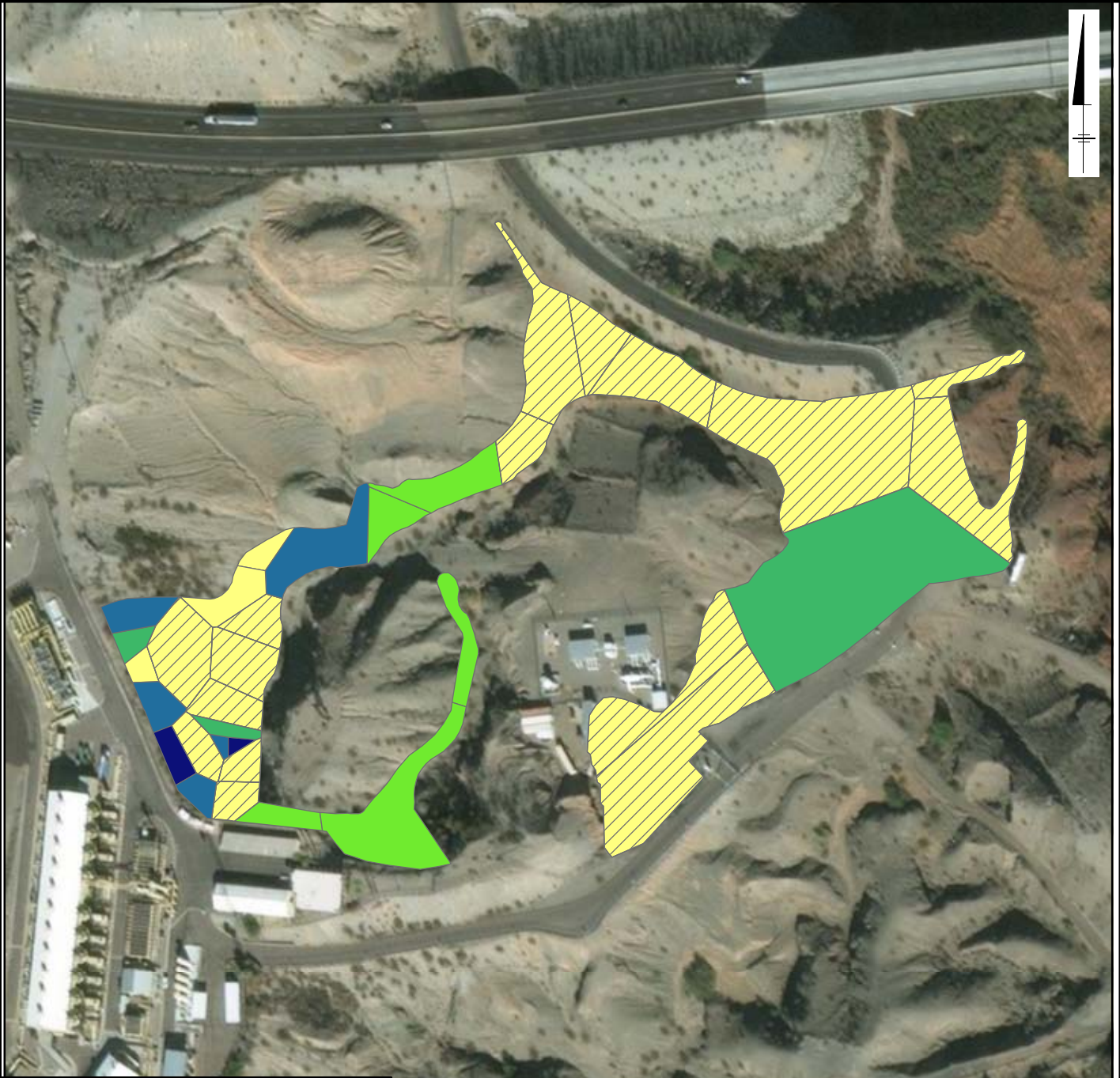
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FIGURE
AOC11-A3.65

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TOTAL PCBS

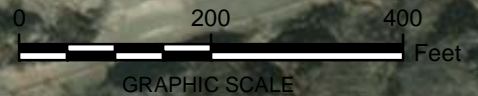


BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

	NOT DETECTED
	17.00 - 43.30
	≥43.30 - 91.30
	≥91.30 - 197.00
	≥197.00 - 429.00
	≥429.00 - 1930.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.66

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TPH AS DIESEL

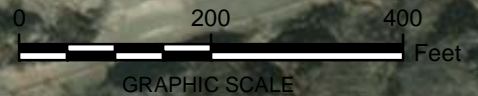


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 15.00
- ≥ 15.00 - 35.30
- ≥ 35.30 - 65.80
- ≥ 65.80 - 233.00
- ≥ 233.00 - 873.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



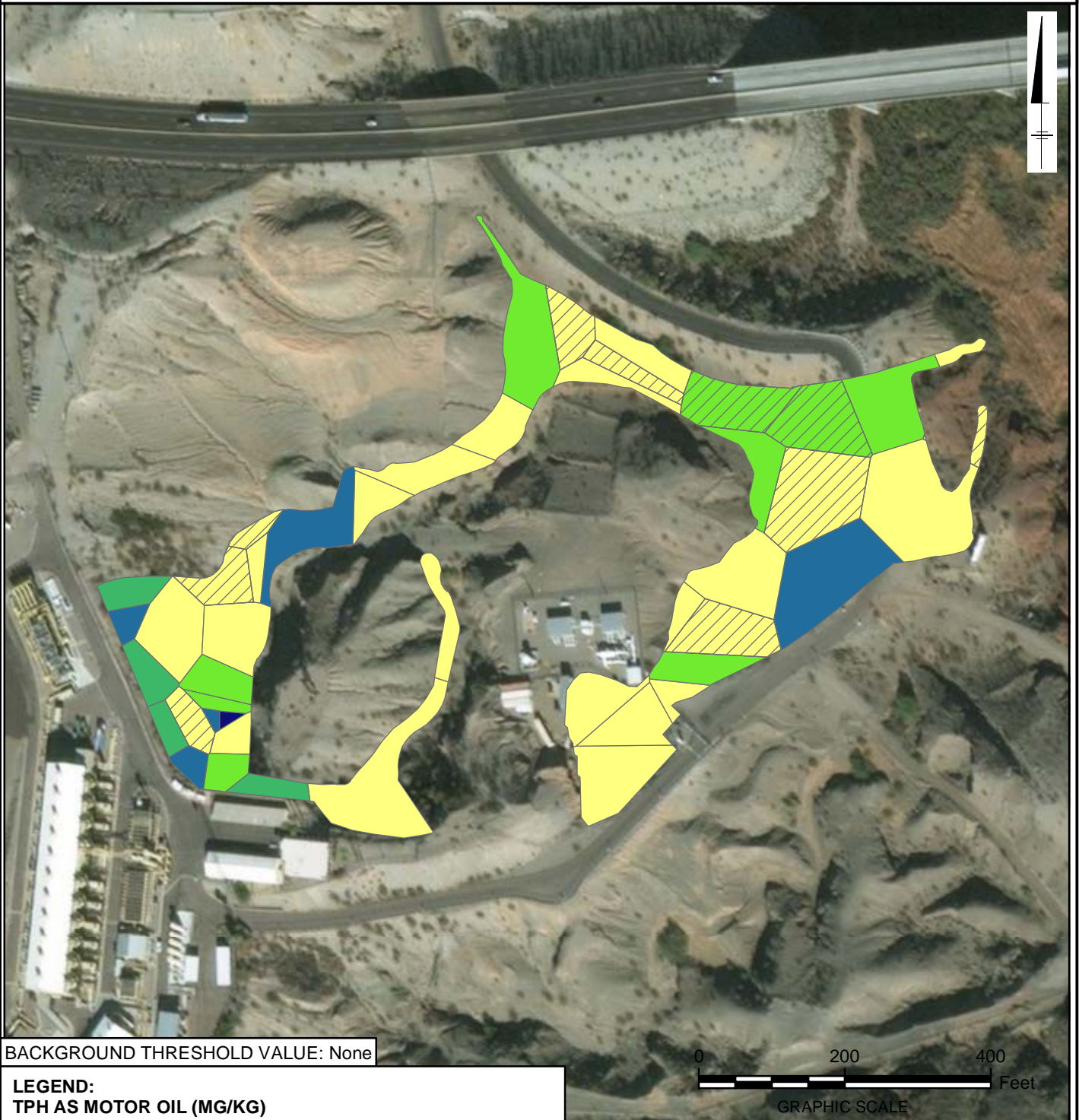
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FIGURE
AOC11-A3.67

AOC 11 0 - 3 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

	NOT DETECTED
	5.00 - 29.70
	≥29.70 - 95.20
	≥95.20 - 240.00
	≥240.00 - 520.00
	≥520.00 - 1430.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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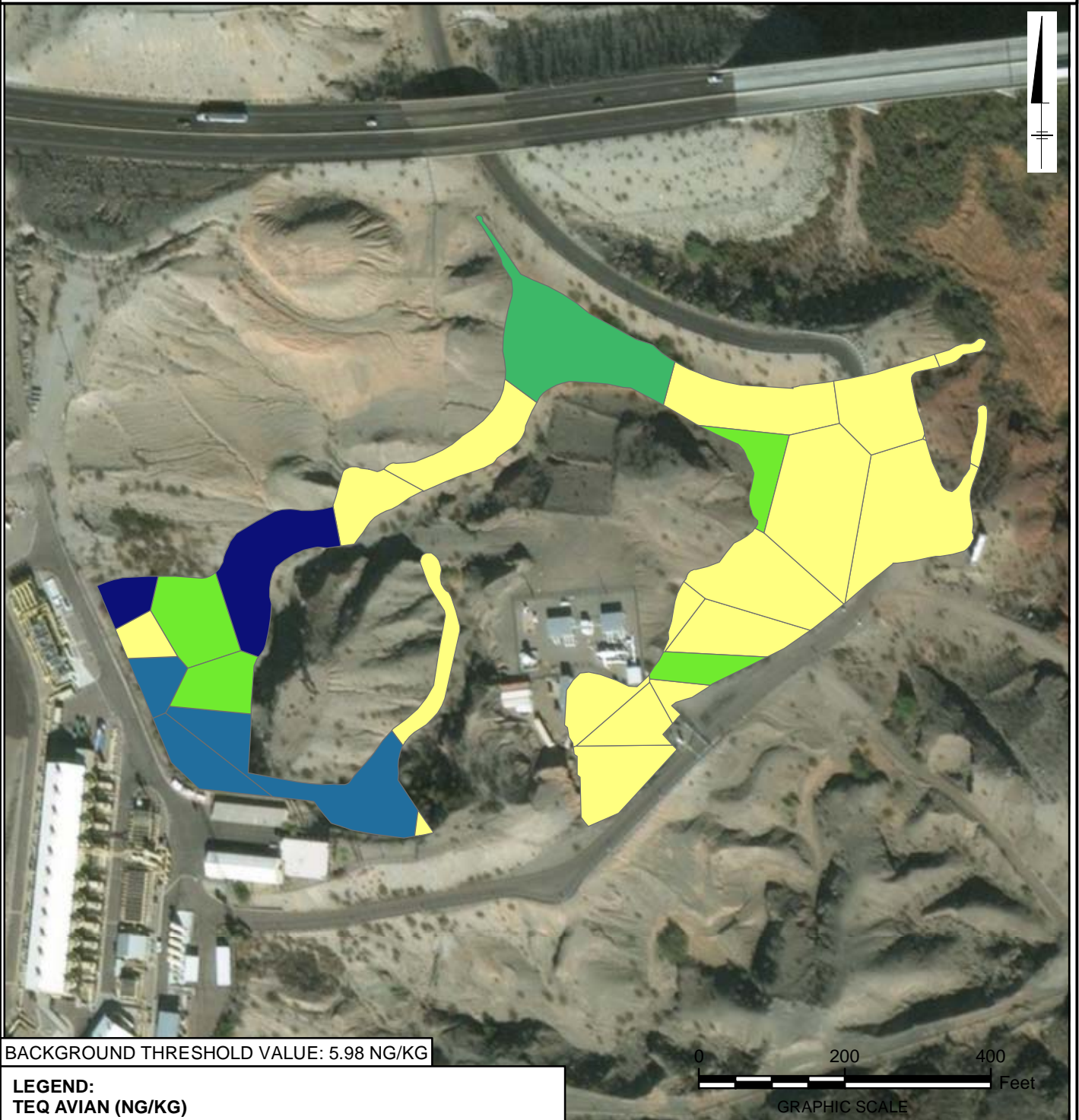
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FIGURE
AOC11-A3.68

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.13 - 5.40
	≥5.40 - 15.00
	≥15.00 - 32.80
	≥32.80 - 139.00
	≥139.00 - 369.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

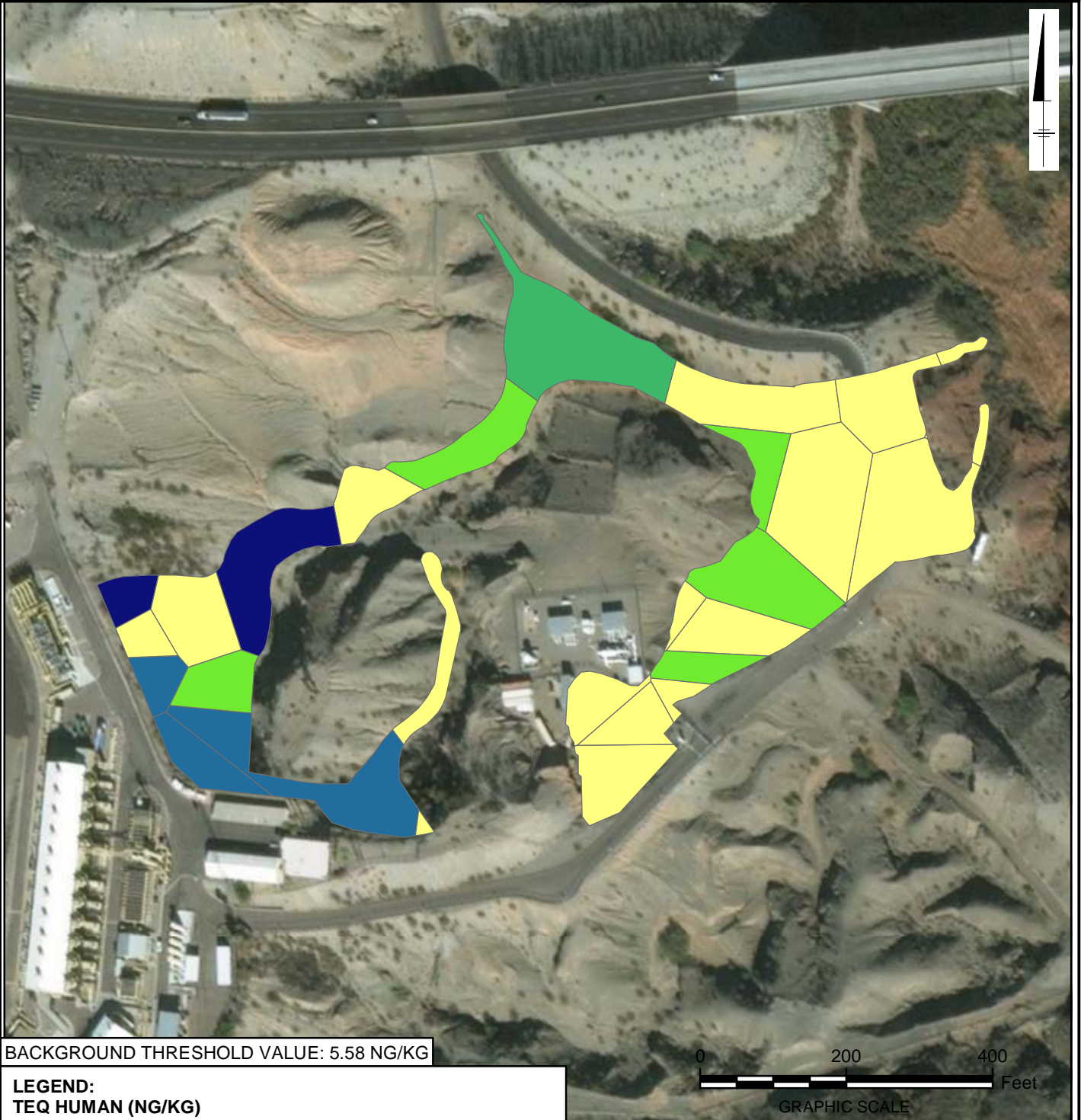
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FIGURE
AOC11-A3.69

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.12 - 4.52
- $\geq 4.52 - 14.70$
- $\geq 14.70 - 51.50$
- $\geq 51.50 - 140.00$
- $\geq 140.00 - 520.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

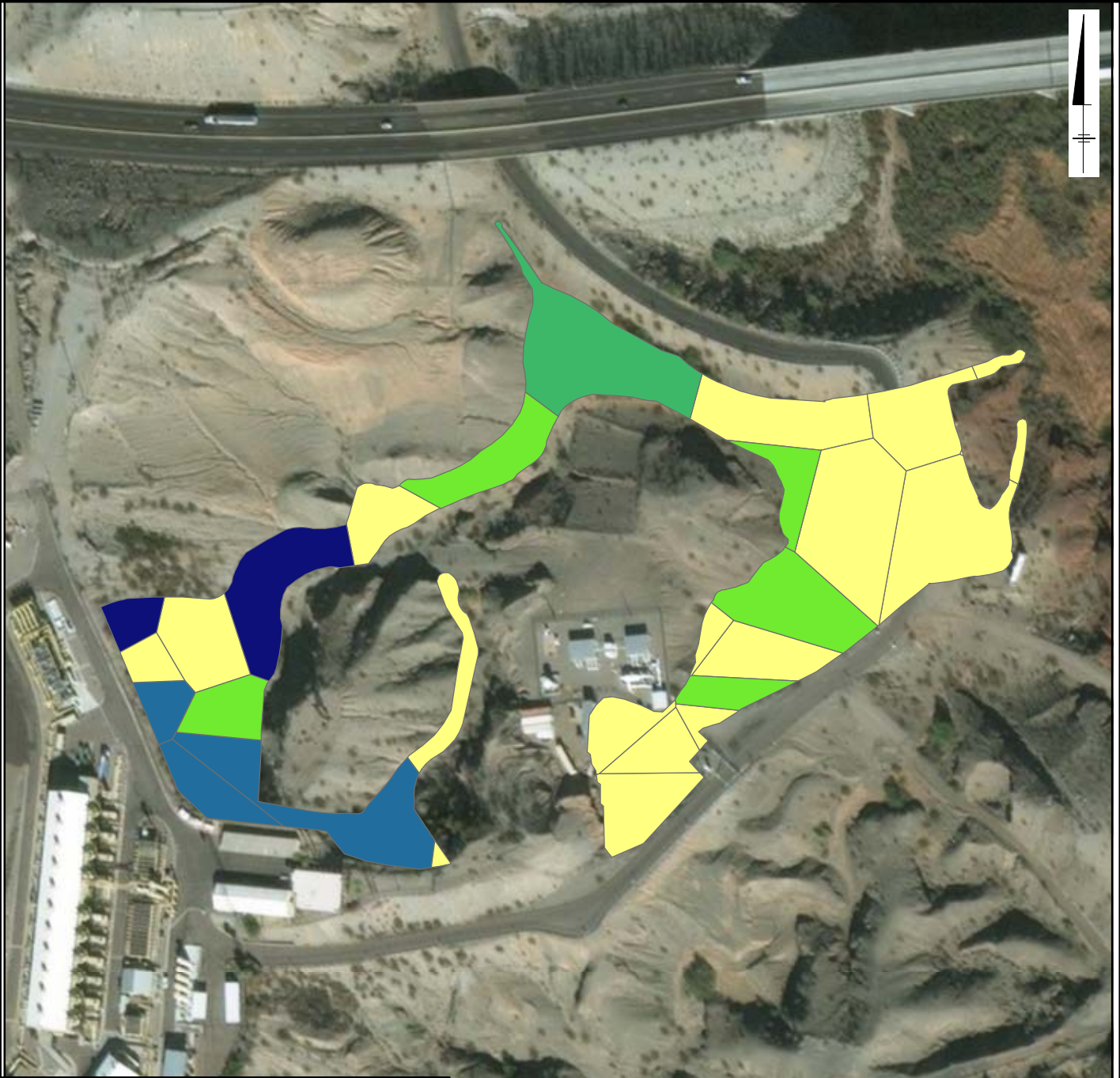
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FIGURE
AOC11-A3.70

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TEQ MAMMALS

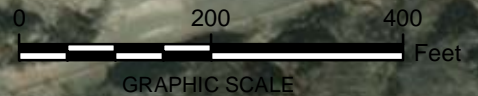


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.12 - 4.52
	≥4.52 - 14.70
	≥14.70 - 51.50
	≥51.50 - 140.00
	≥140.00 - 520.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.71

AOC 11 0 - 6 FEET BELOW GROUND SURFACE ARSENIC

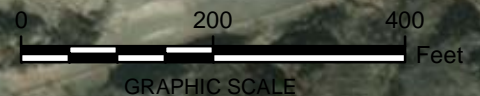


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	2.27 - 3.12
	≥3.12 - 4.20
	≥4.20 - 5.58
	≥5.58 - 7.13
	≥7.13 - 9.77

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.72

AOC 11 0 - 6 FEET BELOW GROUND SURFACE BARIUM



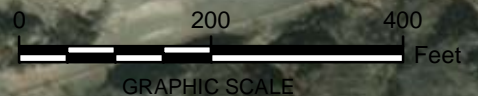
BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:

BARIUM (MG/KG)

	NOT DETECTED
	52.30 - 97.20
	≥97.20 - 138.00
	≥138.00 - 198.00
	≥198.00 - 269.00
	≥269.00 - 462.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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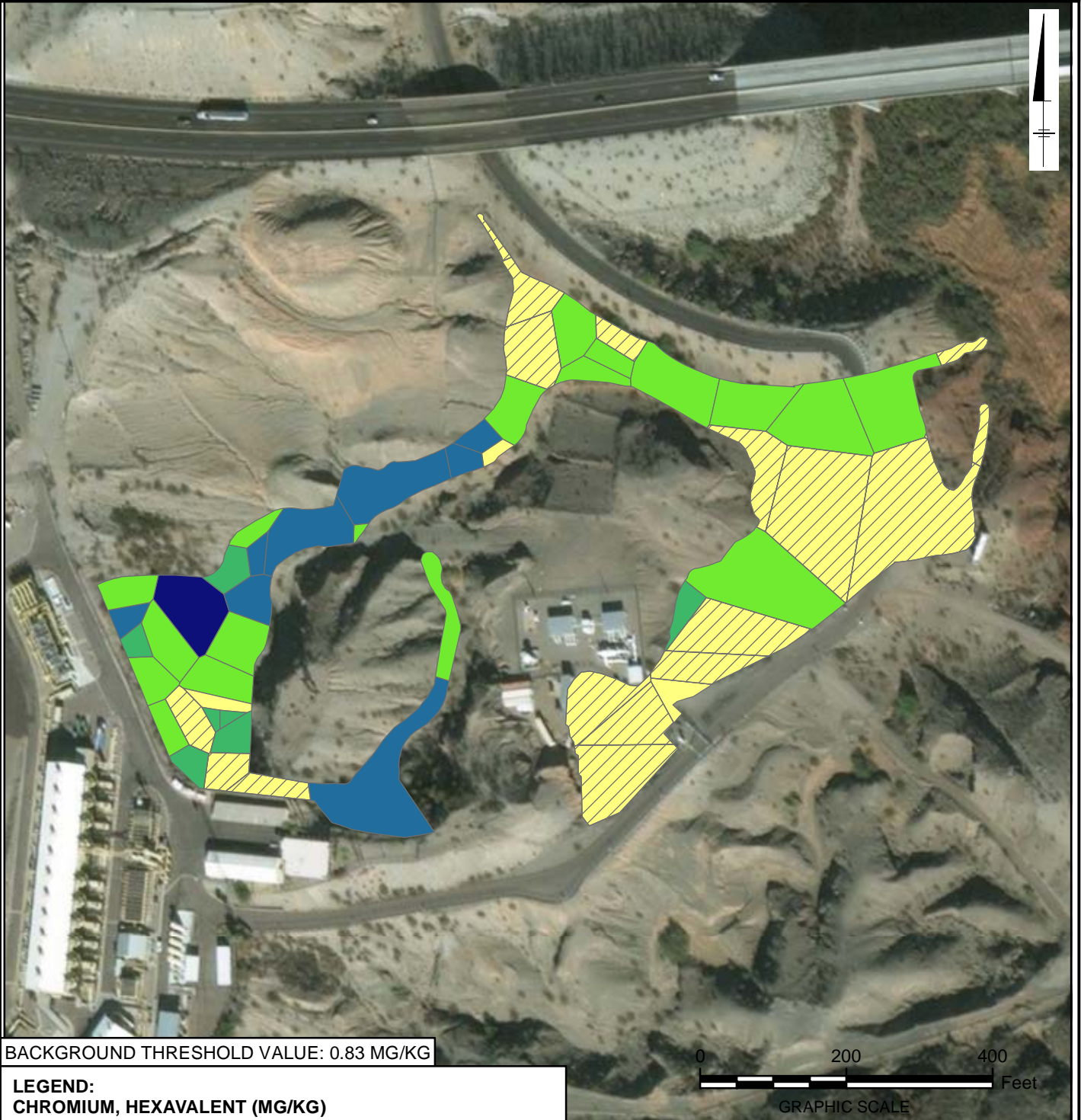


FIGURE
AOC11-A3.73

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.20
	≥0.20 - 0.56
	≥0.56 - 0.97
	≥0.97 - 2.75
	≥2.75 - 16.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

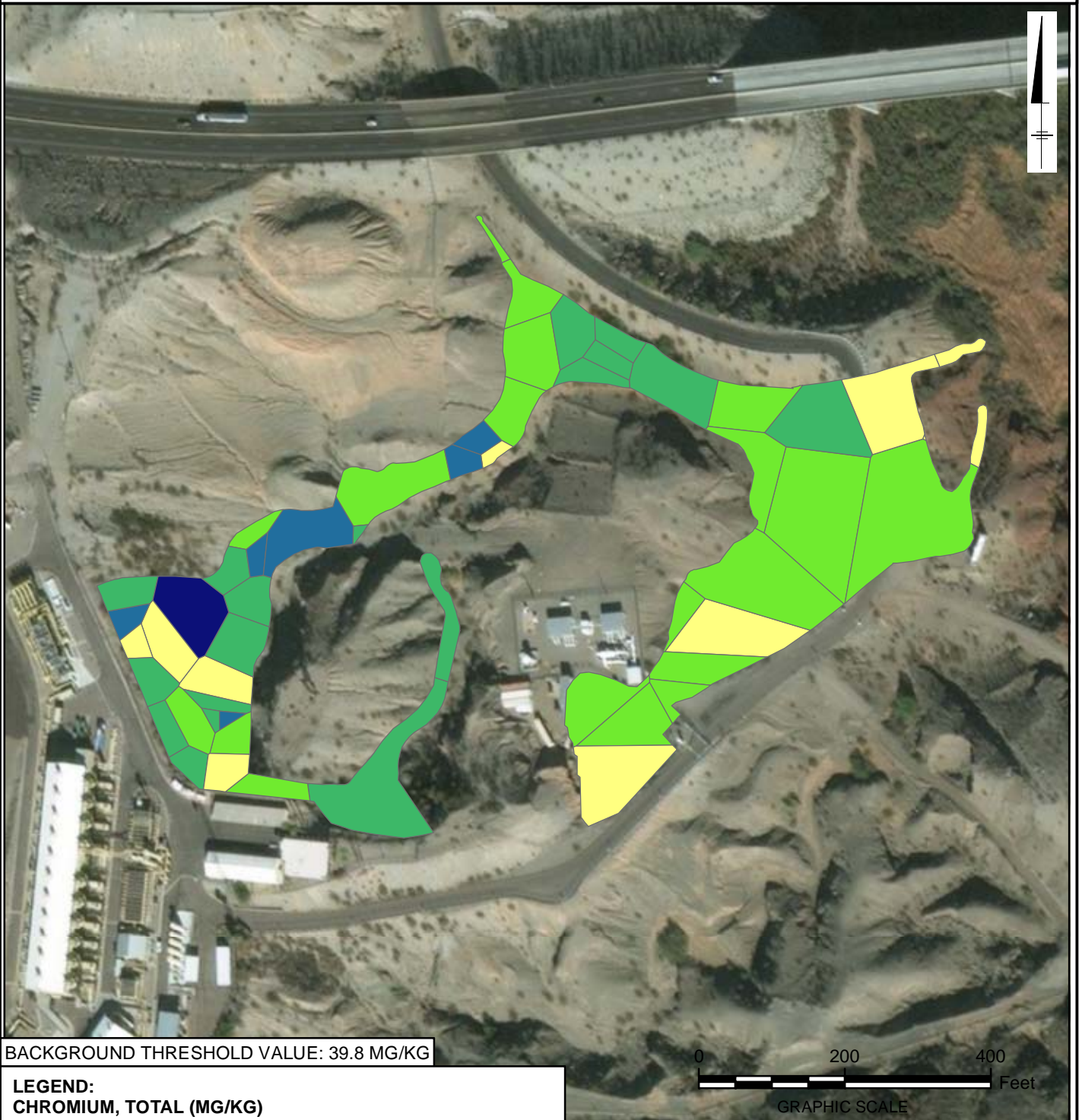
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FIGURE
AOC11-A3.74

AOC 11 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	10.40 - 15.20
	≥15.20 - 22.50
	≥22.50 - 40.00
	≥40.00 - 93.70
	≥93.70 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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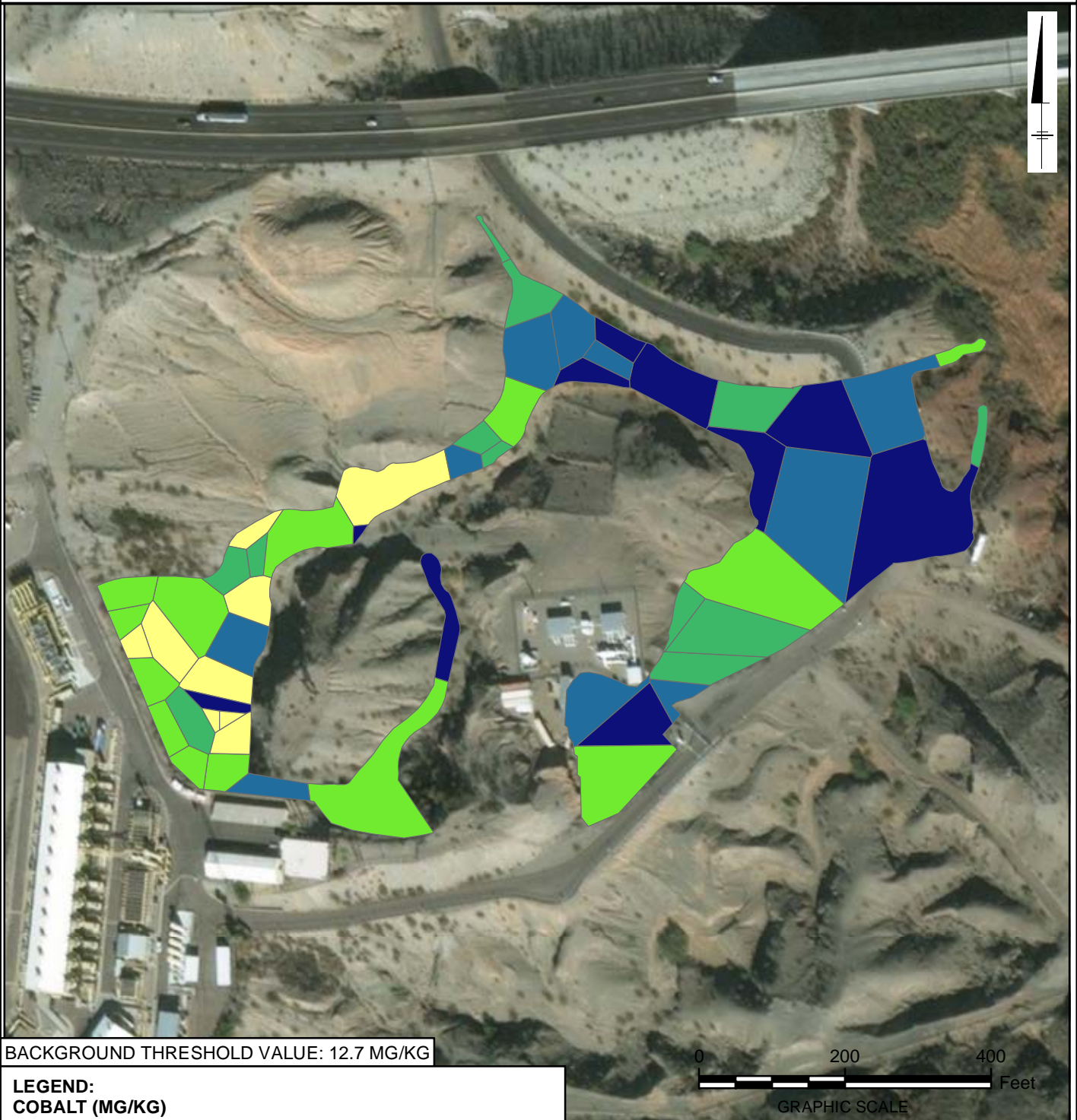
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FIGURE
AOC11-A3.75

AOC 11 0 - 6 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	3.13 - 4.19
	≥4.19 - 5.00
	≥5.00 - 6.15
	≥6.15 - 7.20
	≥7.20 - 8.73

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.76

AOC 11 0 - 6 FEET BELOW GROUND SURFACE COPPER

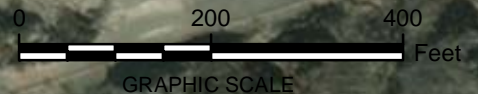


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 5.30 - 6.77
- ≥6.77 - 10.60
- ≥10.60 - 14.30
- ≥14.30 - 19.00
- ≥19.00 - 30.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



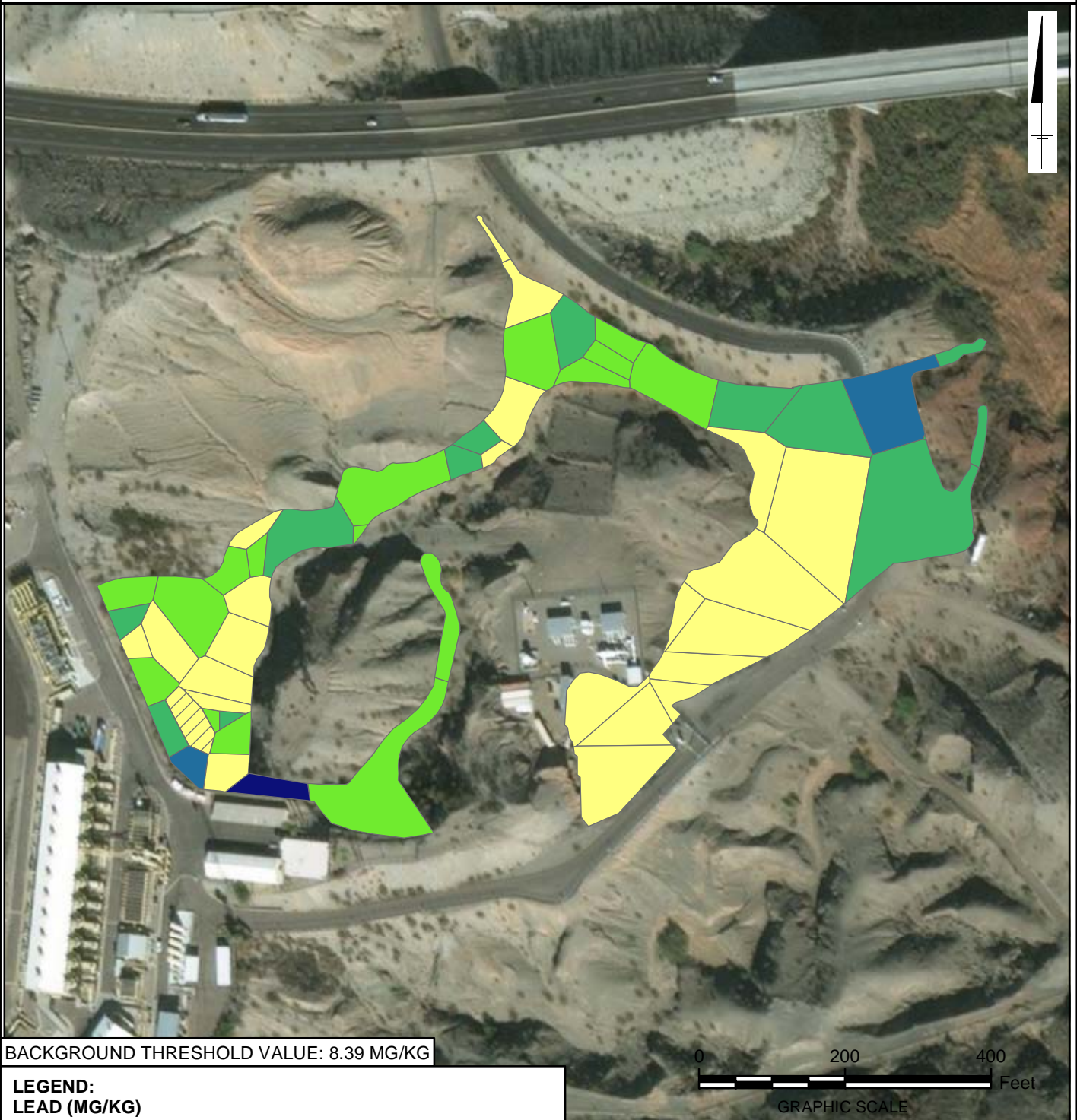
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FIGURE
AOC11-A3.77

AOC 11 0 - 6 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:
LEAD (MG/KG)

	NOT DETECTED
	0.50 - 6.85
	≥6.85 - 14.10
	≥14.10 - 27.30
	≥27.30 - 89.80
	≥89.80 - 150.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

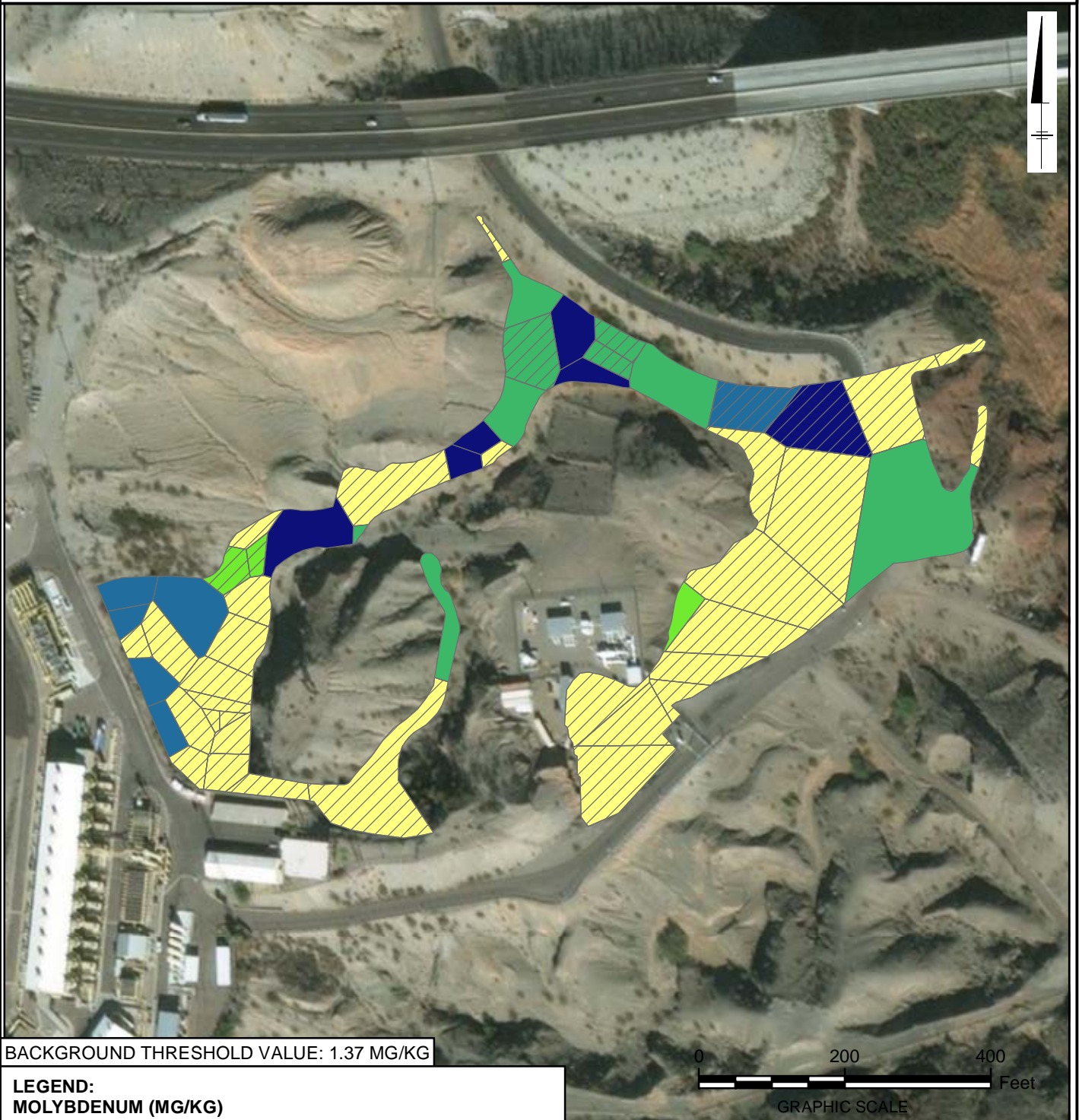
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**FIGURE
AOC11-A3.78**

AOC 11 0 - 6 FEET BELOW GROUND SURFACE MOLYBDENUM



BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

- NOT DETECTED
- 0.50 - 0.56
- $\geq 0.56 - 0.77$
- $\geq 0.77 - 1.09$
- $\geq 1.09 - 1.60$
- $\geq 1.60 - 2.23$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

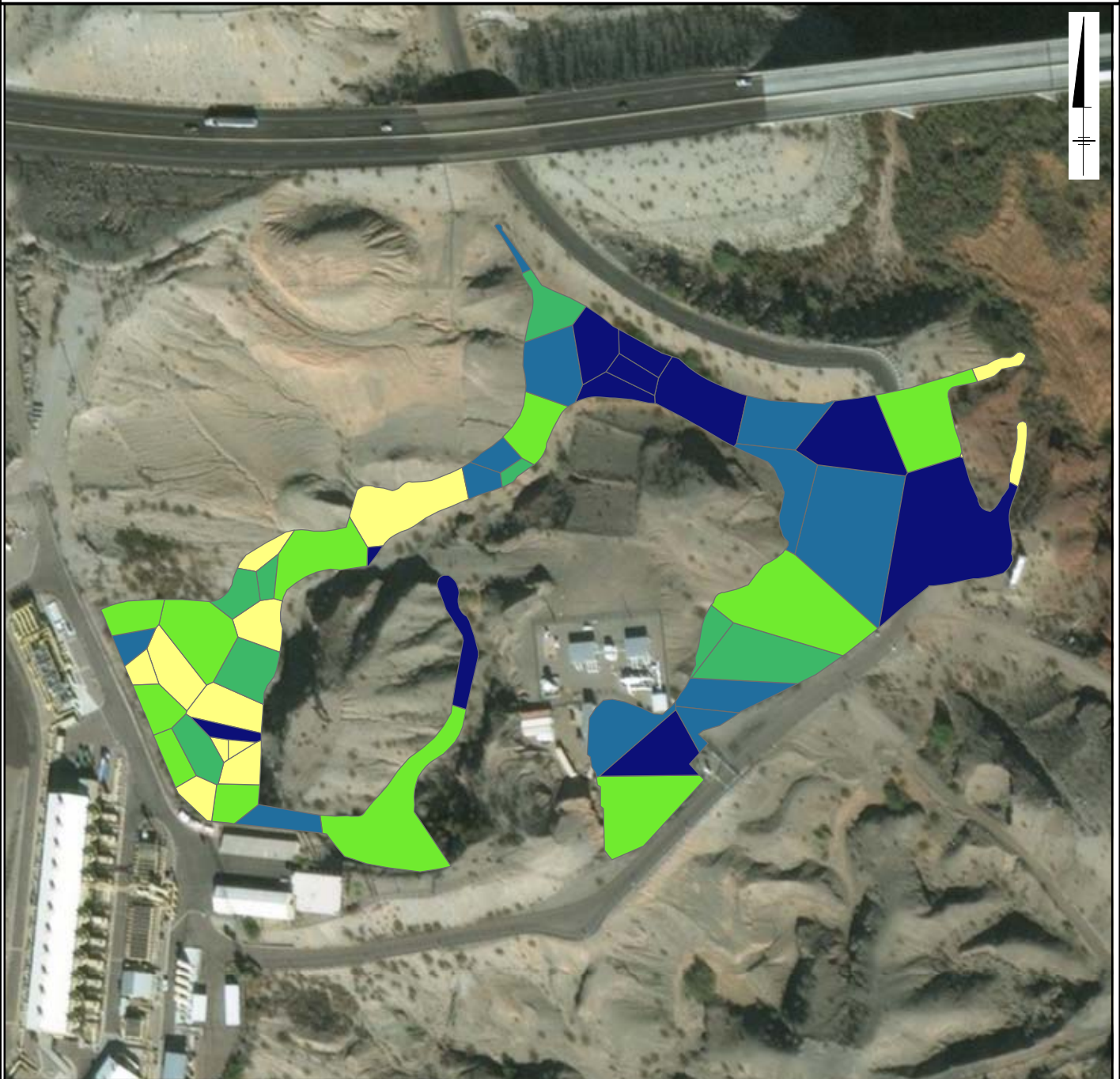
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FIGURE
AOC11-A3.79

AOC 11 0 - 6 FEET BELOW GROUND SURFACE NICKEL

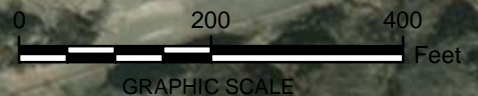


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 5.80 - 8.33
- ≥8.33 - 10.30
- ≥10.30 - 12.60
- ≥12.60 - 14.50
- ≥14.50 - 18.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.80

AOC 11 0 - 6 FEET BELOW GROUND SURFACE VANADIUM

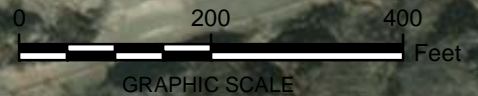


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	15.70 - 18.80
	≥18.80 - 22.00
	≥22.00 - 26.30
	≥26.30 - 32.50
	≥32.50 - 39.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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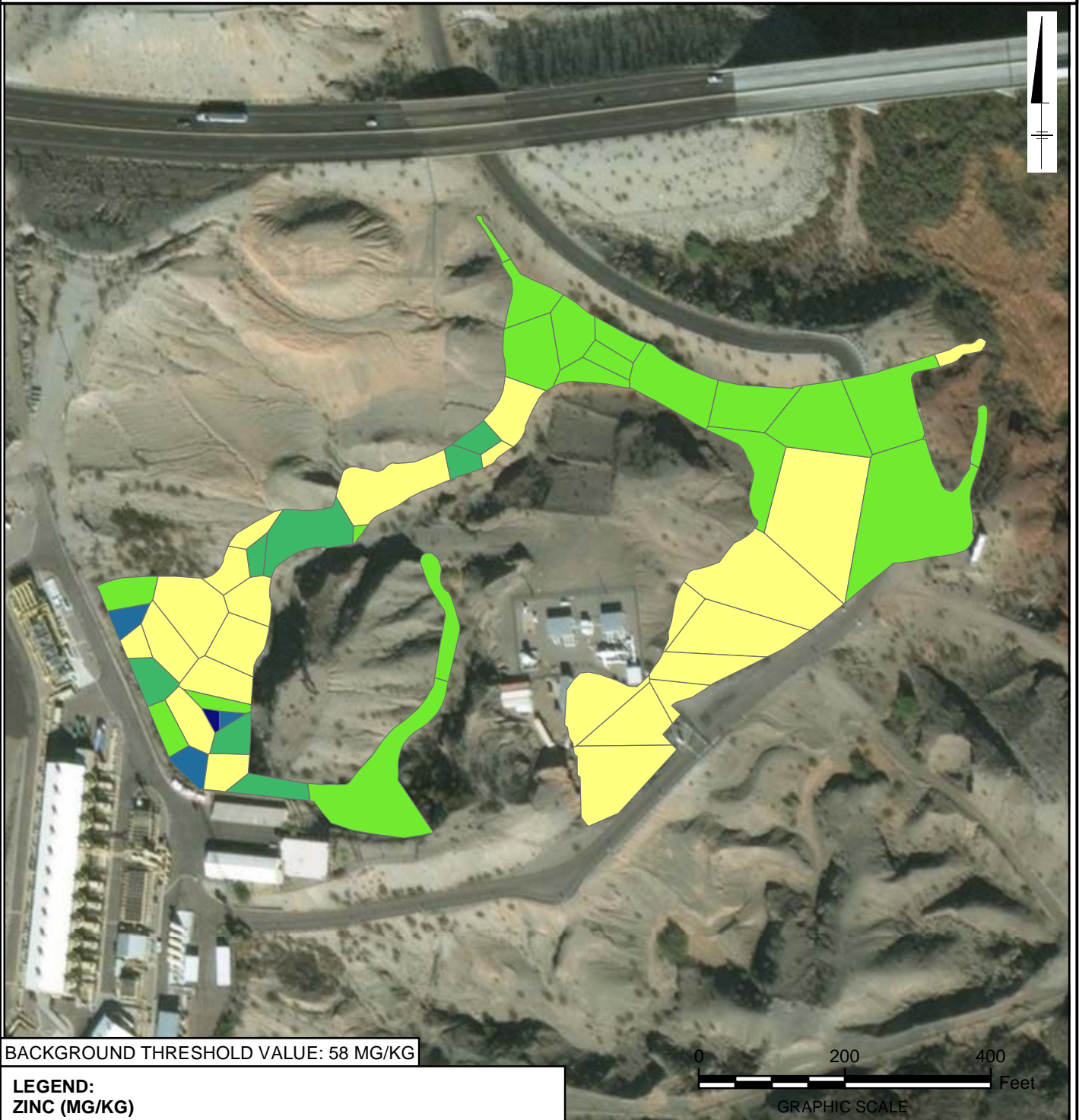
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FIGURE
AOC11-A3.81

AOC 11 0 - 6 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	22.80 - 46.50
	≥46.50 - 77.00
	≥77.00 - 143.00
	≥143.00 - 226.00
	≥226.00 - 395.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

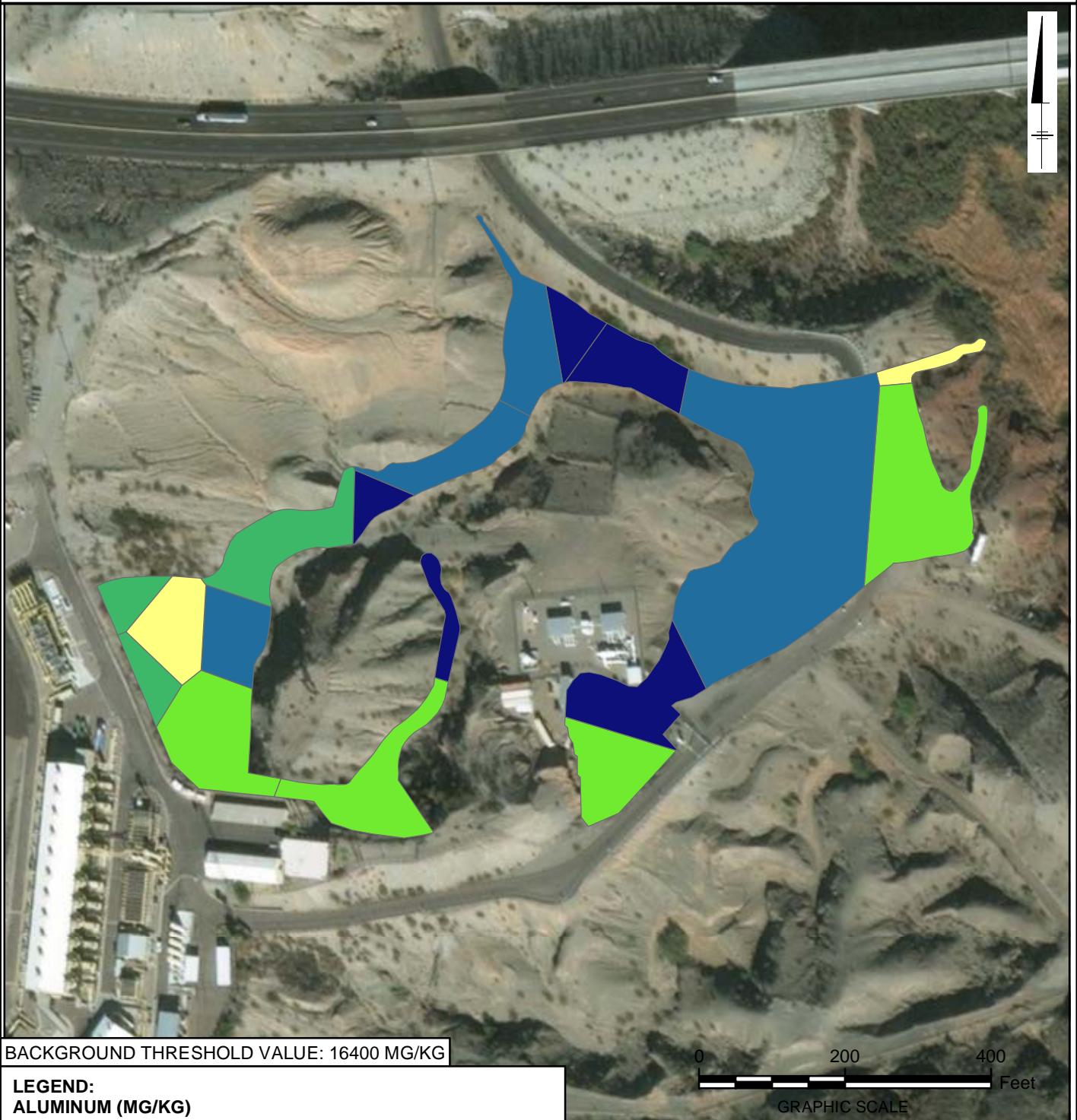
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FIGURE
AOC11-A3.82

AOC 11 0 - 6 FEET BELOW GROUND SURFACE ALUMINUM



BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND:
ALUMINUM (MG/KG)

	NOT DETECTED
	4170.00 - 4330.00
	≥4330.00 - 5330.00
	≥5330.00 - 7900.00
	≥7900.00 - 11000.00
	≥11000.00 - 20000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

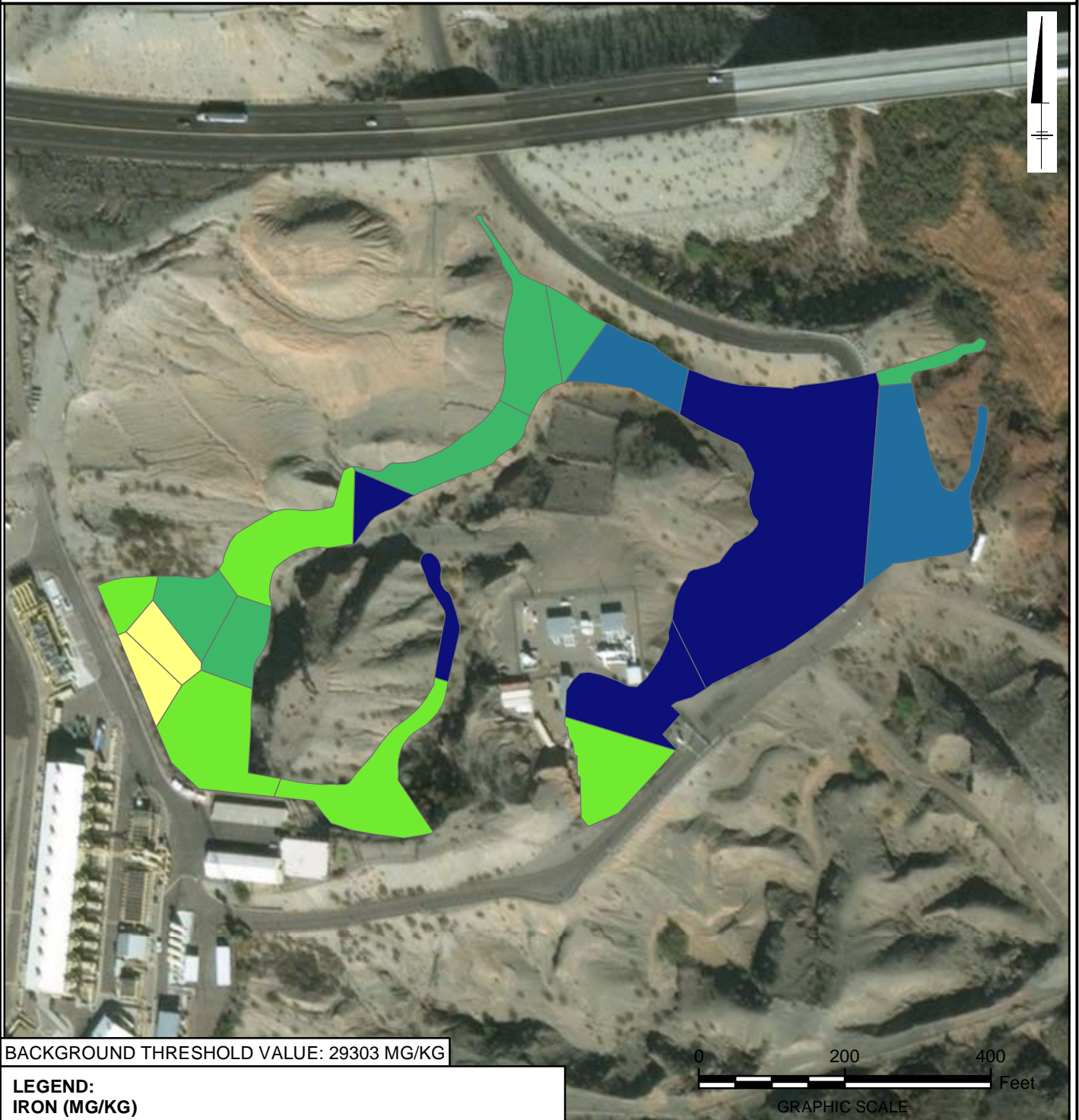
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**FIGURE
AOC11-A3.83**

AOC 11 0 - 6 FEET BELOW GROUND SURFACE IRON



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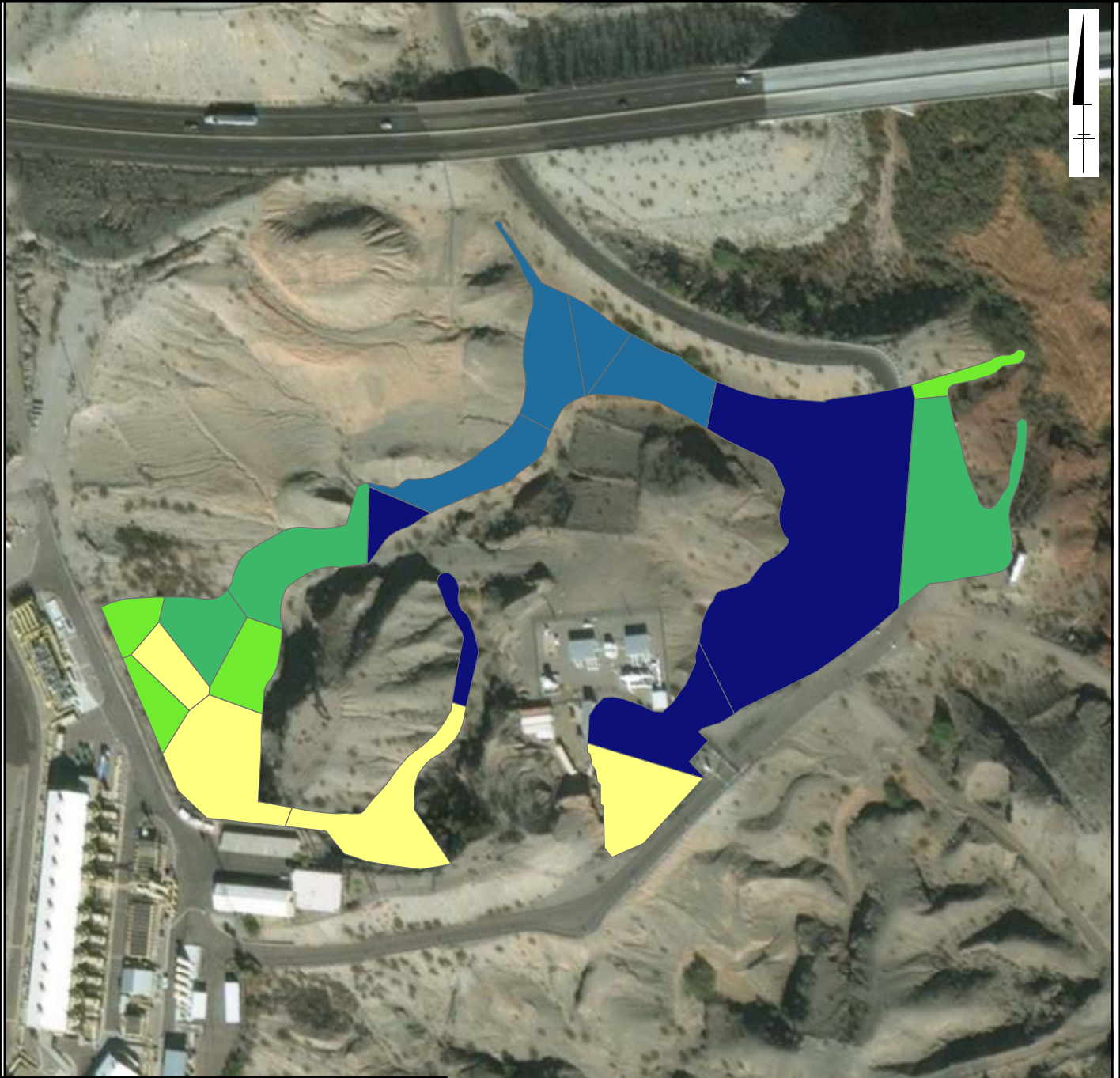
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FIGURE
AOC11-A3.84

AOC 11 0 - 6 FEET BELOW GROUND SURFACE MANGANESE

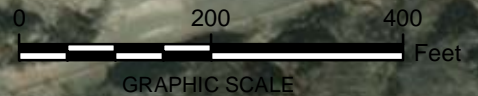


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	140.00 - 157.00
	≥157.00 - 200.00
	≥200.00 - 260.00
	≥260.00 - 350.00
	≥350.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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THIESSEN POLYGONS FOR AREA WEIGHTING

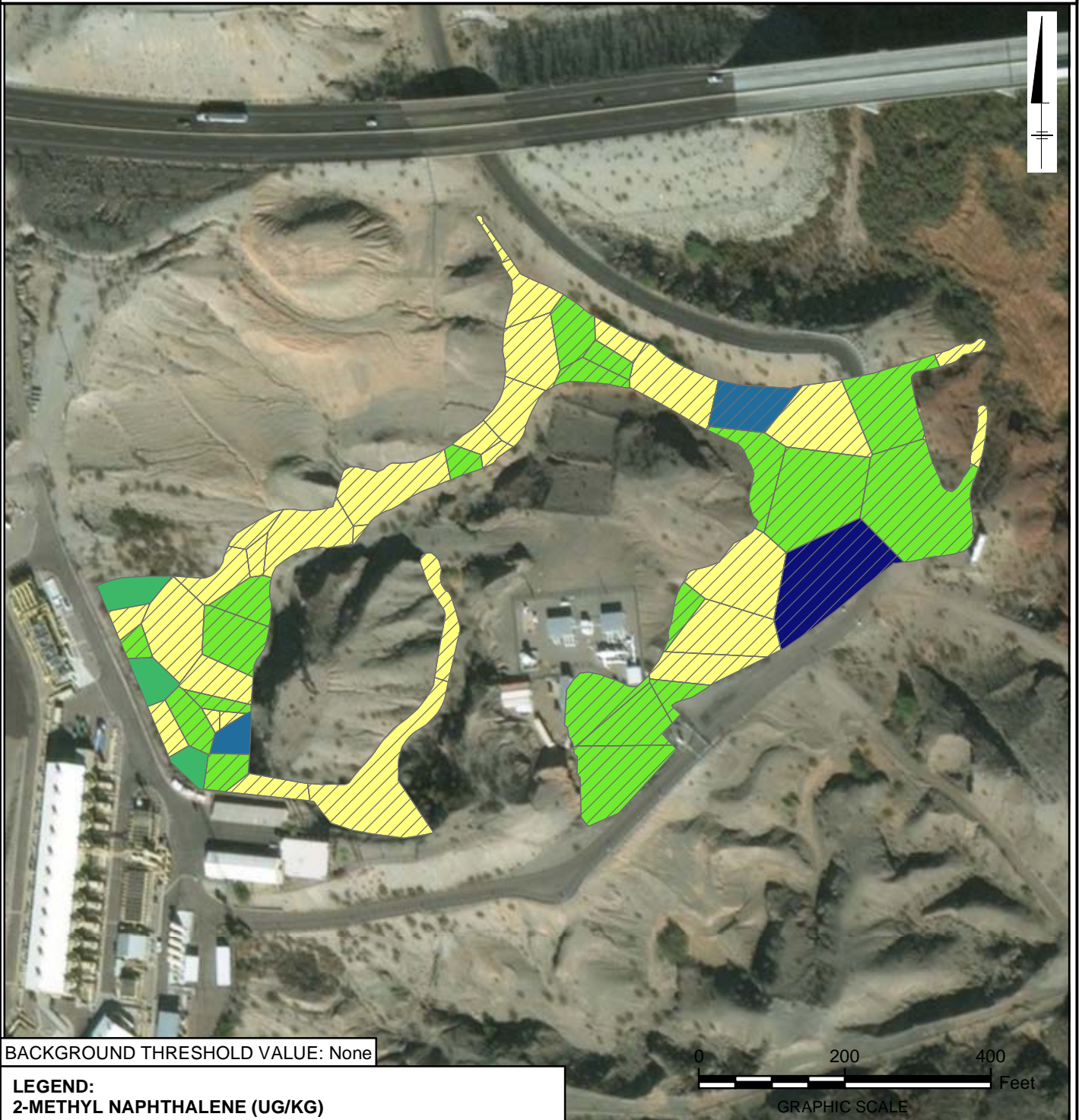


FIGURE
AOC11-A3.85

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

2-METHYL NAPHTHALENE



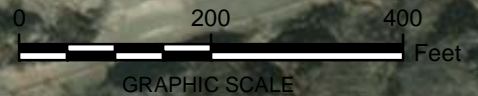
BACKGROUND THRESHOLD VALUE: None

LEGEND:

2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 2.57
	≥2.57 - 2.79
	≥2.79 - 6.80
	≥6.80 - 14.50
	≥14.50 - 35.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.86

AOC 11 0 - 6 FEET BELOW GROUND SURFACE ANTHRACENE

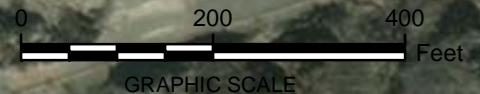


BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 2.56
	≥2.56 - 2.79
	≥2.79 - 3.54
	≥3.54 - 8.07
	≥8.07 - 14.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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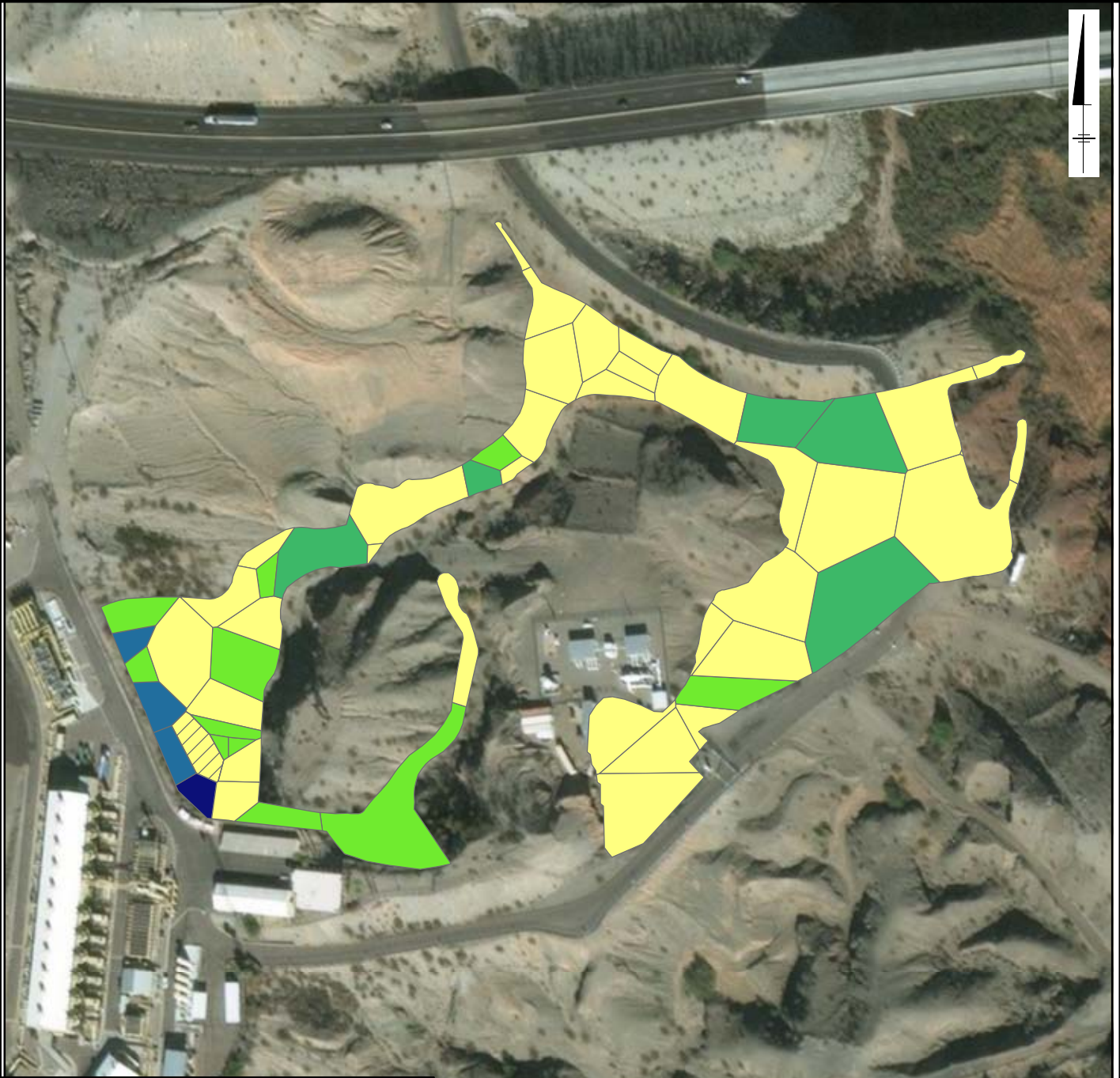
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FIGURE
AOC11-A3.87

AOC 11 0 - 6 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

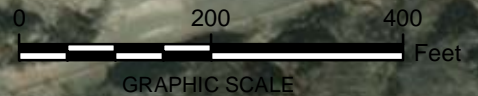


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

	NOT DETECTED
	5.82 - 39.00
	≥39.00 - 83.50
	≥83.50 - 187.00
	≥187.00 - 470.00
	≥470.00 - 771.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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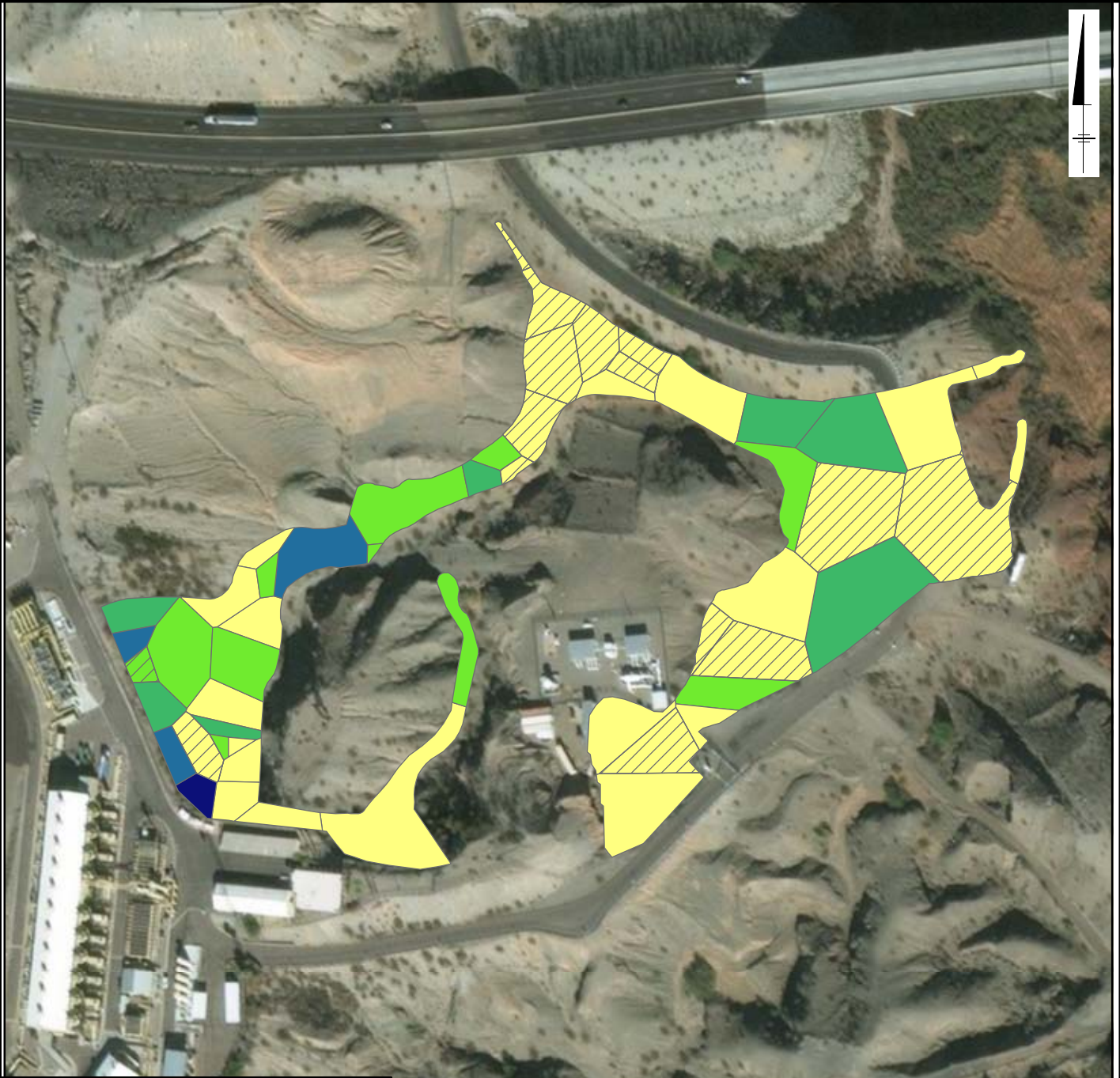


FIGURE
AOC11-A3.88

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

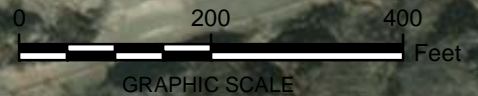


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 12.00
	≥12.00 - 40.20
	≥40.20 - 118.00
	≥118.00 - 230.00
	≥230.00 - 535.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



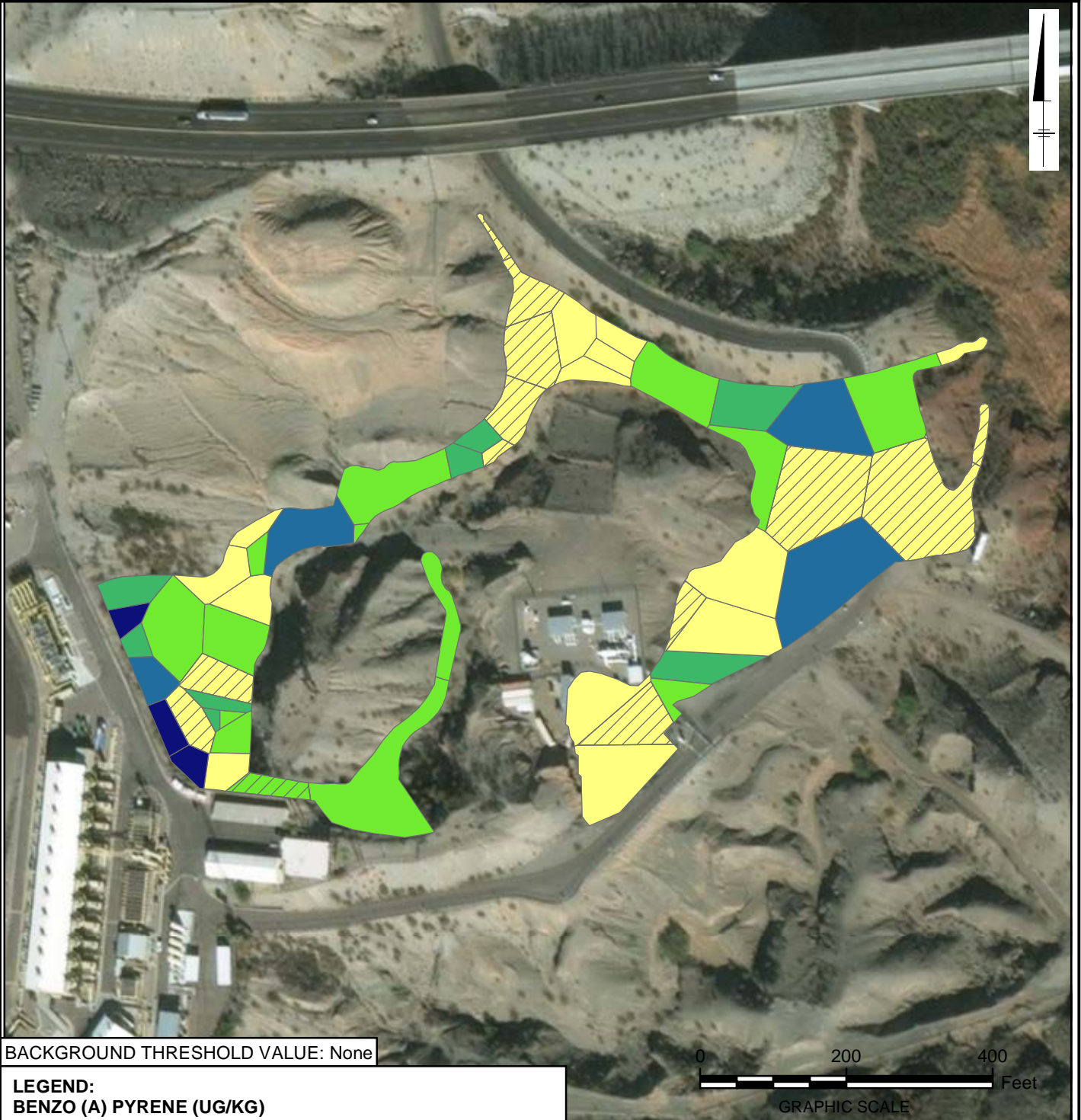
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FIGURE
AOC11-A3.89

AOC 11 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PG&E Topock (RC000753.0040.00003)
Z:\GIS\Projects\ENV\PG&E_Topock\MapBooks\Appendix\Thiessen MXD\ThiessenAreaWeighting_AOC11.mxd 6/13/2018 10:07:53 AM

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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**FIGURE
AOC11-A3.90**

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE

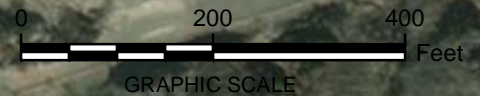


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.51 - 21.40
- ≥21.40 - 57.10
- ≥57.10 - 115.00
- ≥115.00 - 189.00
- ≥189.00 - 868.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.91

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.51 - 9.01
	≥9.01 - 20.40
	≥20.40 - 44.70
	≥44.70 - 90.40
	≥90.40 - 252.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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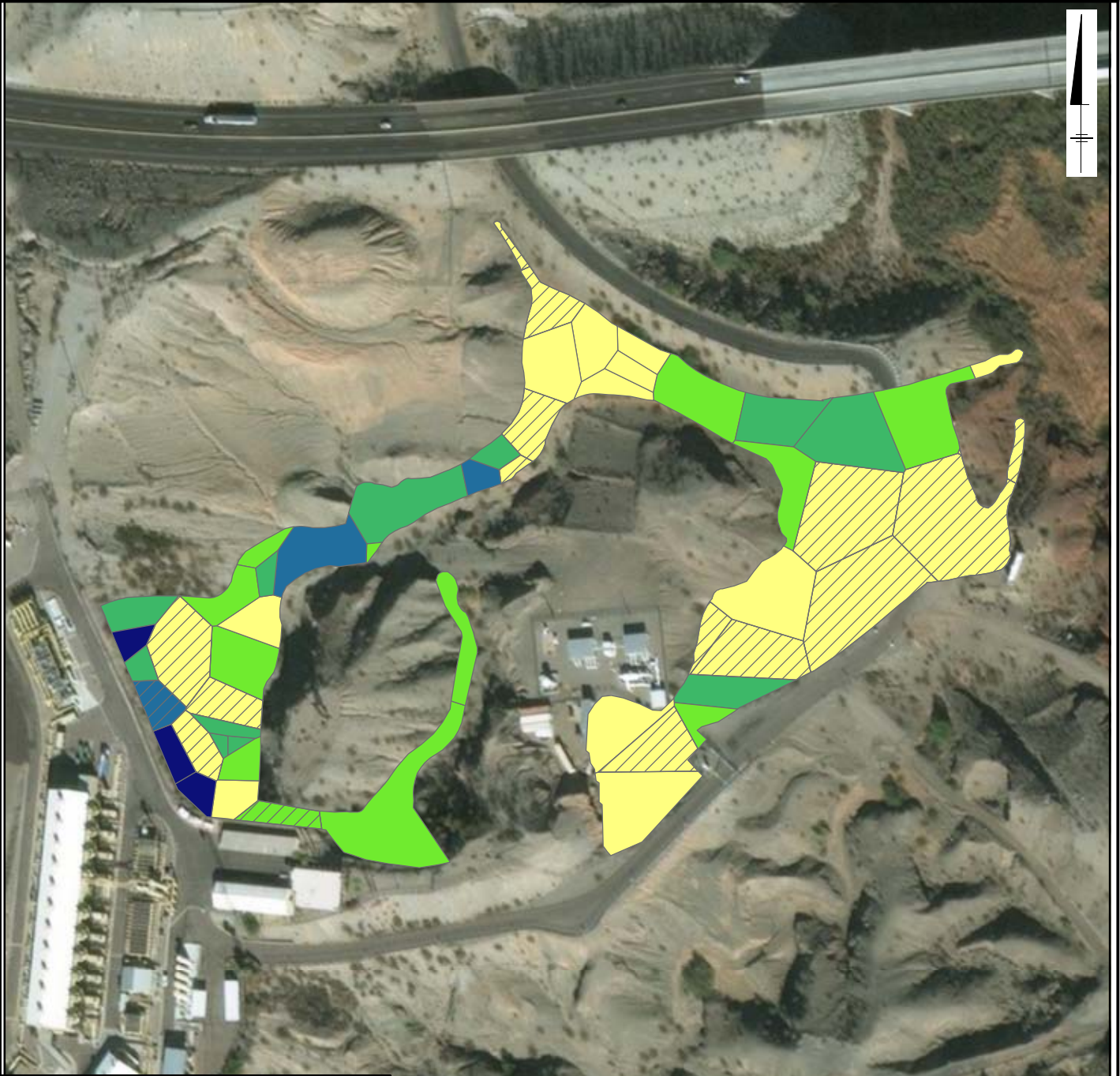
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**FIGURE
AOC11-A3.92**

AOC 11

0 - 6 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE

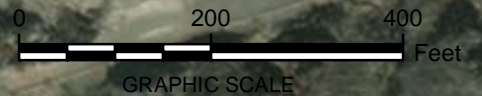


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 10.20
- ≥10.20 - 26.90
- ≥26.90 - 56.20
- ≥56.20 - 128.00
- ≥128.00 - 312.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.93

AOC 11 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE

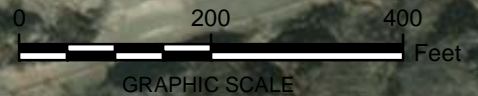


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	2.50 - 28.60
	≥28.60 - 70.00
	≥70.00 - 205.00
	≥205.00 - 410.00
	≥410.00 - 868.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



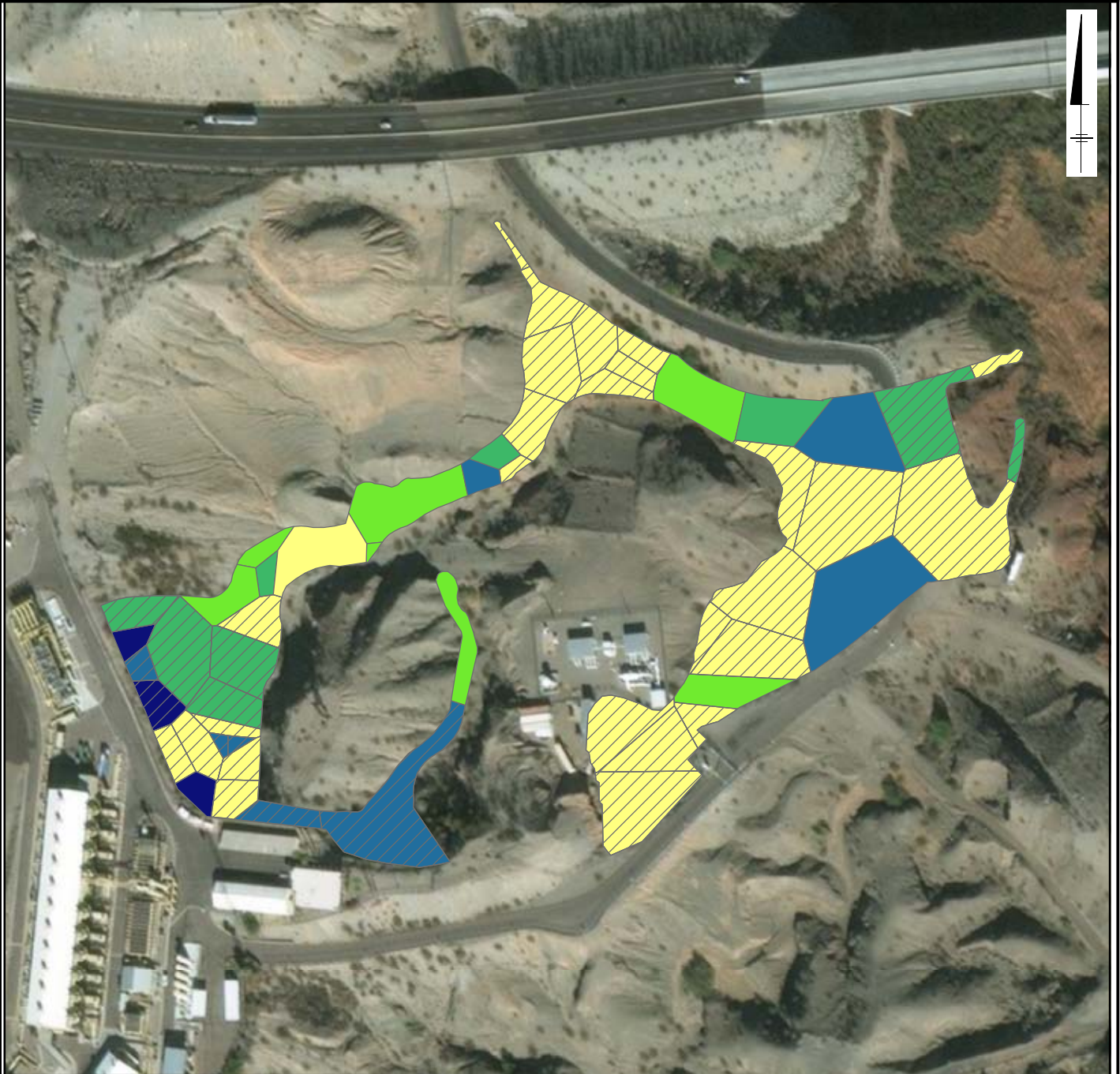
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FIGURE
AOC11-A3.94

AOC 11 0 - 6 FEET BELOW GROUND SURFACE DIBENZO (A,H) ANTHRACENE

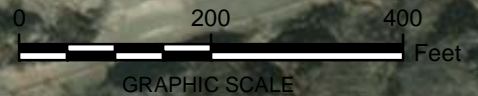


BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 3.81
	≥3.81 - 6.55
	≥6.55 - 14.30
	≥14.30 - 25.90
	≥25.90 - 88.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



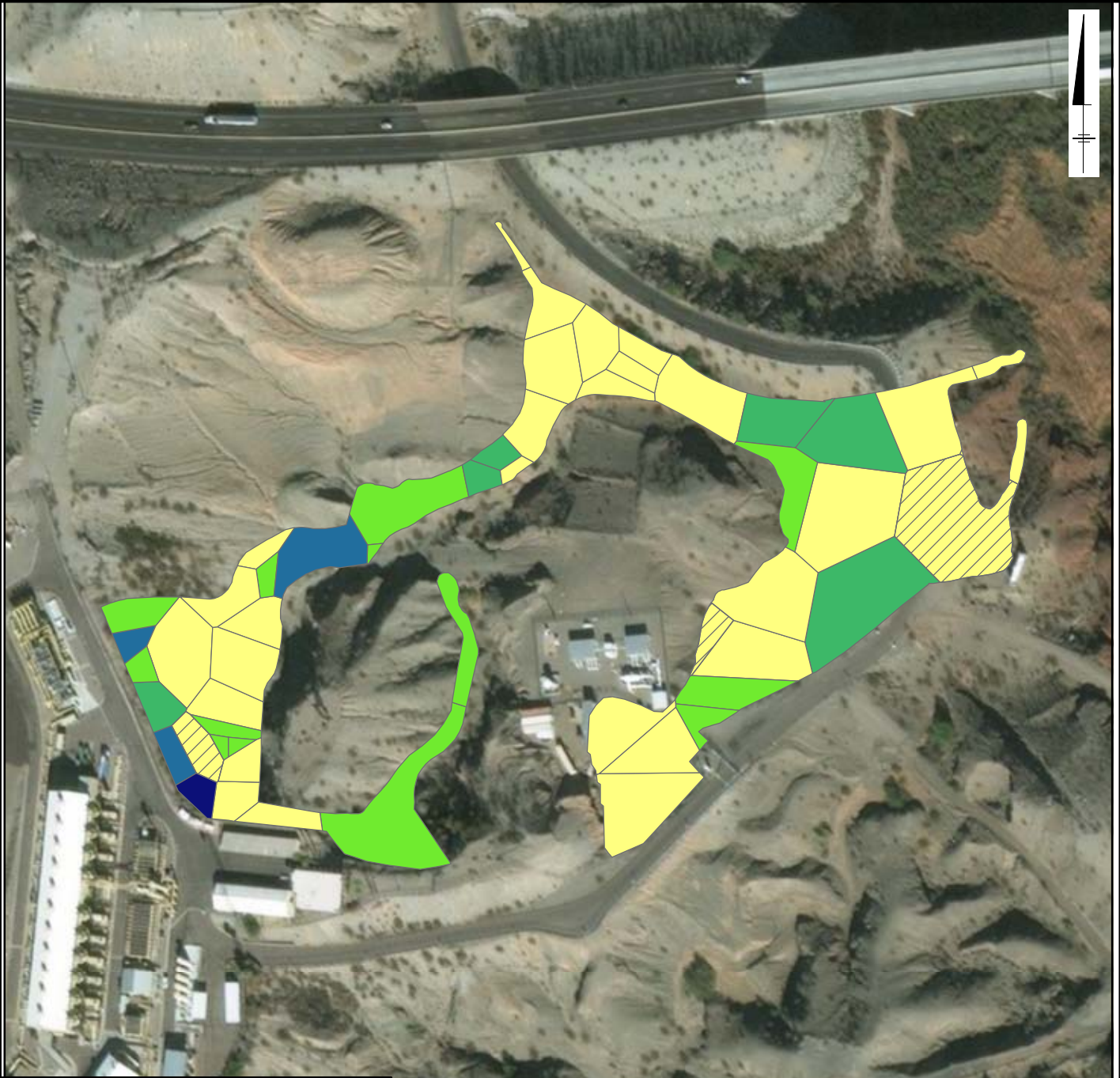
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FIGURE
AOC11-A3.95

AOC 11 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE

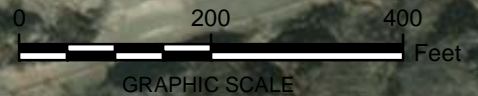


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.60 - 31.40
- ≥31.40 - 81.30
- ≥81.30 - 304.00
- ≥304.00 - 613.00
- ≥613.00 - 1240.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.96

AOC 11 0 - 6 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

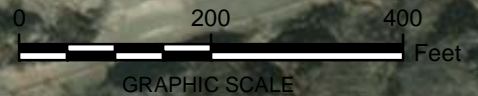


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 8.34
	≥8.34 - 20.10
	≥20.10 - 43.30
	≥43.30 - 88.40
	≥88.40 - 265.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



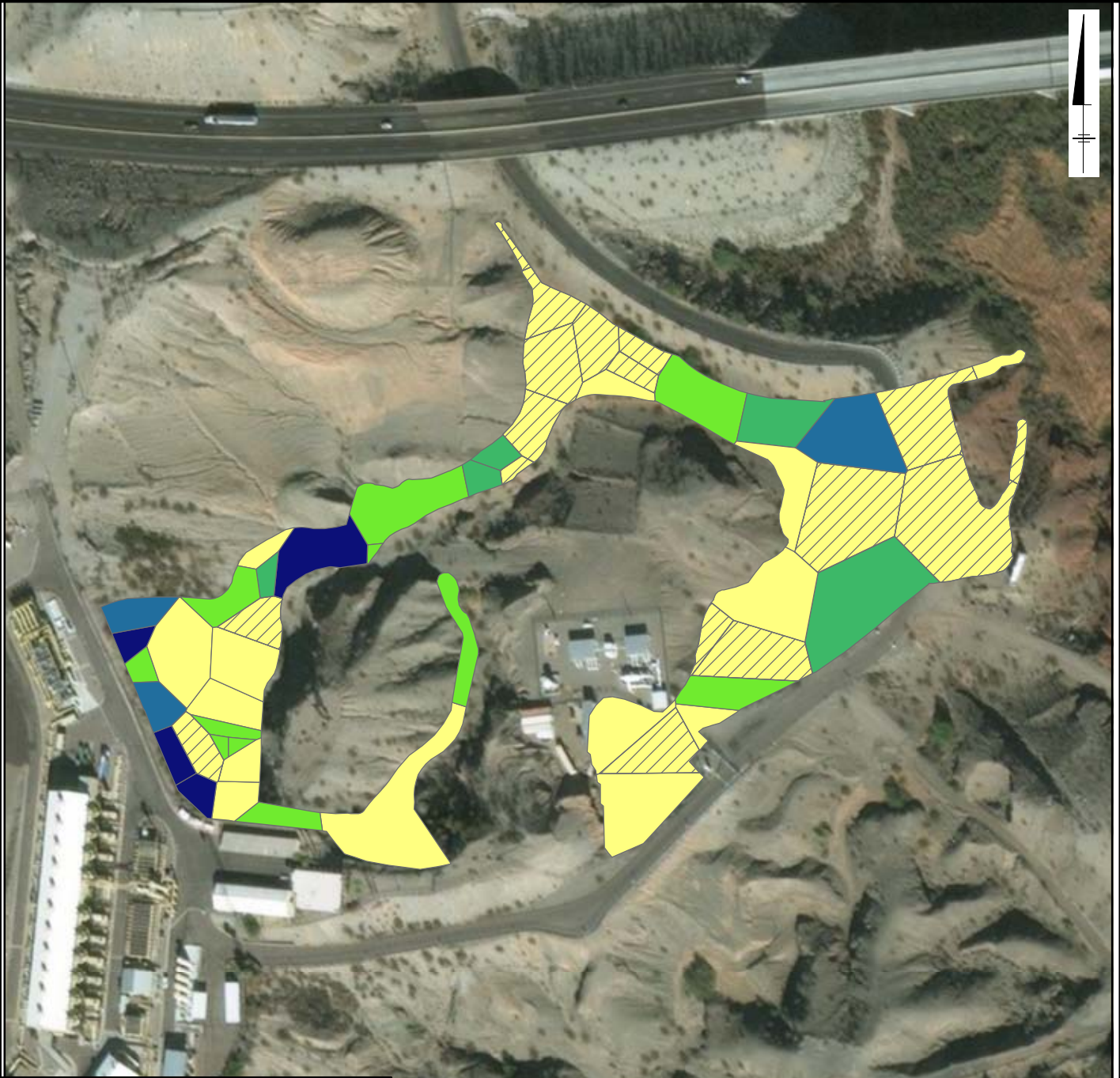
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




FIGURE
AOC11-A3.97

AOC 11 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE

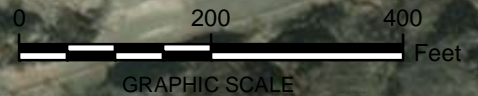


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 9.40
-  ≥9.40 - 23.80
-  ≥23.80 - 47.30
-  ≥47.30 - 85.10
-  ≥85.10 - 435.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



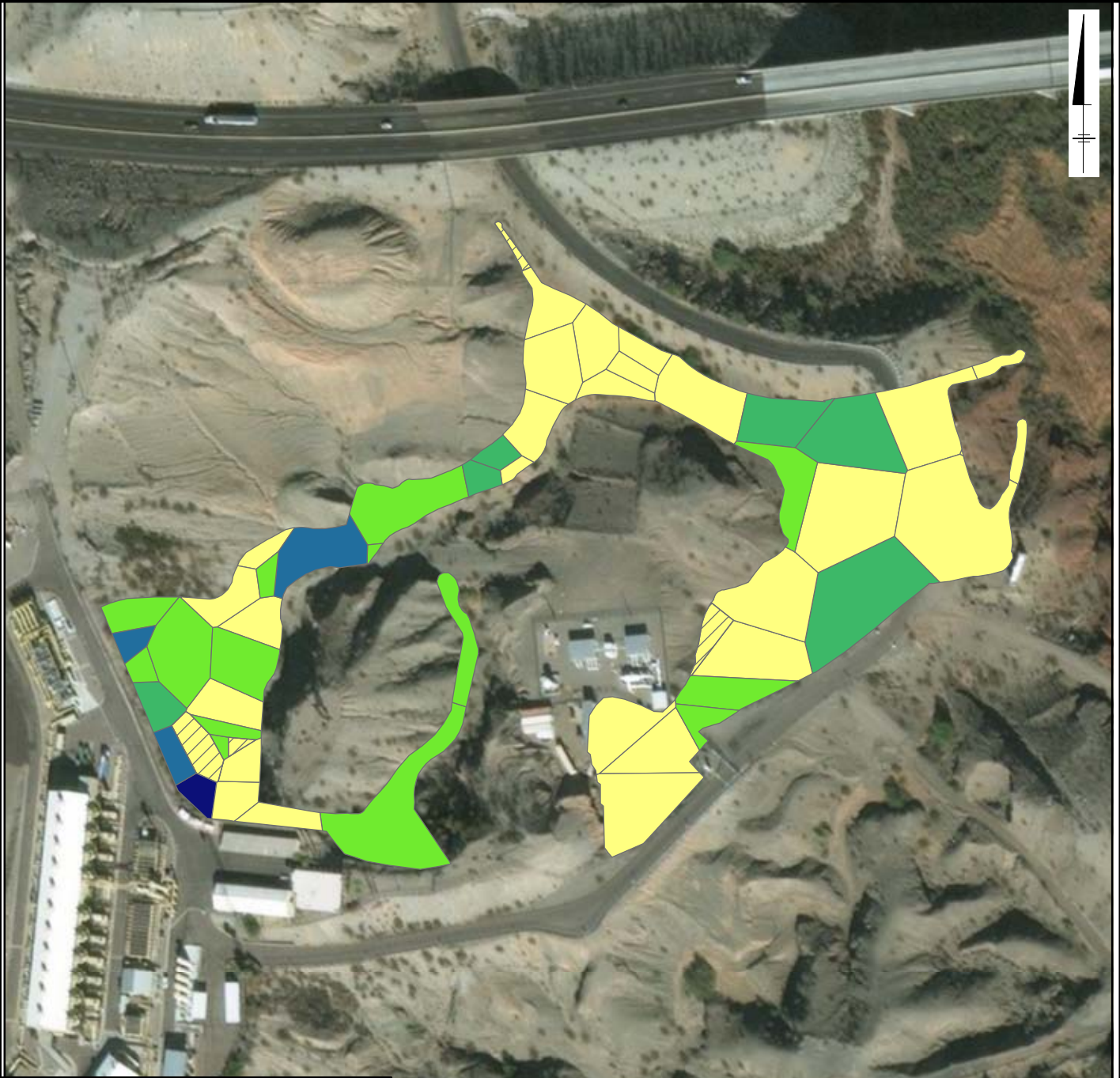
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FIGURE
AOC11-A3.98

AOC 11 0 - 6 FEET BELOW GROUND SURFACE PYRENE

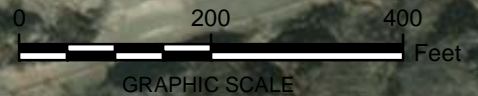


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 27.70
	≥27.70 - 76.90
	≥76.90 - 247.00
	≥247.00 - 563.00
	≥563.00 - 1140.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



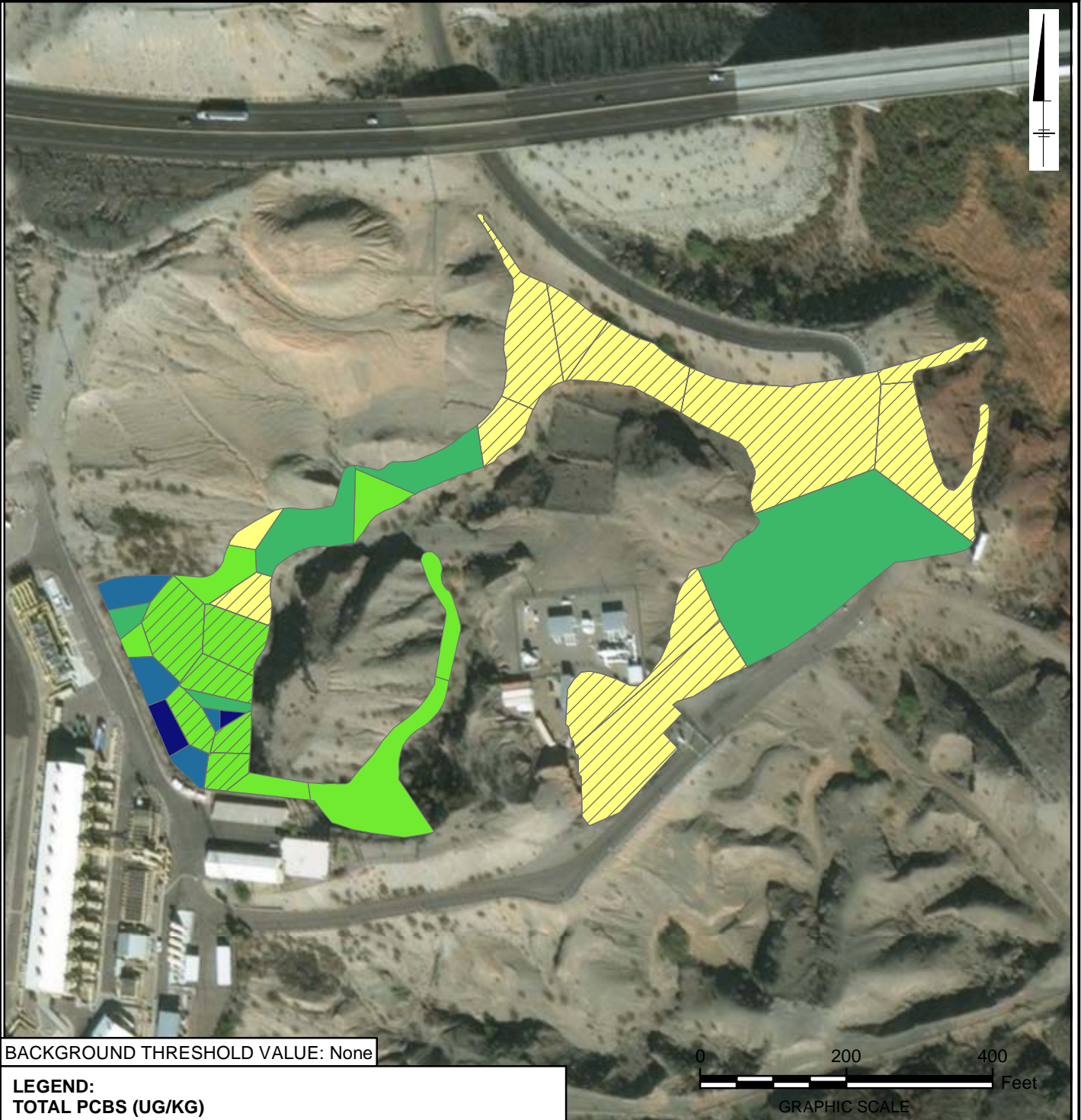
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FIGURE
AOC11-A3.99

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

	NOT DETECTED
	17.00 - 26.00
	≥26.00 - 76.50
	≥76.50 - 165.00
	≥165.00 - 232.00
	≥232.00 - 1030.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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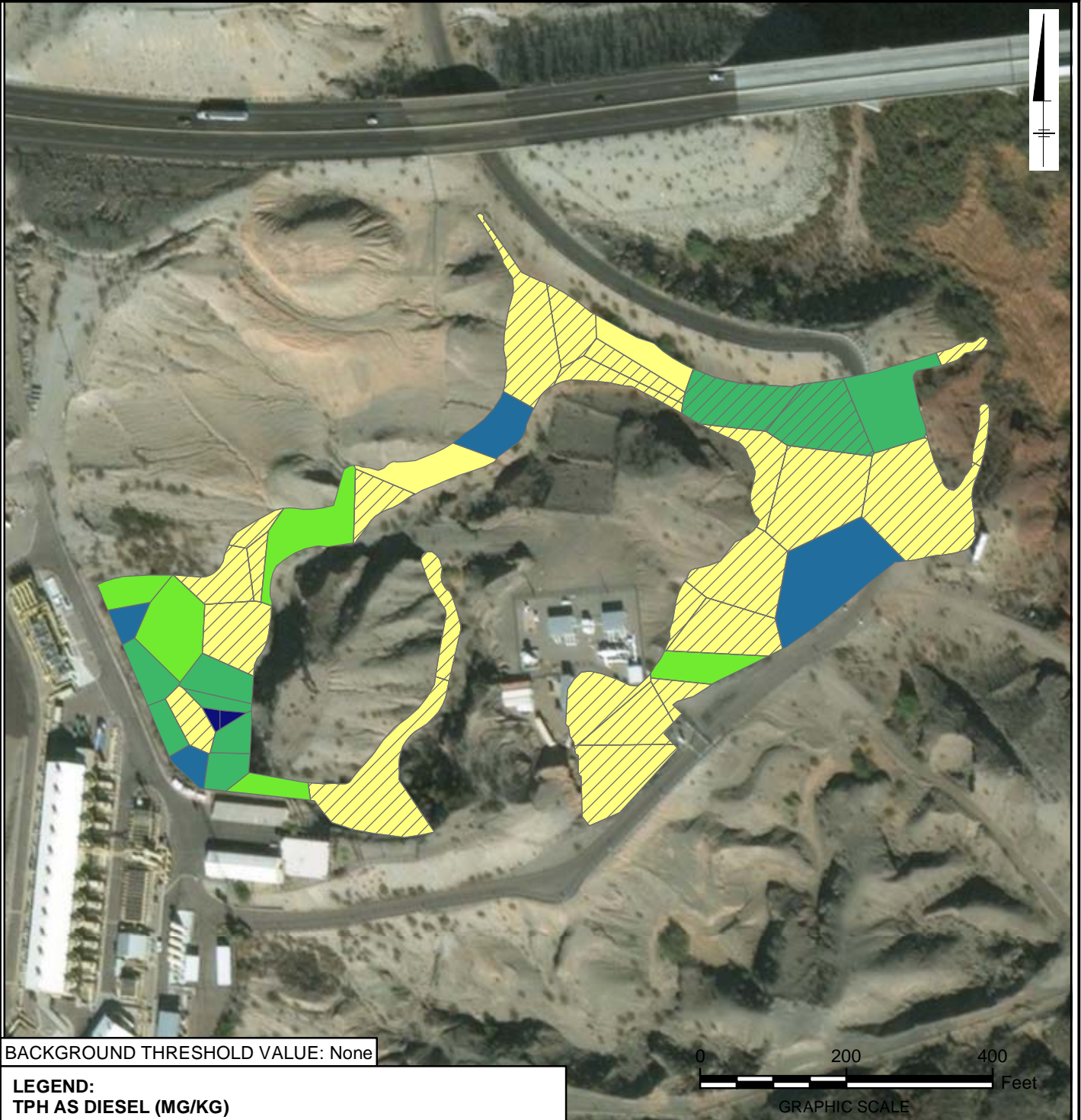
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FIGURE
AOC11-A3.100

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TPH AS DIESEL



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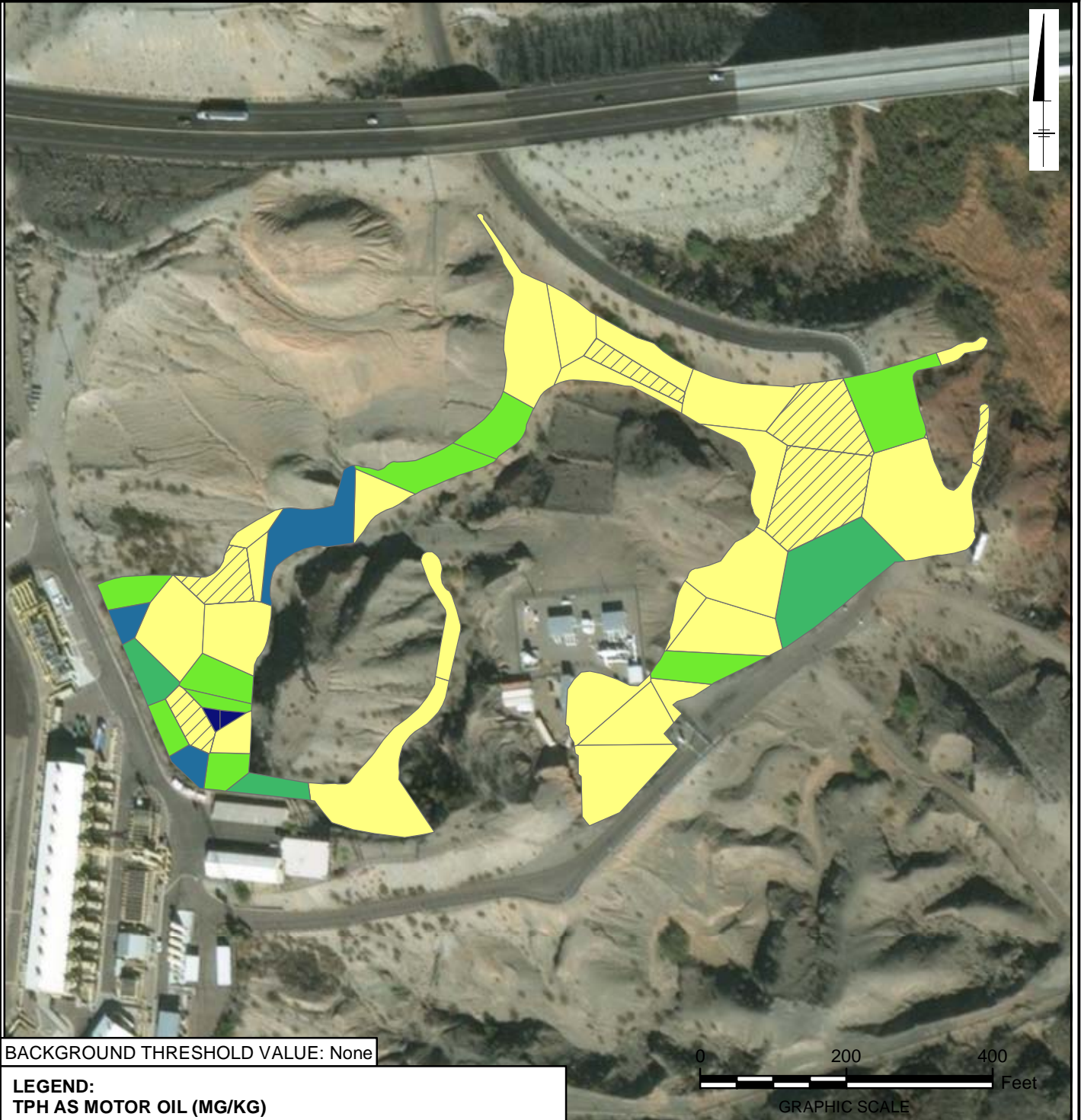
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**FIGURE
AOC11-A3.101**

AOC 11 0 - 6 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS MOTOR OIL (MG/KG)

	NOT DETECTED
	5.00 - 30.40
	≥30.40 - 131.00
	≥131.00 - 240.00
	≥240.00 - 360.00
	≥360.00 - 1290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.102

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.11 - 1.82
- $\geq 1.82 - 6.04$
- $\geq 6.04 - 15.00$
- $\geq 15.00 - 101.00$
- $\geq 101.00 - 286.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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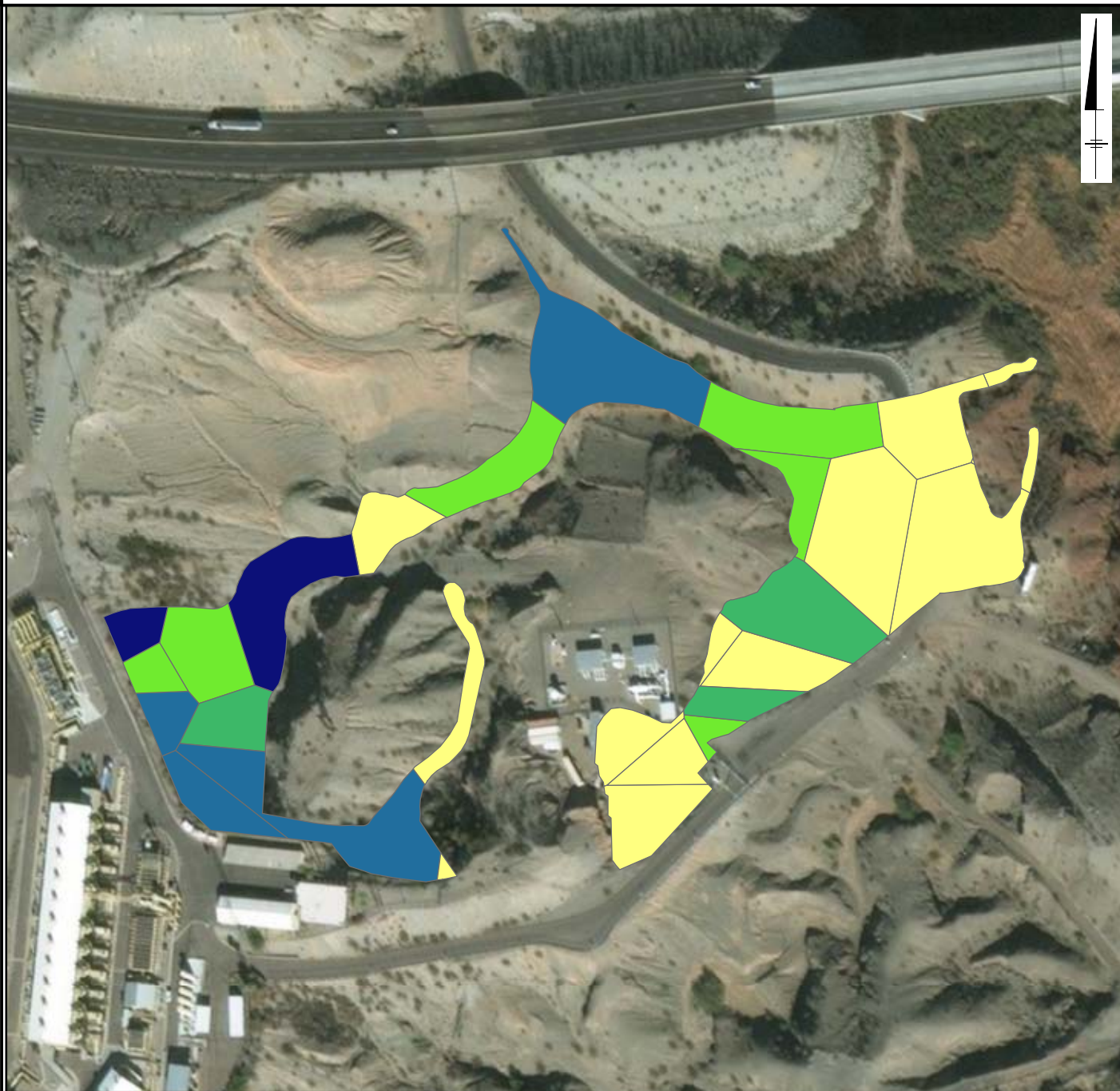
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FIGURE
AOC11-A3.103

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.10 - 2.32
- $\geq 2.32 - 6.51$
- $\geq 6.51 - 14.00$
- $\geq 14.00 - 140.00$
- $\geq 140.00 - 520.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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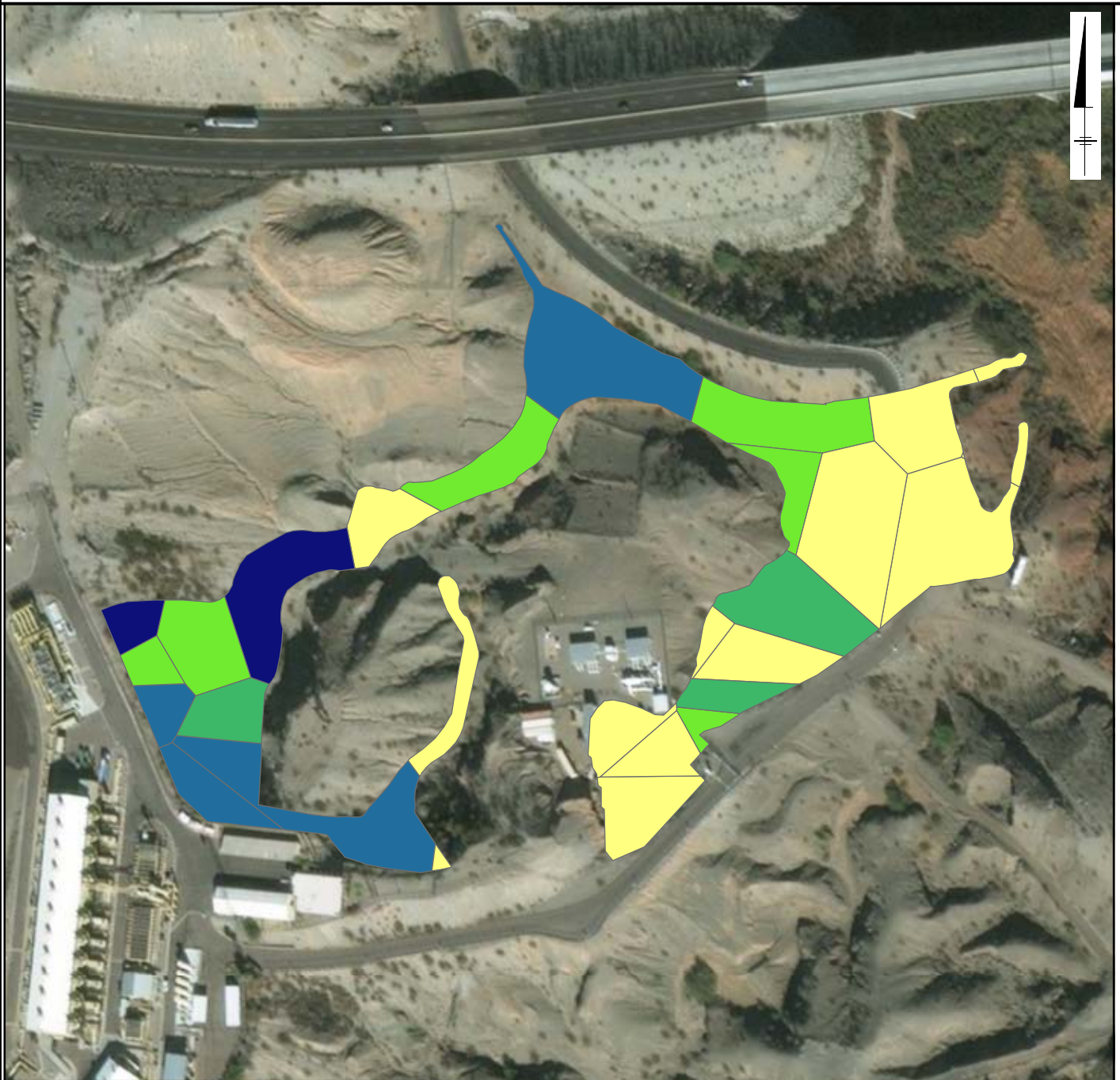
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FIGURE
AOC11-A3.104

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TEQ MAMMALS

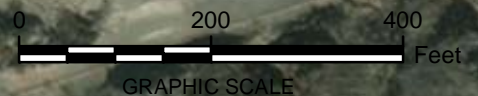


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.10 - 2.32
- $\geq 2.32 - 6.51$
- $\geq 6.51 - 14.00$
- $\geq 14.00 - 140.00$
- $\geq 140.00 - 520.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.105

AOC 11 0 - 10 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	2.24 - 2.91
	≥2.91 - 3.79
	≥3.79 - 5.35
	≥5.35 - 7.00
	≥7.00 - 9.76

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

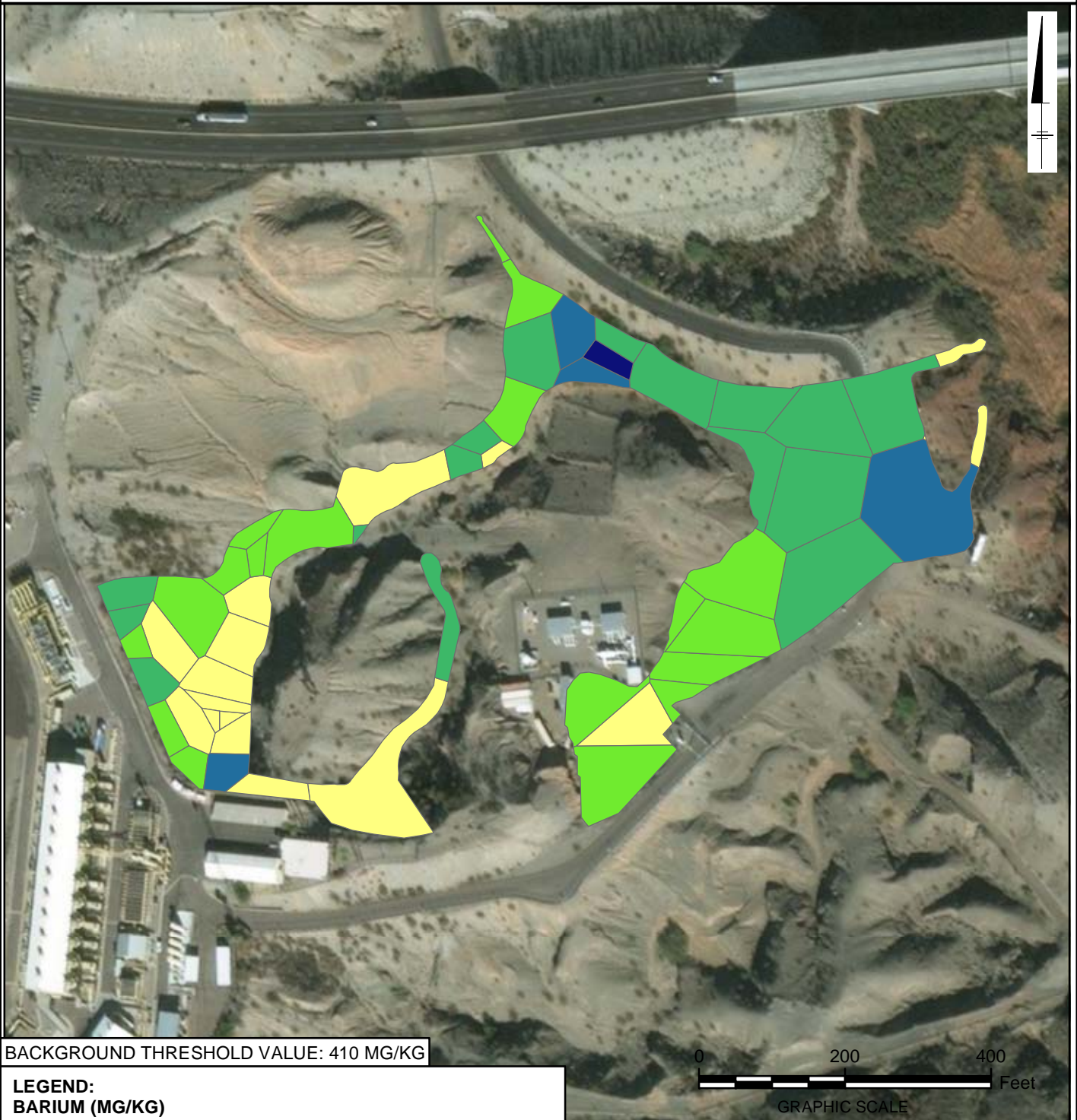
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FIGURE
AOC11-A3.106

AOC 11 0 - 10 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:

BARIUM (MG/KG)

	NOT DETECTED
	49.40 - 95.00
	≥95.00 - 150.00
	≥150.00 - 220.00
	≥220.00 - 382.00
	≥382.00 - 676.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

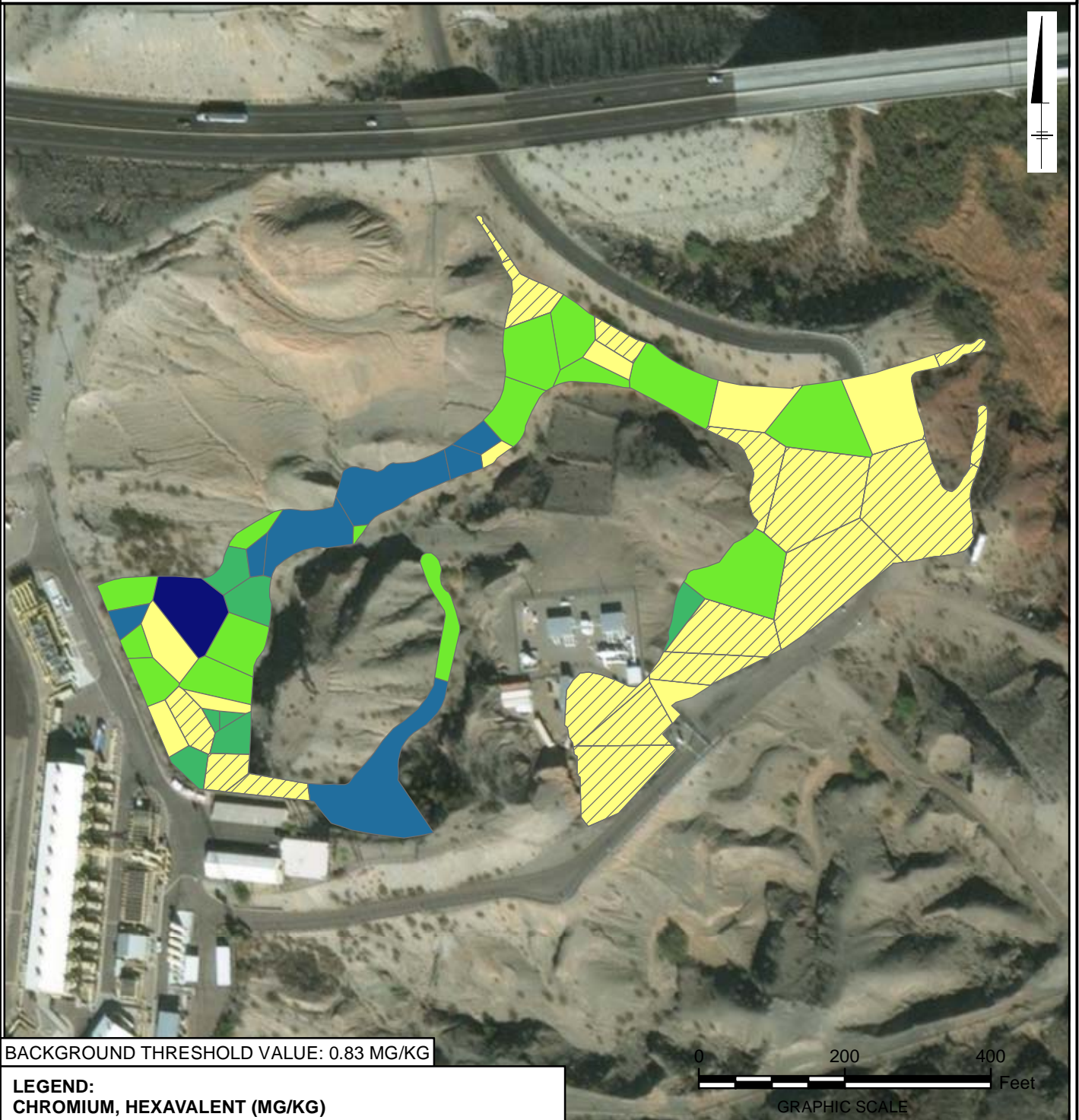
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FIGURE
AOC11-A3.107

AOC 11 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

- NOT DETECTED
- 0.10 - 0.27
- $\geq 0.27 - 0.56$
- $\geq 0.56 - 1.24$
- $\geq 1.24 - 3.43$
- $\geq 3.43 - 16.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

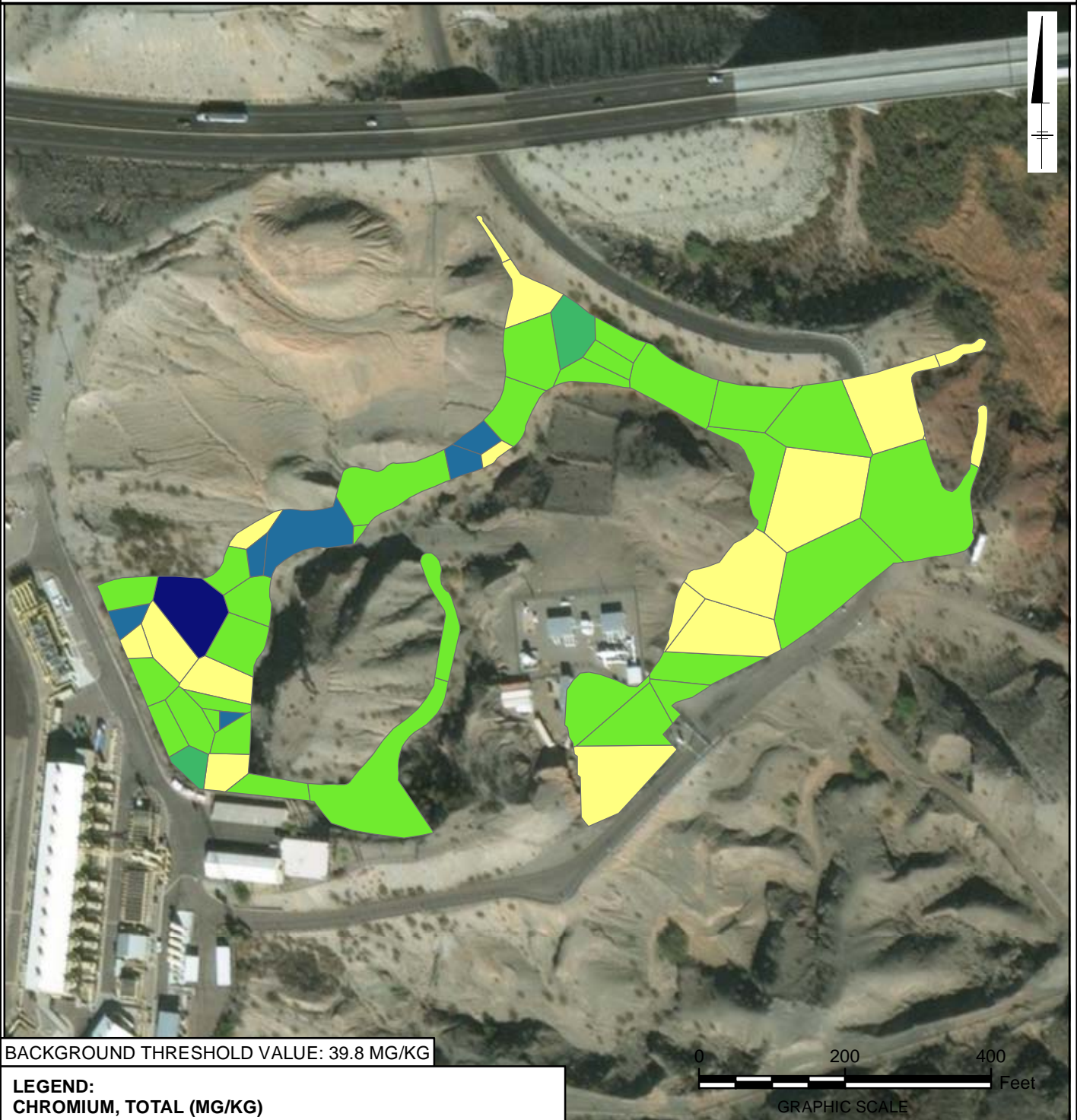
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FIGURE
AOC11-A3.108

AOC 11 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 10.10 - 18.20
- ≥ 18.20 - 29.00
- ≥ 29.00 - 44.30
- ≥ 44.30 - 89.20
- ≥ 89.20 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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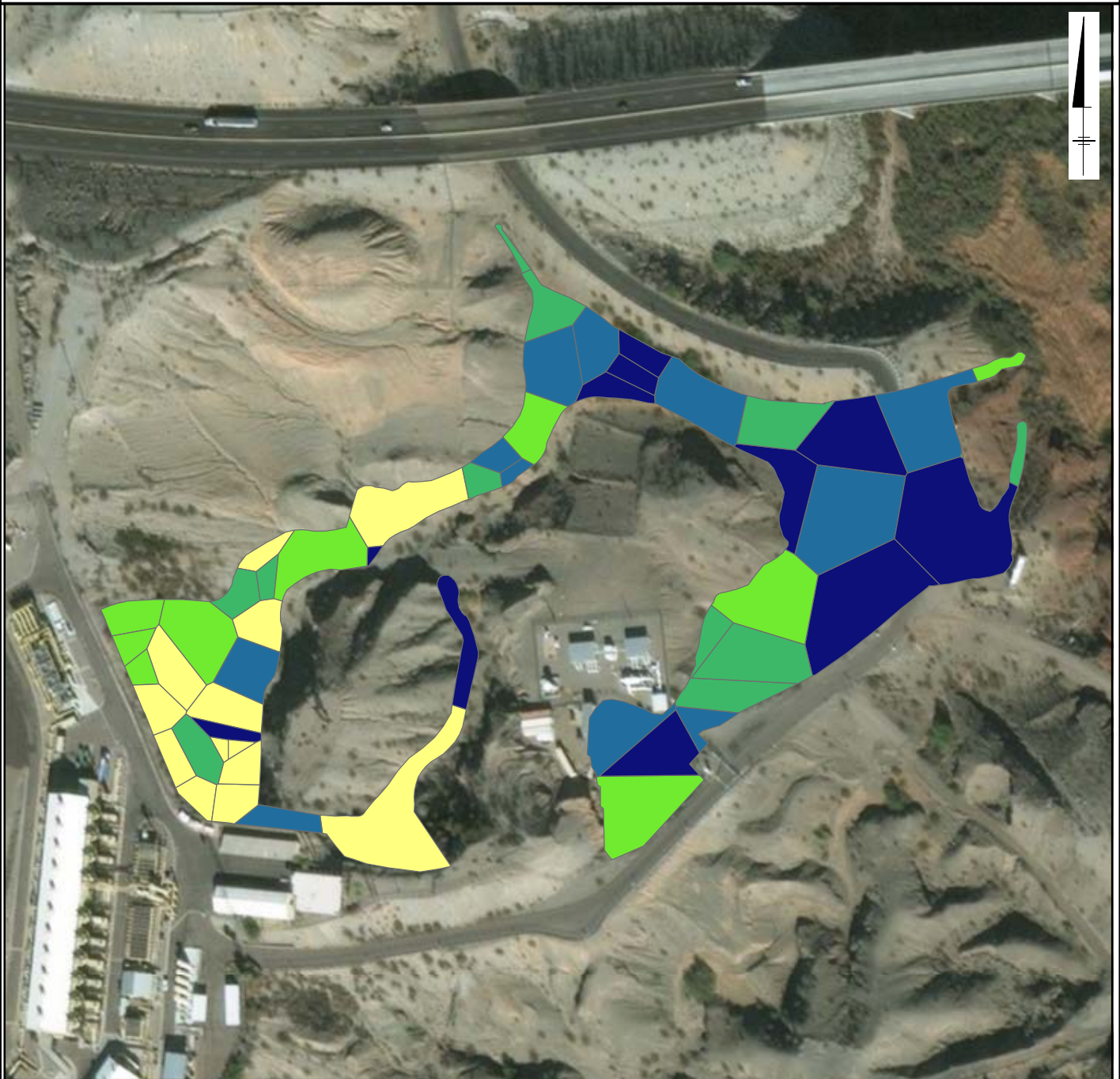
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FIGURE
AOC11-A3.109

AOC 11 0 - 10 FEET BELOW GROUND SURFACE COBALT

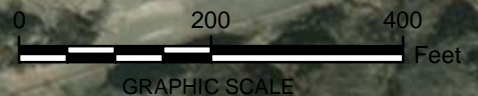


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	2.92 - 4.35
	≥4.35 - 5.05
	≥5.05 - 6.21
	≥6.21 - 7.43
	≥7.43 - 9.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



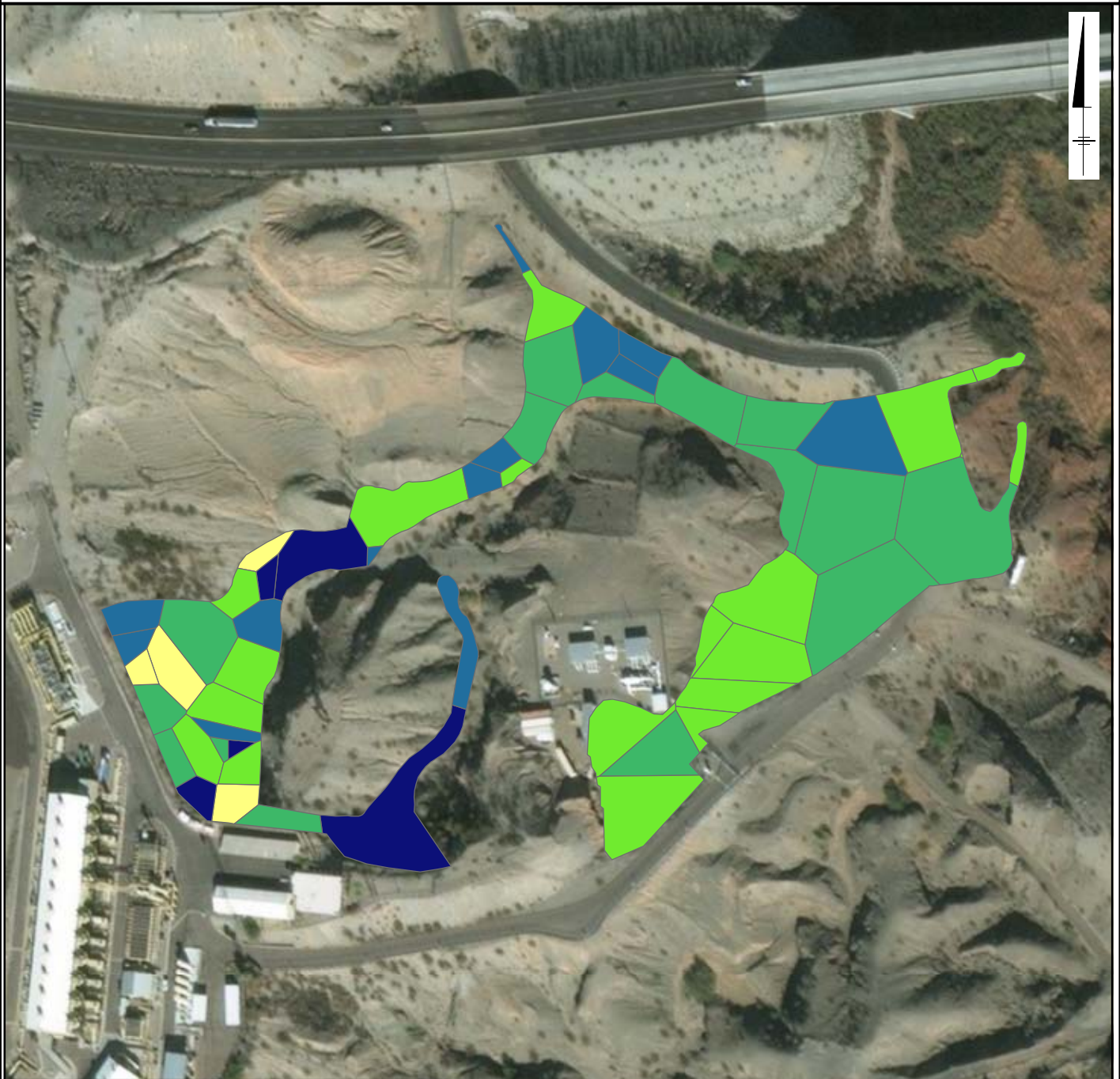
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FIGURE
AOC11-A3.110

AOC 11 0 - 10 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 4.90 - 7.03
- ≥7.03 - 9.85
- ≥9.85 - 13.00
- ≥13.00 - 19.00
- ≥19.00 - 29.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

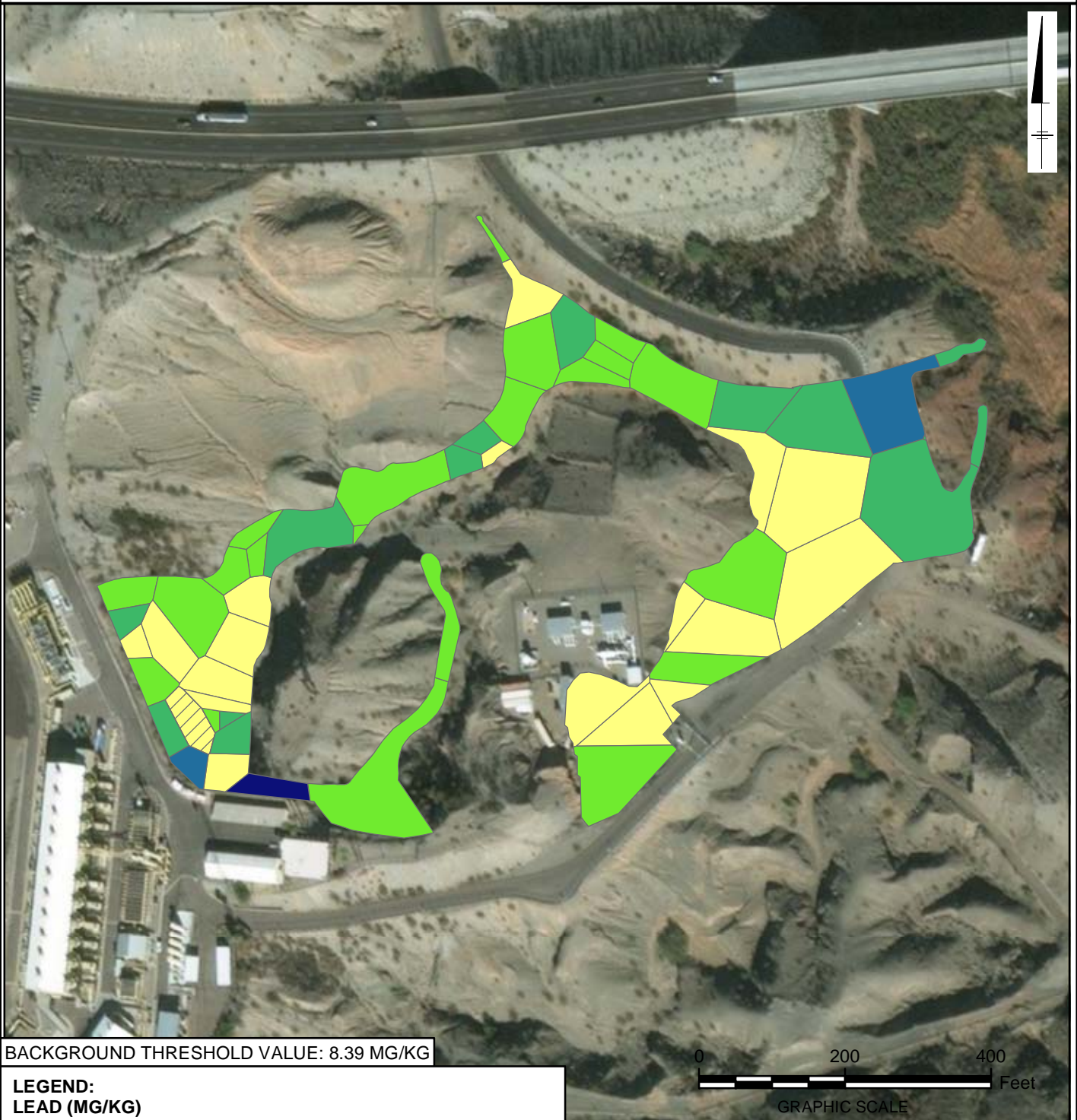
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FIGURE
AOC11-A3.111

AOC 11 0 - 10 FEET BELOW GROUND SURFACE LEAD

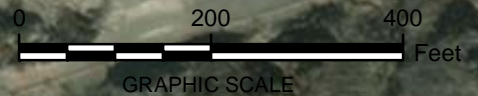


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:
LEAD (MG/KG)

	NOT DETECTED
	0.50 - 4.72
	≥4.72 - 10.80
	≥10.80 - 27.60
	≥27.60 - 57.30
	≥57.30 - 150.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



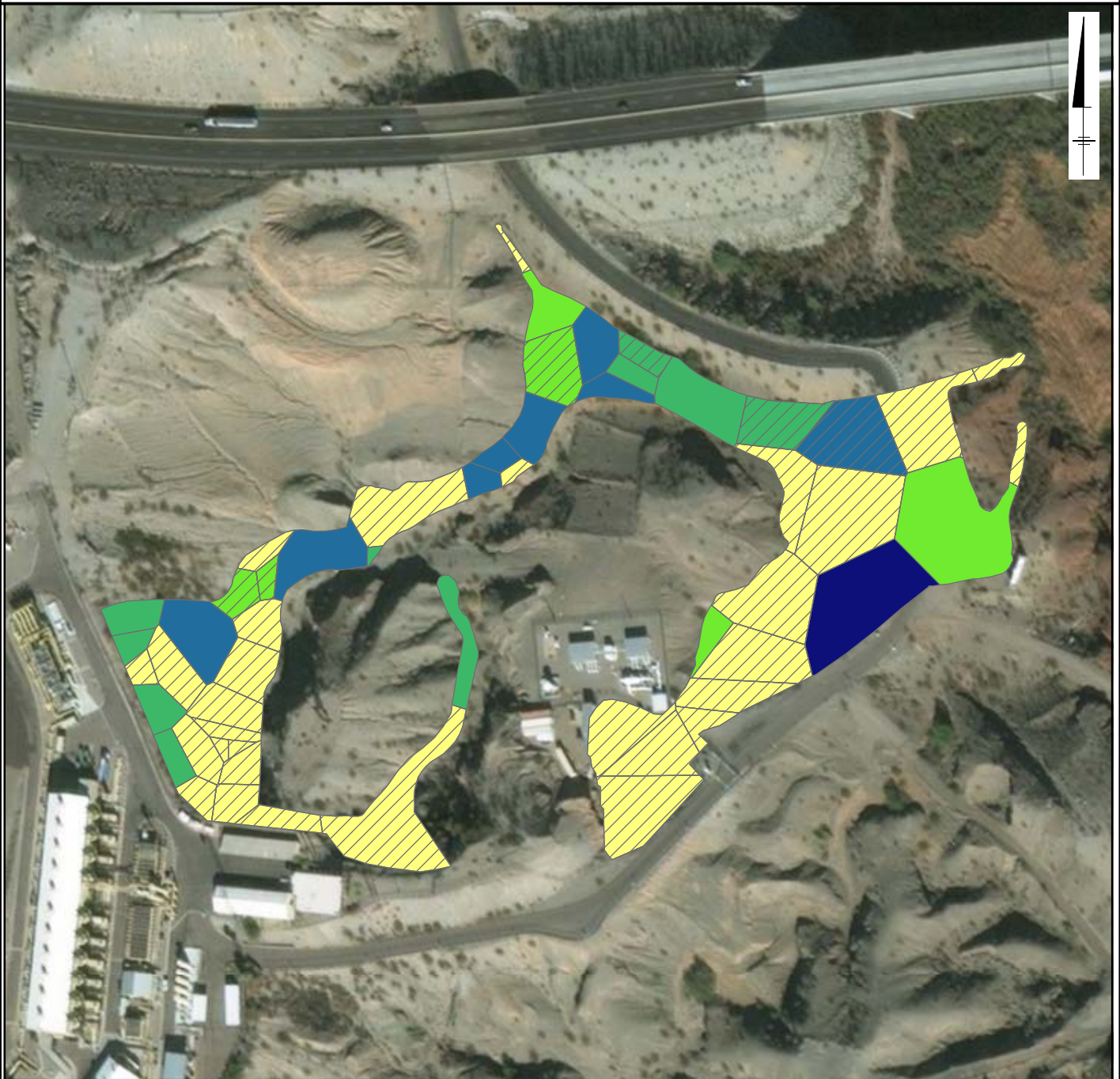
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FIGURE
AOC11-A3.112

AOC 11 0 - 10 FEET BELOW GROUND SURFACE MOLYBDENUM

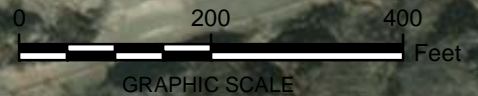


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.50 - 0.56
	≥0.56 - 0.81
	≥0.81 - 1.31
	≥1.31 - 2.24
	≥2.24 - 7.10

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



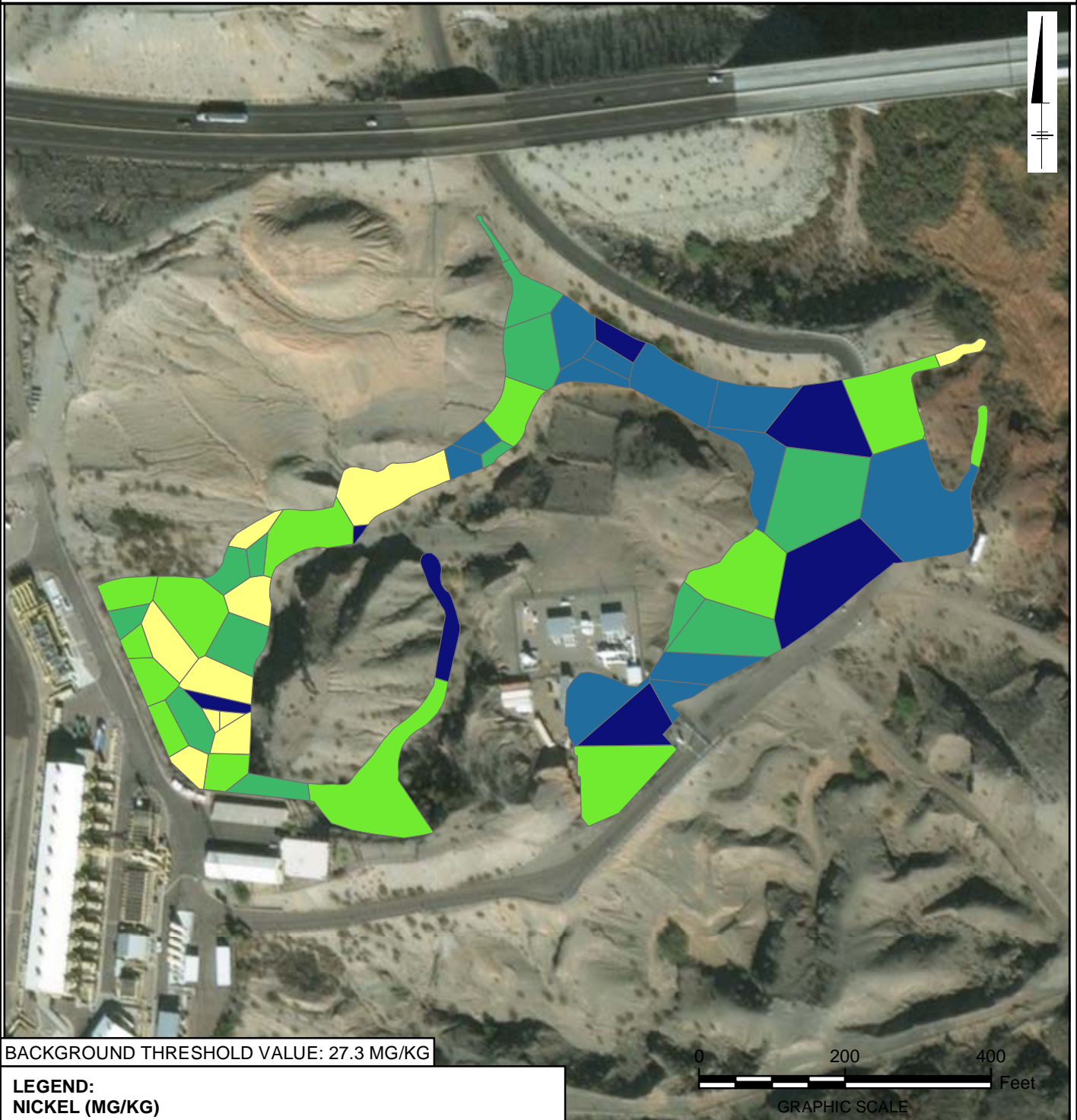
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FIGURE
AOC11-A3.113

AOC 11 0 - 10 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	5.20 - 8.16
	≥8.16 - 10.70
	≥10.70 - 13.70
	≥13.70 - 16.80
	≥16.80 - 19.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

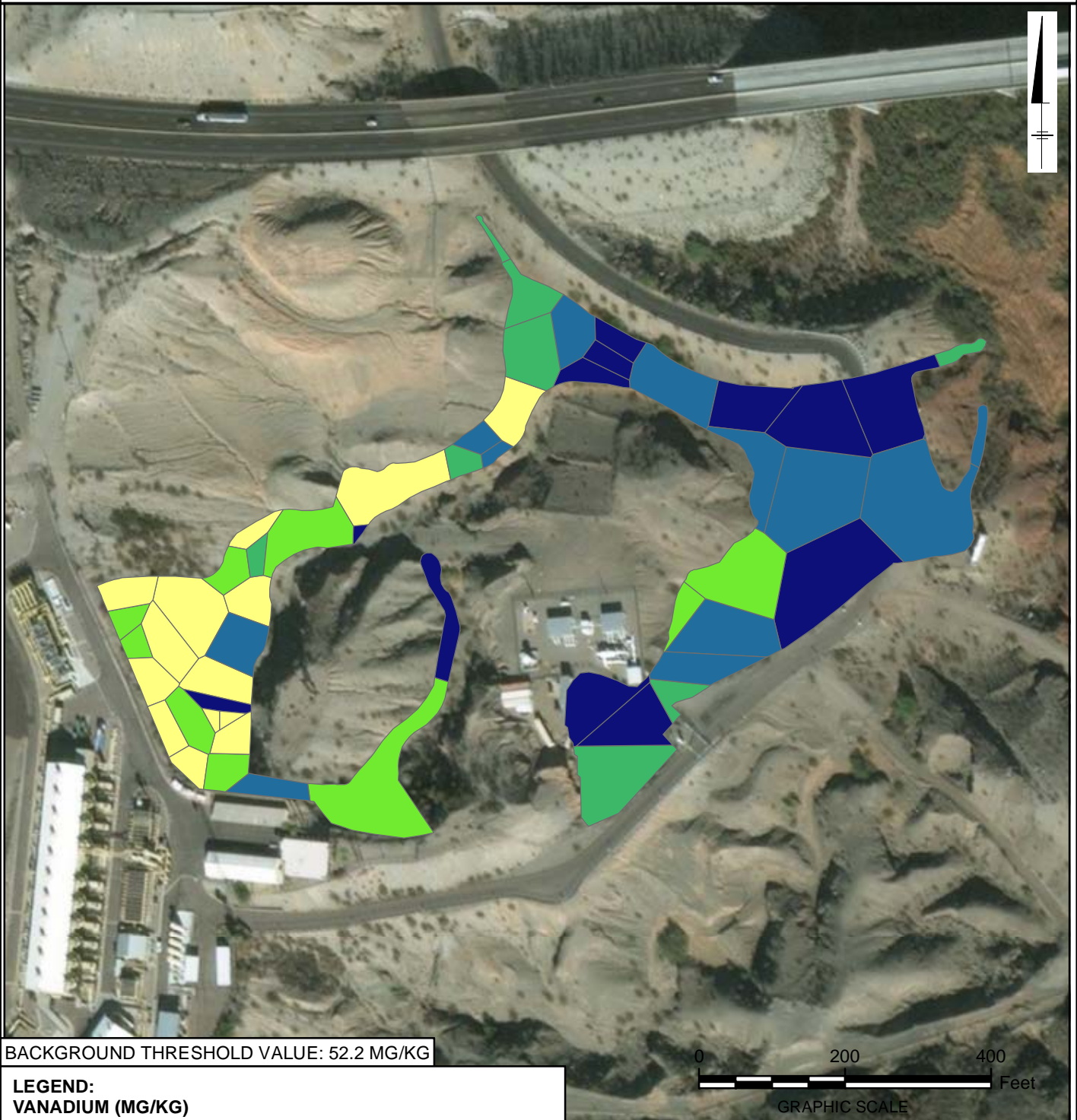
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FIGURE
AOC11-A3.114

AOC 11 0 - 10 FEET BELOW GROUND SURFACE VANADIUM



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FIGURE
AOC11-A3.115

AOC 11 0 - 10 FEET BELOW GROUND SURFACE ZINC

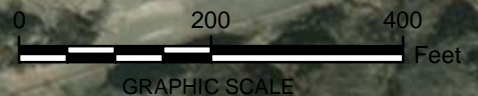


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	23.30 - 34.00
	≥34.00 - 50.80
	≥50.80 - 76.00
	≥76.00 - 136.00
	≥136.00 - 254.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



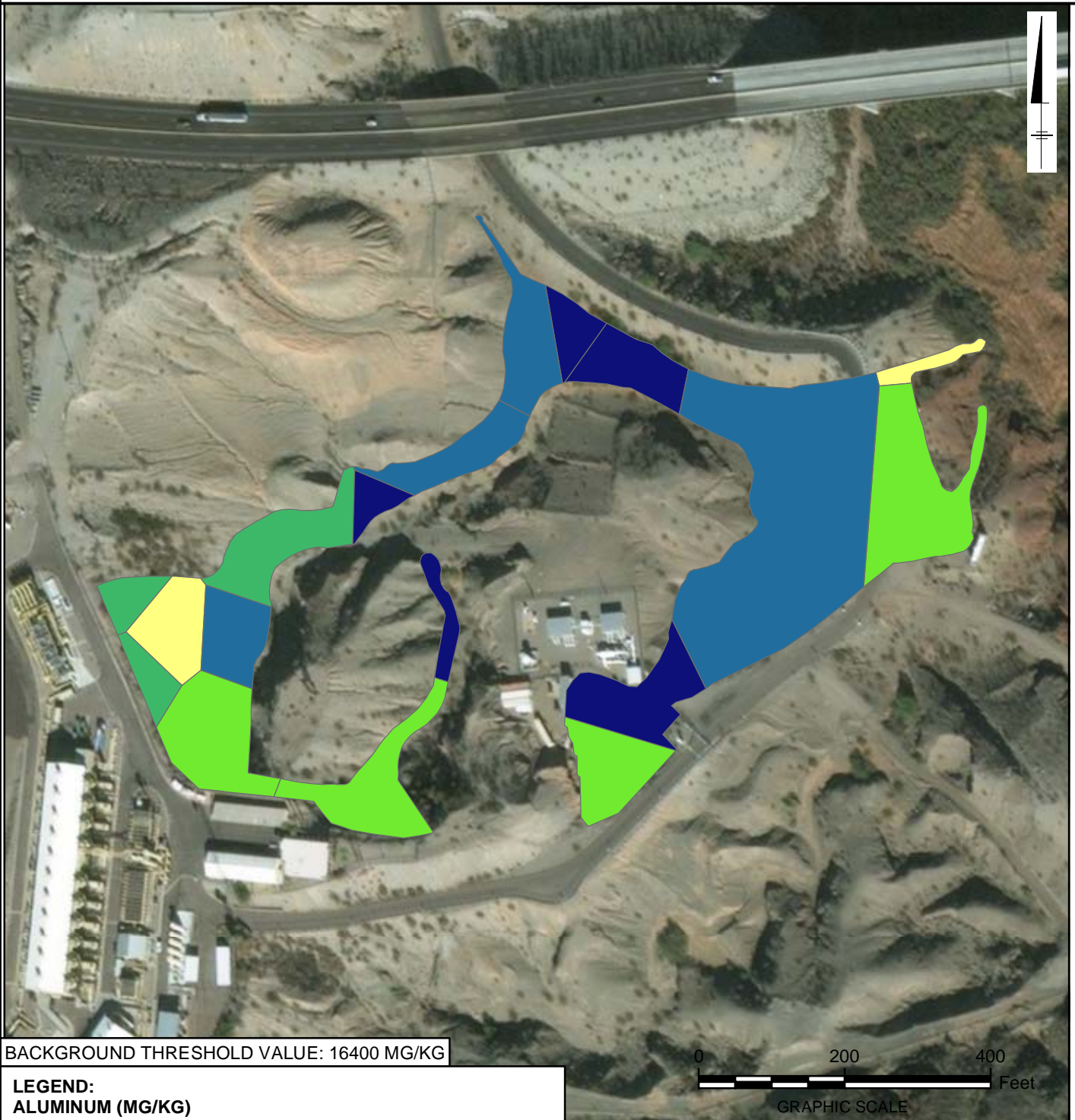
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FIGURE
AOC11-A3.116

AOC 11 0 - 10 FEET BELOW GROUND SURFACE ALUMINUM



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FIGURE
AOC11-A3.117

AOC 11 0 - 10 FEET BELOW GROUND SURFACE IRON

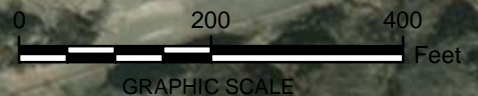


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	7360.00 - 9560.00
	≥9560.00 - 12000.00
	≥12000.00 - 16000.00
	≥16000.00 - 20400.00
	≥20400.00 - 26000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.118

AOC 11 0 - 10 FEET BELOW GROUND SURFACE MANGANESE

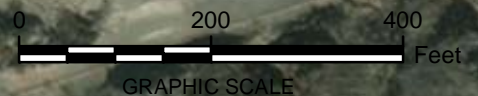


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	136.00 - 154.00
	≥154.00 - 220.00
	≥220.00 - 260.00
	≥260.00 - 350.00
	≥350.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.119

AOC 11

0 - 10 FEET BELOW GROUND SURFACE

2-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 2.82
	≥2.82 - 4.08
	≥4.08 - 7.53
	≥7.53 - 15.90
	≥15.90 - 31.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.120

AOC 11 0 - 10 FEET BELOW GROUND SURFACE ANTHRACENE

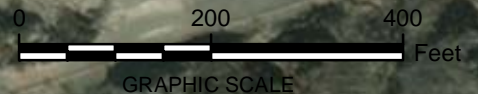


BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 2.60
	≥2.60 - 2.82
	≥2.82 - 3.13
	≥3.13 - 5.88
	≥5.88 - 9.64

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.121

AOC 11 0 - 10 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

	NOT DETECTED
	5.85 - 23.70
	≥23.70 - 64.00
	≥64.00 - 116.00
	≥116.00 - 245.00
	≥245.00 - 470.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.122

AOC 11

0 - 10 FEET BELOW GROUND SURFACE







BENZO (A) ANTHRACENE



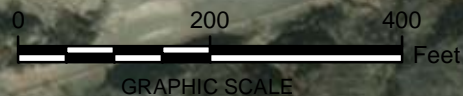
BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.50 - 7.80
-  ≥7.80 - 26.60
-  ≥26.60 - 72.10
-  ≥72.10 - 120.00
-  ≥120.00 - 322.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.123

AOC 11 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 11.10
	≥11.10 - 26.00
	≥26.00 - 46.10
	≥46.10 - 115.00
	≥115.00 - 322.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.124

AOC 11 0 - 10 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.53 - 16.50
	≥16.50 - 36.60
	≥36.60 - 71.20
	≥71.20 - 114.00
	≥114.00 - 640.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

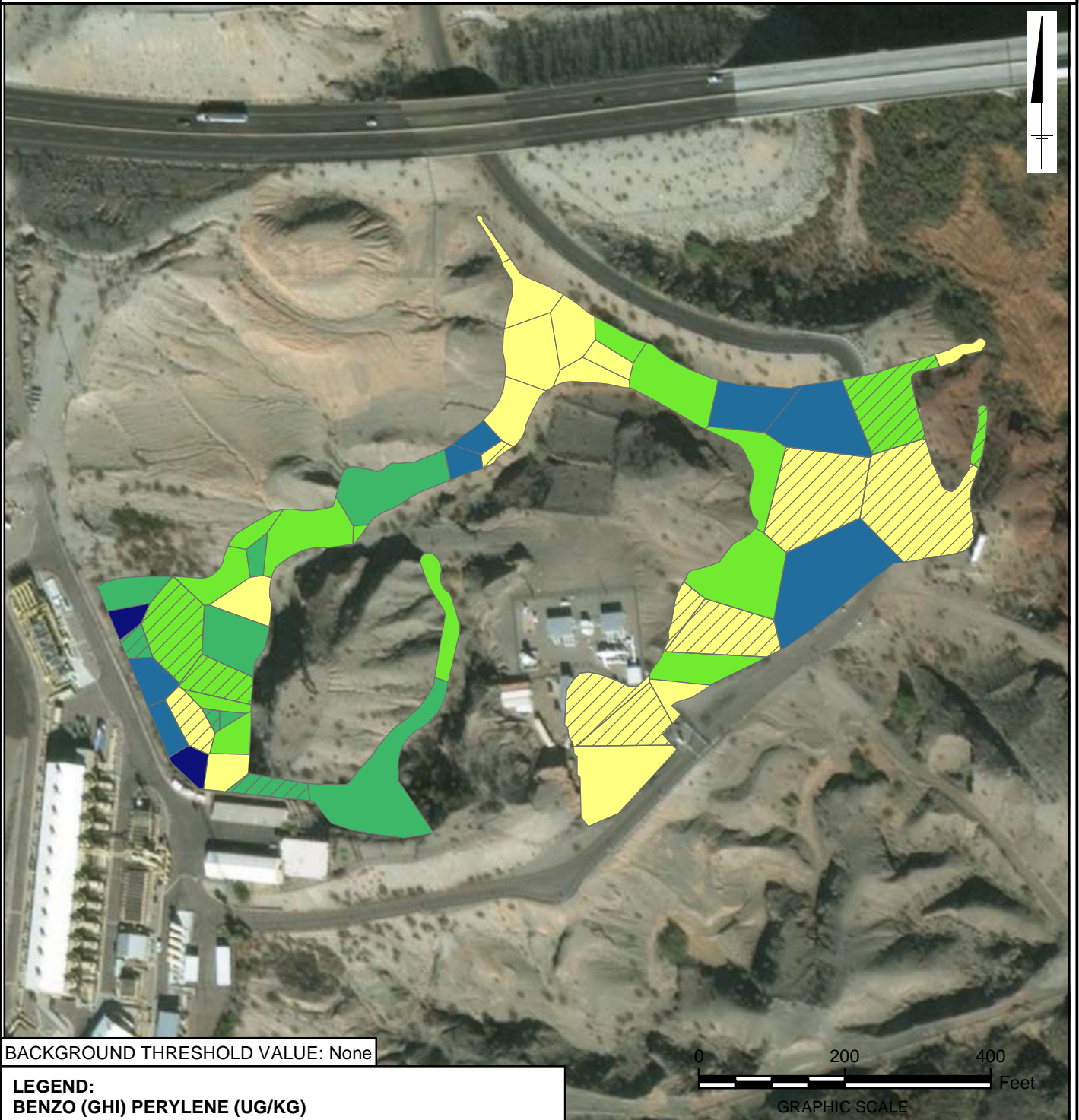
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FIGURE
AOC11-A3.125

AOC 11 0 - 10 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
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SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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**FIGURE
AOC11-A3.126**

AOC 11

0 - 10 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE

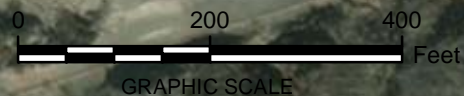


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 15.80
	≥15.80 - 34.20
	≥34.20 - 78.00
	≥78.00 - 129.00
	≥129.00 - 250.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.127

AOC 11 0 - 10 FEET BELOW GROUND SURFACE CHRYSENE

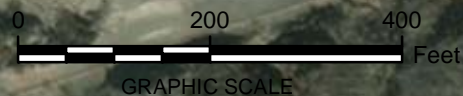


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 13.80
- ≥13.80 - 48.40
- ≥48.40 - 126.00
- ≥126.00 - 221.00
- ≥221.00 - 522.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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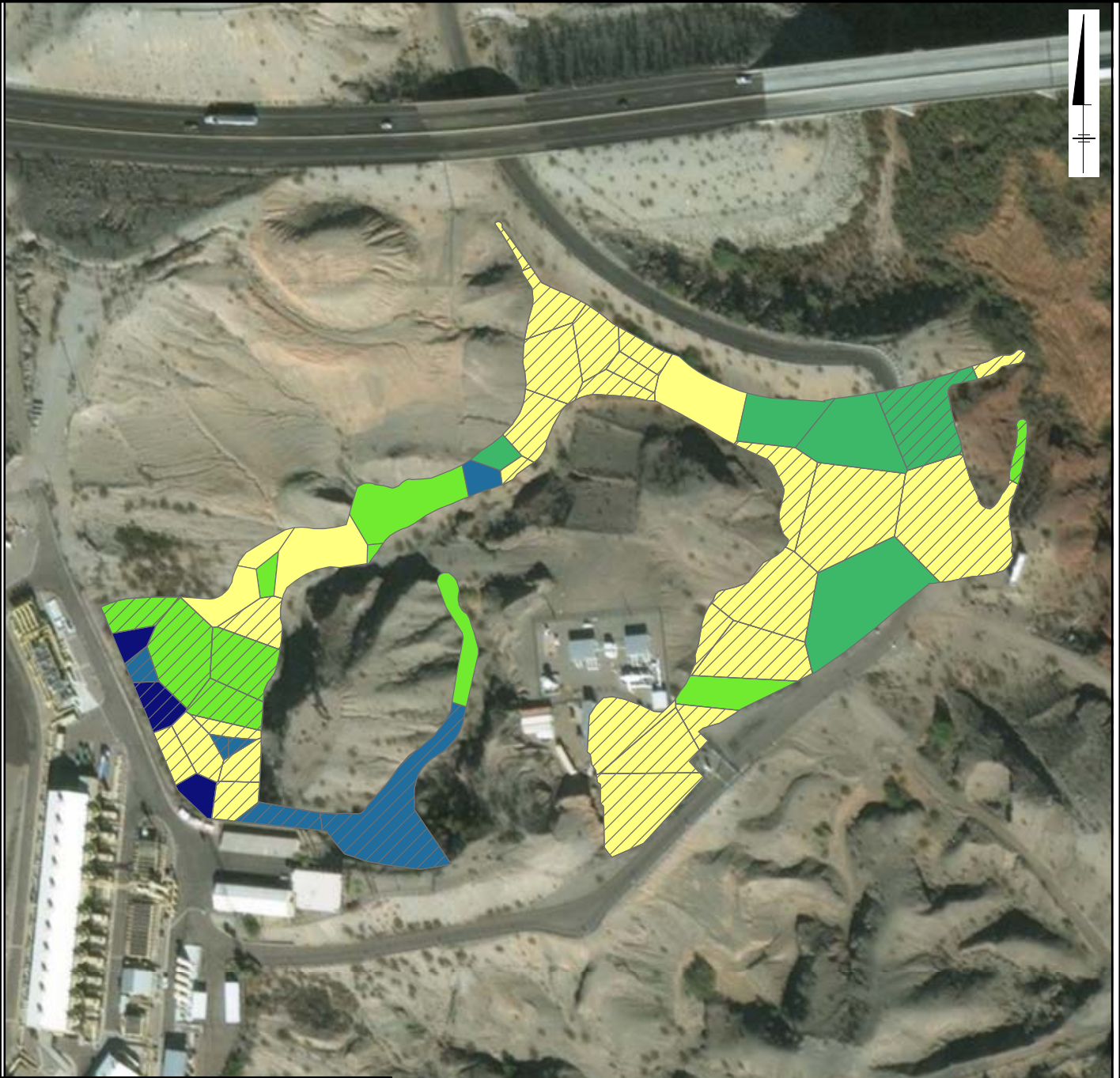


FIGURE
AOC11-A3.128

AOC 11

0 - 10 FEET BELOW GROUND SURFACE

DIBENZO (A,H) ANTHRACENE

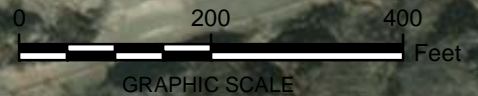


BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 4.24
	≥4.24 - 7.62
	≥7.62 - 13.50
	≥13.50 - 26.60
	≥26.60 - 68.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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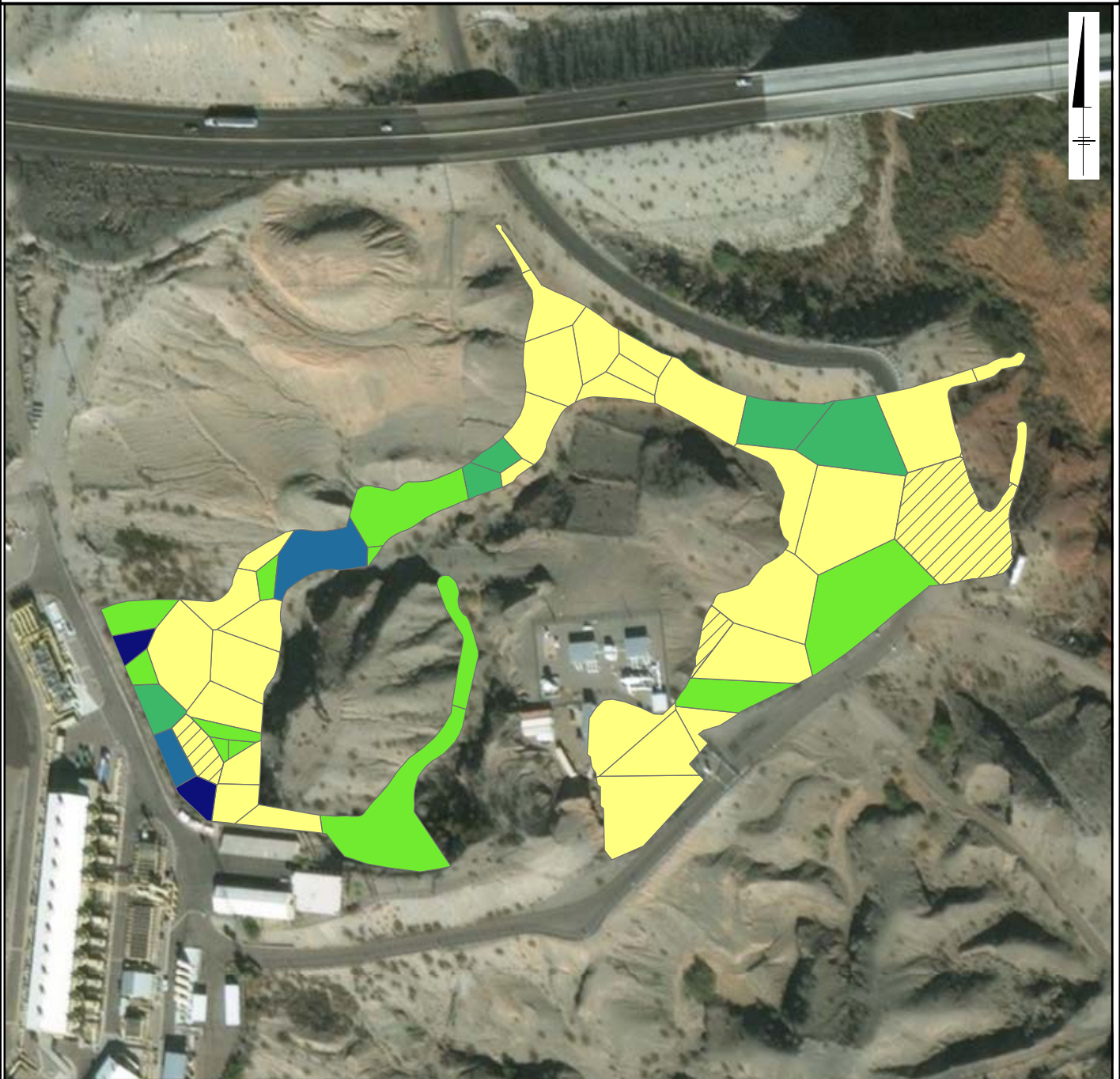
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FIGURE
AOC11-A3.129

AOC 11 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE

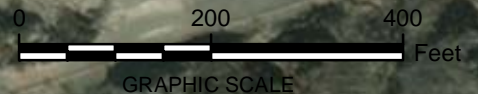


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.60 - 27.70
-  ≥27.70 - 88.10
-  ≥88.10 - 183.00
-  ≥183.00 - 381.00
-  ≥381.00 - 742.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.130

AOC 11 0 - 10 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 6.04
	≥6.04 - 13.80
	≥13.80 - 26.60
	≥26.60 - 60.50
	≥60.50 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.131

AOC 11 0 - 10 FEET BELOW GROUND SURFACE PHENANTHRENE

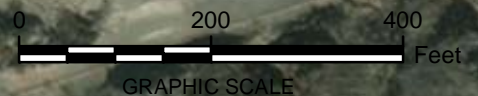


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.50 - 8.16
	≥8.16 - 22.30
	≥22.30 - 52.10
	≥52.10 - 180.00
	≥180.00 - 262.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.132

AOC 11 0 - 10 FEET BELOW GROUND SURFACE PYRENE

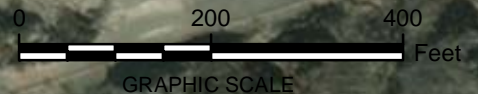


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 17.60
	≥17.60 - 55.60
	≥55.60 - 153.00
	≥153.00 - 351.00
	≥351.00 - 682.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.133

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

- NOT DETECTED
- 17.00 - 22.40
- ≥22.40 - 40.70
- ≥40.70 - 109.00
- ≥109.00 - 167.00
- ≥167.00 - 638.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC11-A3.134

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

	NOT DETECTED
	5.00 - 8.60
	≥8.60 - 15.90
	≥15.90 - 30.00
	≥30.00 - 63.00
	≥63.00 - 570.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

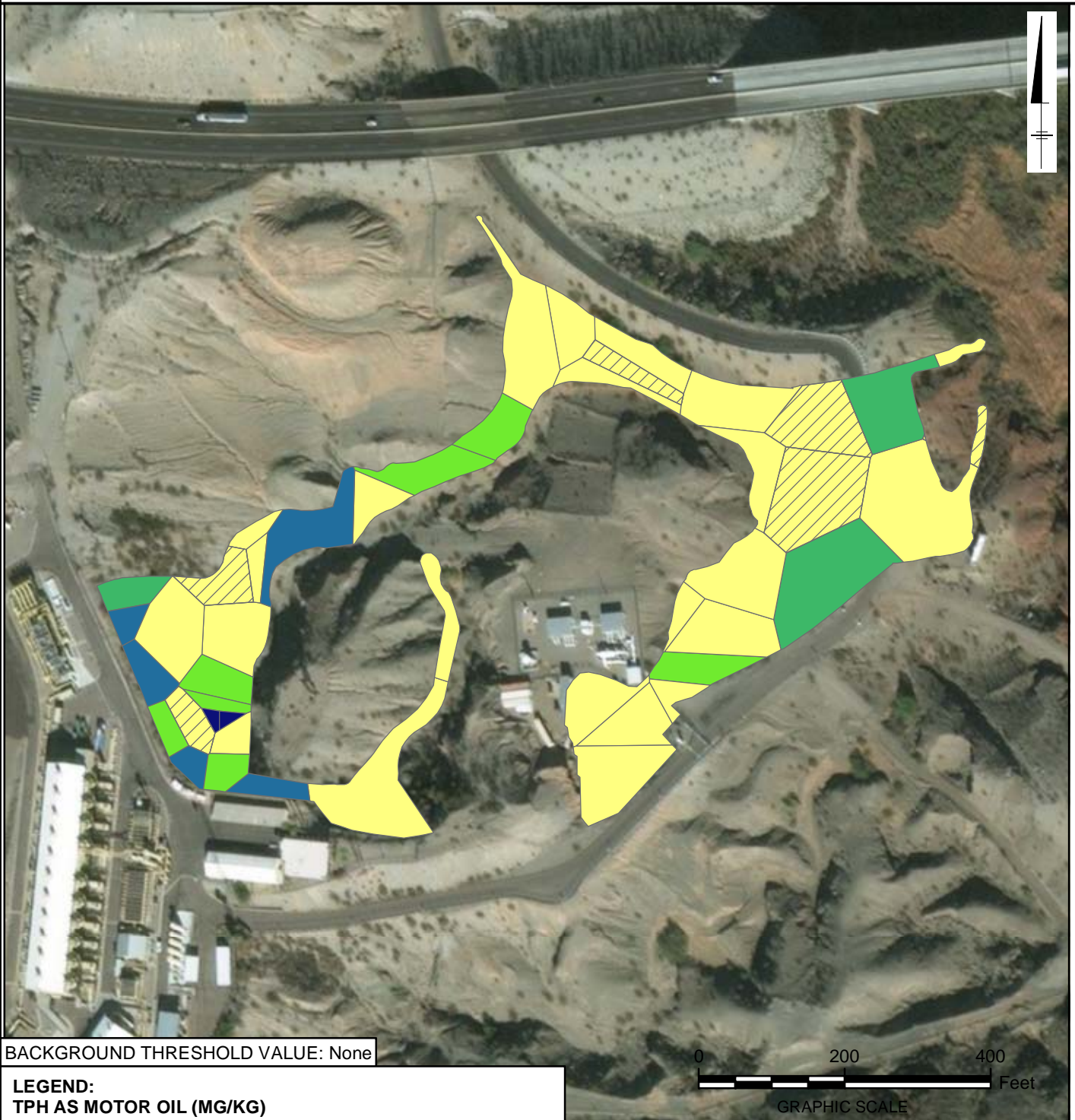
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FIGURE
AOC11-A3.135

AOC 11 0 - 10 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS MOTOR OIL (MG/KG)

	NOT DETECTED
	5.00 - 25.90
	≥25.90 - 60.60
	≥60.60 - 120.00
	≥120.00 - 360.00
	≥360.00 - 996.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC11-A3.136

AOC 11 0 - 0.5 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 352.00
	≥352.00 - 793.00
	≥793.00 - 1810.00
	≥1810.00 - 5630.00
	≥5630.00 - 18200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.137

AOC 11

0 - 0.5 FEET BELOW GROUND SURFACE

PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 19.00
	≥19.00 - 65.00
	≥65.00 - 289.00
	≥289.00 - 595.00
	≥595.00 - 1380.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.138

AOC 11 0 - 3 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 246.00
	≥246.00 - 667.00
	≥667.00 - 1550.00
	≥1550.00 - 5630.00
	≥5630.00 - 12100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

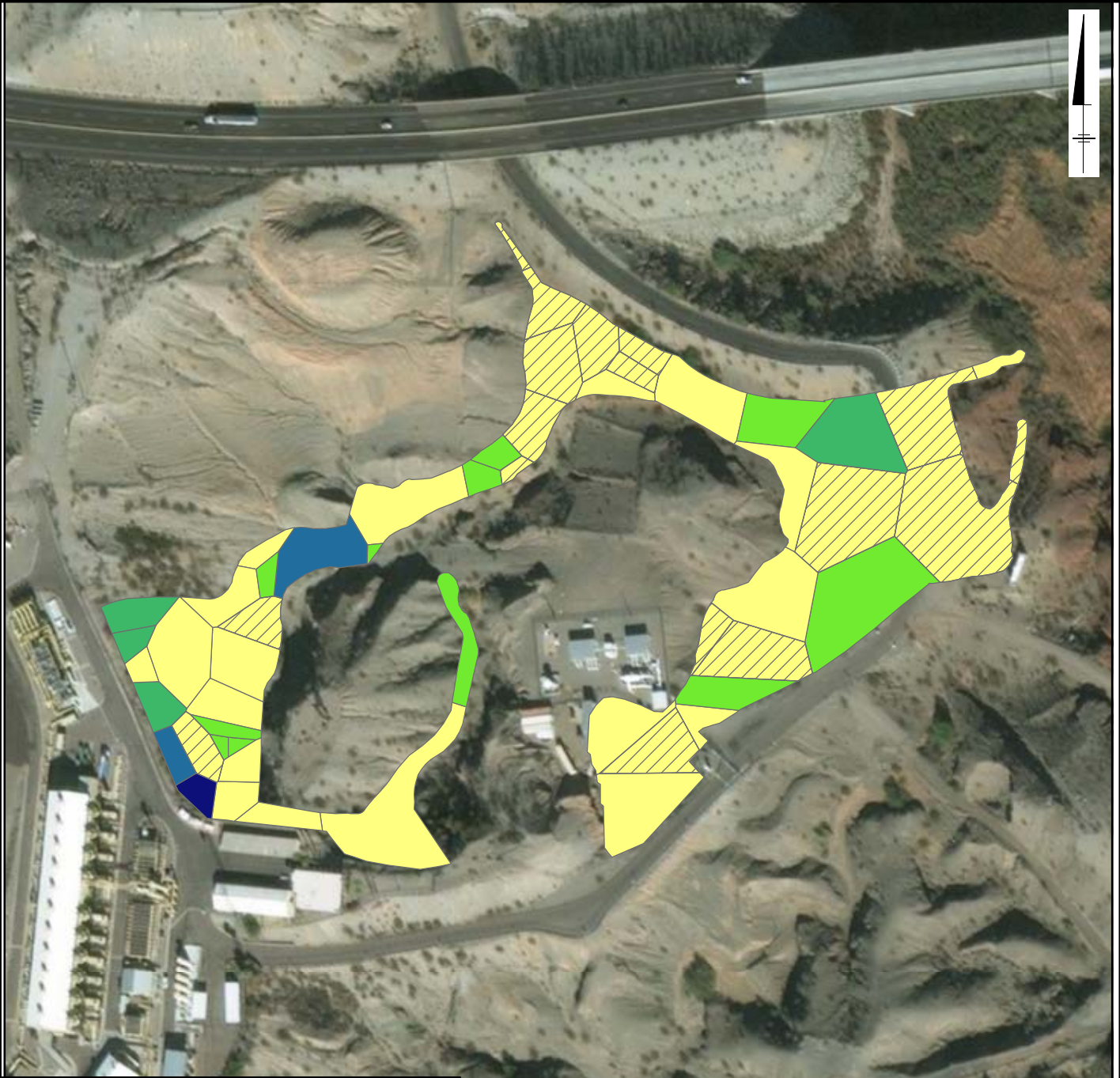
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FIGURE
AOC11-A3.139

AOC 11 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 18.00
	≥18.00 - 55.40
	≥55.40 - 193.00
	≥193.00 - 399.00
	≥399.00 - 920.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.140

AOC 11 0 - 6 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 156.00
- ≥ 156.00 - 525.00
- ≥ 525.00 - 1640.00
- ≥ 1640.00 - 3310.00
- ≥ 3310.00 - 6070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

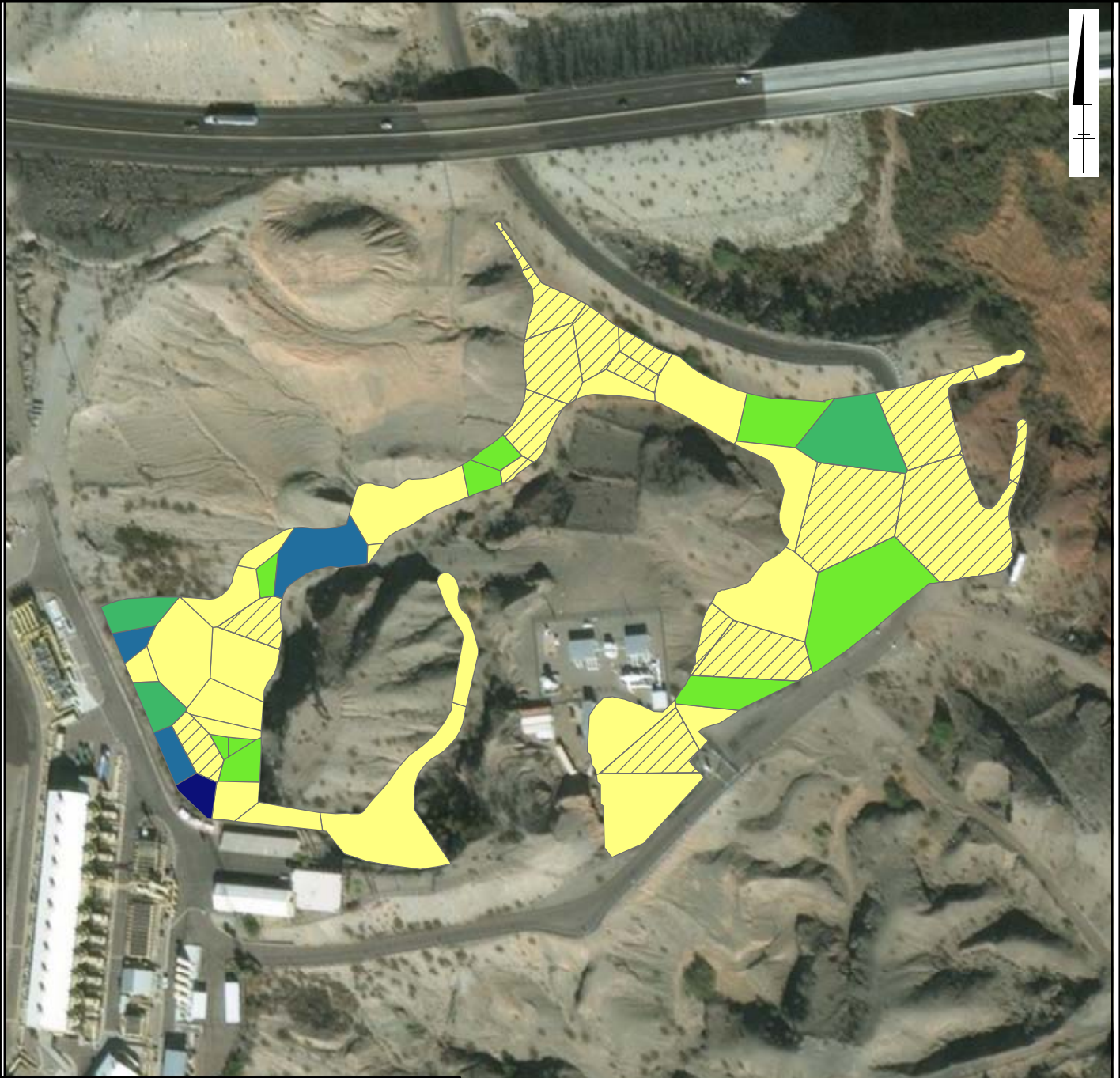
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FIGURE
AOC11-A3.141

AOC 11 0 - 6 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 15.00
	≥15.00 - 48.60
	≥48.60 - 96.30
	≥96.30 - 201.00
	≥201.00 - 460.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.142

AOC 11

0 - 10 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 93.40
	≥93.40 - 386.00
	≥386.00 - 994.00
	≥994.00 - 1810.00
	≥1810.00 - 3640.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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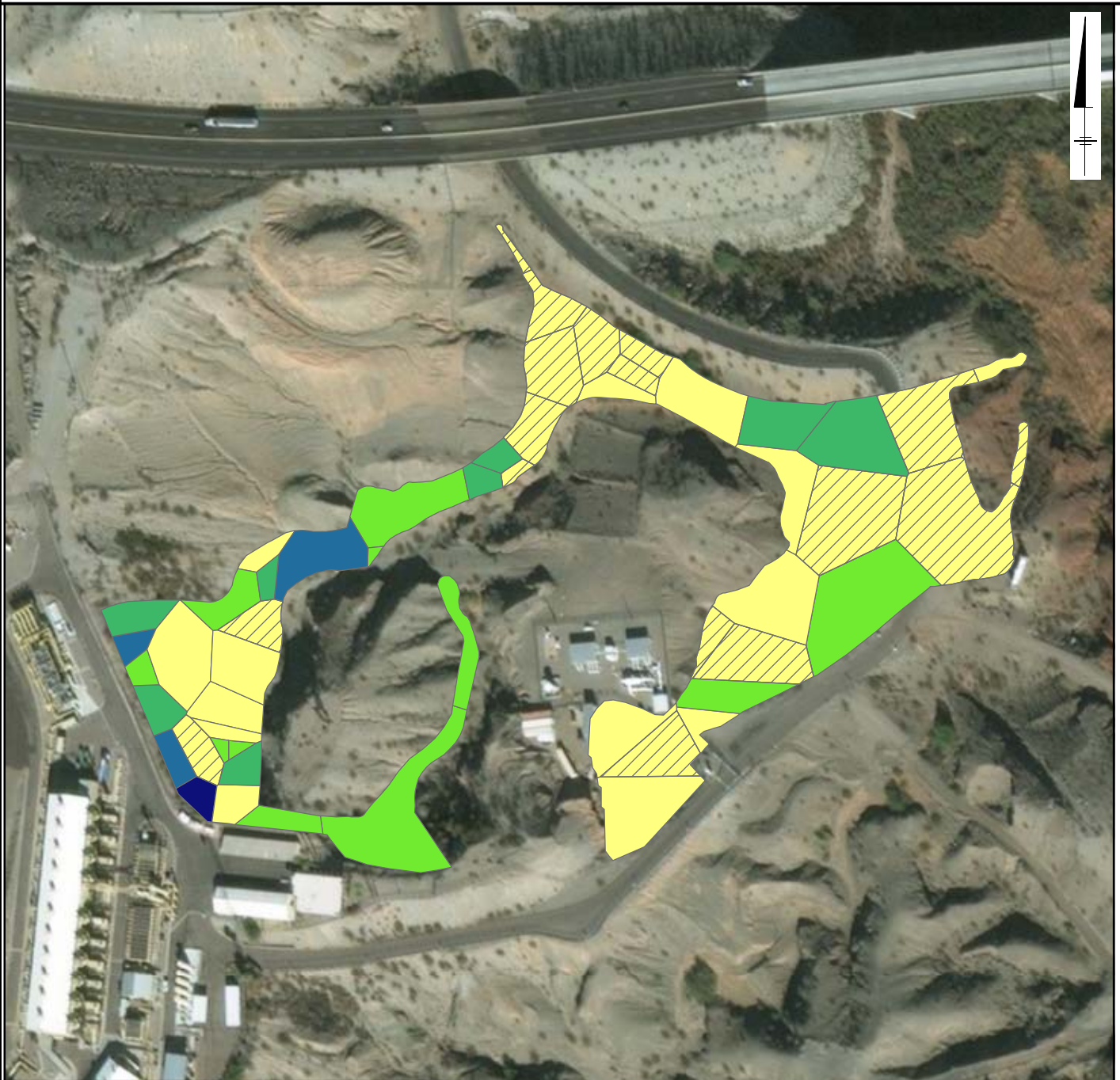
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FIGURE
AOC11-A3.143

AOC 11

0 - 10 FEET BELOW GROUND SURFACE

PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 6.00
	≥6.00 - 22.30
	≥22.30 - 57.80
	≥57.80 - 180.00
	≥180.00 - 276.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC11-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 200 400
Feet
GRAPHIC SCALE

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FIGURE
AOC11-A3.144

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 11 Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment AOC11-B1**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 11
Using Depth-Weighted EPCs****Tables**

AOC11-B1.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC11-B1.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B1.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC11-B1.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC11-B1.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC11-B1.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B1.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User
AOC11-B1.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC11-B1.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B1.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC11-B1.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC11-B1.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC11-B1.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B1.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User
AOC11-B1.3a	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC11-B1.3b	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B1.3c	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC11-B1.3d	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC11-B1.3e	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC11-B1.3f	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B1.3g	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User
AOC11-B1.4a	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC11-B1.4b	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B1.4c	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC11-B1.4d	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC11-B1.4e	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC11-B1.4f	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B1.4g	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User
AOC11-B1.5a	Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC11-B1.5b	Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B1.5c	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)

Attachment AOC11-B1**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 11
Using Depth-Weighted EPCs****Tables (cont.)**

AOC11-B1.5d	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC11-B1.5e	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC11-B1.5f	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC11-B1.5g	Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)
AOC11-B1.5h	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC11-B1.5i	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC11-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

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Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	2.8E-09	NV	1.5E-08	3.4E-08	2.7E-09	NV	1.5E-08	3.4E-08	2.7E-09	NV	1.5E-08	3.4E-08	2.8E-09	NV	1.5E-08	3.4E-08
Chromium, Hexavalent	4.2E-10	NV	NA	5.2E-09	4.6E-10	NV	NA	5.7E-09	1.1E-09	NV	NA	1.4E-08	5.4E-10	NV	NA	6.7E-09
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	4.3E-10	ND	ND	3.3E-12	4.3E-10	9.0E-11	4.1E-11	5.3E-12	4.3E-10	1.4E-10	6.6E-11	6.1E-12	4.3E-10	1.7E-10	7.6E-11
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	5.2E-12	1.8E-10	1.4E-10	6.5E-11	3.9E-12	1.8E-10	1.1E-10	4.9E-11	2.6E-12	1.8E-10	7.2E-11	3.3E-11	2.1E-12	1.8E-10	5.8E-11	2.6E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.2E-10	NV	3.3E-09	1.5E-09	9.4E-11	NV	2.5E-09	1.2E-09	5.8E-11	NV	1.6E-09	7.2E-10	4.1E-11	NV	1.1E-09	5.0E-10
Pesticides																
4,4-DDE	3.2E-12	7.8E-12	2.9E-11	3.9E-11	3.2E-12	7.8E-12	2.9E-11	3.9E-11	3.2E-12	7.8E-12	2.9E-11	3.9E-11	3.2E-12	7.8E-12	2.9E-11	3.9E-11
alpha-Chlordane	6.3E-12	NV	5.7E-11	7.7E-11	6.3E-12	NV	5.7E-11	7.7E-11	6.3E-12	NV	5.7E-11	7.7E-11	6.3E-12	NV	5.7E-11	7.7E-11
Dieldrin	3.5E-12	NV	3.2E-11	4.3E-11	3.5E-12	NV	3.2E-11	4.3E-11	3.5E-12	NV	3.2E-11	4.3E-11	3.5E-12	NV	3.2E-11	4.3E-11
gamma-Chlordane	6.8E-12	NV	6.1E-11	8.4E-11	6.8E-12	NV	6.1E-11	8.4E-11	6.8E-12	NV	6.1E-11	8.4E-11	6.8E-12	NV	6.1E-11	8.4E-11

Table AOC11-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	2.3E-10	5.2E-10	6.3E-09	2.9E-09	2.0E-10	5.2E-10	5.5E-09	2.5E-09	9.7E-11	5.2E-10	2.6E-09	1.2E-09	6.6E-11	5.2E-10	1.8E-09	8.2E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	9.0E-14	2.3E-13	4.9E-13	1.1E-12	1.0E-13	2.3E-13	5.6E-13	1.3E-12	1.2E-13	2.3E-13	6.6E-13	1.5E-12	1.1E-13	2.3E-13	6.0E-13	1.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	2.1E-08	NV	2.2E-07	2.6E-07	2.0E-08	NV	2.2E-07	2.5E-07	2.0E-08	NV	2.2E-07	2.5E-07	2.1E-08	NV	2.3E-07	2.6E-07
Chromium, Hexavalent	3.2E-09	NV	NA	3.9E-08	3.5E-09	NV	NA	4.3E-08	8.5E-09	NV	NA	1.1E-07	4.0E-09	NV	NA	5.0E-08
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	5.9E-10	ND	ND	2.5E-11	5.9E-10	1.4E-09	3.1E-10	4.0E-11	5.9E-10	2.2E-09	4.9E-10	4.6E-11	5.9E-10	2.5E-09	5.7E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	3.9E-11	2.5E-10	2.1E-09	4.8E-10	2.9E-11	2.5E-10	1.6E-09	3.6E-10	2.0E-11	2.5E-10	1.1E-09	2.5E-10	1.6E-11	2.5E-10	8.7E-10	2.0E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	9.1E-10	NV	4.9E-08	1.1E-08	7.0E-10	NV	3.8E-08	8.7E-09	4.4E-10	NV	2.4E-08	5.4E-09	3.0E-10	NV	1.7E-08	3.8E-09
Pesticides																
4,4-DDE	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10
alpha-Chlordane	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10
Dieldrin	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10
gamma-Chlordane	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10

Table AOC11-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.7E-09	7.1E-10	9.4E-08	2.2E-08	1.5E-09	7.1E-10	8.2E-08	1.9E-08	7.3E-10	7.1E-10	4.0E-08	9.0E-09	5.0E-10	7.1E-10	2.7E-08	6.2E-09
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	6.7E-13	3.2E-13	7.3E-12	8.3E-12	7.8E-13	3.2E-13	8.5E-12	9.6E-12	9.1E-13	3.2E-13	9.9E-12	1.1E-11	8.3E-13	3.2E-13	9.1E-12	1.0E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	3.2E-11	NV	1.7E-08	1.7E-07	3.1E-11	NV	1.7E-08	1.7E-07
Chromium, Hexavalent	1.3E-11	NV	NA	1.2E-07	1.5E-11	NV	NA	1.3E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.3E-09	ND	ND	3.8E-14	1.3E-09	1.0E-10	2.1E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	6.0E-14	5.6E-10	1.6E-10	3.3E-10	4.5E-14	5.6E-10	1.2E-10	2.5E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	3.8E-12	NV	1.6E-08	3.5E-08	3.0E-12	NV	1.2E-08	2.7E-08
Pesticides								
4,4-DDE	3.7E-14	2.4E-11	3.2E-11	2.0E-10	3.7E-14	2.4E-11	3.2E-11	2.0E-10
alpha-Chlordane	7.2E-14	NV	6.3E-11	3.9E-10	7.2E-14	NV	6.3E-11	3.9E-10
Dieldrin	4.0E-14	NV	3.5E-11	2.2E-10	4.0E-14	NV	3.5E-11	2.2E-10
gamma-Chlordane	7.8E-14	NV	6.9E-11	4.3E-10	7.8E-14	NV	6.9E-11	4.3E-10

Table AOC11-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	2.7E-12	1.6E-09	7.0E-09	1.5E-08	2.3E-12	1.6E-09	6.1E-09	1.3E-08
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.0E-15	7.2E-13	5.5E-13	5.7E-12	1.2E-15	7.2E-13	6.3E-13	6.5E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	6.3E-11	NV	3.3E-08	3.5E-07	6.3E-11	NV	3.3E-08	3.4E-07
Chromium, Hexavalent	2.7E-11	NV	NA	2.4E-07	2.9E-11	NV	NA	2.6E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	2.6E-09	ND	ND	7.6E-14	2.6E-09	2.0E-10	4.2E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	1.2E-13	1.1E-09	3.2E-10	6.6E-10	9.0E-14	1.1E-09	2.4E-10	5.0E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	7.7E-12	NV	3.2E-08	6.9E-08	6.0E-12	NV	2.4E-08	5.4E-08
Pesticides								
4,4-DDE	7.3E-14	4.8E-11	6.4E-11	4.0E-10	7.3E-14	4.8E-11	6.4E-11	4.0E-10
alpha-Chlordane	1.4E-13	NV	1.3E-10	7.9E-10	1.4E-13	NV	1.3E-10	7.9E-10
Dieldrin	8.0E-14	NV	7.1E-11	4.4E-10	8.0E-14	NV	7.1E-11	4.4E-10
gamma-Chlordane	1.6E-13	NV	1.4E-10	8.5E-10	1.6E-13	NV	1.4E-10	8.5E-10

Table AOC11-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	5.3E-12	3.2E-09	1.4E-08	2.9E-08	4.6E-12	3.2E-09	1.2E-08	2.5E-08
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	2.1E-15	1.4E-12	1.1E-12	1.1E-11	2.4E-15	1.4E-12	1.3E-12	1.3E-11

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	3.2E-11	NV	6.8E-09	5.4E-08	3.1E-11	NV	6.7E-09	5.3E-08
Chromium, Hexavalent	4.8E-12	NV	NA	8.2E-09	5.3E-12	NV	NA	9.0E-09
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.3E-09	ND	ND	3.8E-14	1.3E-09	4.1E-11	6.5E-11
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	6.0E-14	5.6E-10	6.4E-11	1.0E-10	4.5E-14	5.6E-10	4.9E-11	7.7E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.4E-12	NV	1.5E-09	2.4E-09	1.1E-12	NV	1.2E-09	1.8E-09
Pesticides								
4,4-DDE	3.7E-14	2.4E-11	1.3E-11	6.2E-11	3.7E-14	2.4E-11	1.3E-11	6.2E-11
alpha-Chlordane	7.2E-14	NV	2.6E-11	1.2E-10	7.2E-14	NV	2.6E-11	1.2E-10
Dieldrin	4.0E-14	NV	1.4E-11	6.8E-11	4.0E-14	NV	1.4E-11	6.8E-11
gamma-Chlordane	7.8E-14	NV	2.8E-11	1.3E-10	7.8E-14	NV	2.8E-11	1.3E-10

Table AOC11-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	2.7E-12	1.6E-09	2.9E-09	4.5E-09	2.3E-12	1.6E-09	2.5E-09	3.9E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.0E-15	7.2E-13	2.2E-13	1.8E-12	1.2E-15	7.2E-13	2.6E-13	2.0E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	6.3E-09	NV	1.6E-07	4.4E-08	6.3E-09	NV	1.6E-07	4.4E-08
Chromium, Hexavalent	1.7E-09	NV	NA	1.4E-08	1.9E-09	NV	NA	1.5E-08
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.6E-10	ND	ND	7.7E-12	1.6E-10	9.7E-10	5.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	1.2E-11	7.0E-11	1.5E-09	8.4E-11	9.0E-12	7.0E-11	1.2E-09	6.3E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	4.9E-10	NV	6.4E-08	4.0E-09	3.8E-10	NV	5.0E-08	3.1E-09
Pesticides								
4,4-DDE	7.3E-12	3.0E-12	3.1E-10	5.1E-11	7.3E-12	3.0E-12	3.1E-10	5.1E-11
alpha-Chlordane	1.4E-11	NV	6.1E-10	1.0E-10	1.4E-11	NV	6.1E-10	1.0E-10
Dieldrin	8.0E-12	NV	3.4E-10	5.6E-11	8.0E-12	NV	3.4E-10	5.6E-11
gamma-Chlordane	1.6E-11	NV	6.6E-10	1.1E-10	1.6E-11	NV	6.6E-10	1.1E-10

Table AOC11-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	5.3E-10	2.0E-10	6.8E-08	3.7E-09	4.6E-10	2.0E-10	5.9E-08	3.2E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	2.1E-13	9.0E-14	5.3E-12	1.4E-12	2.4E-13	9.0E-14	6.1E-12	1.7E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Arsenic	9.1E-12	NV	9.0E-12	NV
Chromium, Hexavalent	1.4E-12	NV	1.5E-12	NV
Chromium, total	NC	NC	NC	NC
Copper	NC	NC	NC	NC
Lead	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC
Zinc	NC	NC	NC	NC
Volatile Organic Compounds				
Methyl acetate	NS	NC	NC	NC
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	ND	2.5E-10	1.1E-14	2.5E-10
2-Methyl naphthalene	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NV
Benzo (a) pyrene	NA	NV	NA	NV
Benzo (b) fluoranthene	NA	NV	NA	NV
Benzo (ghi) perylene	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NV
Chrysene	NA	NV	NA	NV
Dibenzo (a,h) anthracene	NA	NV	NA	NV
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NV
Naphthalene	1.7E-14	1.1E-10	1.3E-14	1.1E-10
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
B(a)P Equivalent	4.0E-13	NV	3.1E-13	NV
Pesticides				
4,4-DDE	1.1E-14	4.5E-12	1.1E-14	4.5E-12
alpha-Chlordane	2.1E-14	NV	2.1E-14	NV
Dieldrin	1.2E-14	NV	1.2E-14	NV
gamma-Chlordane	2.2E-14	NV	2.2E-14	NV

Table AOC11-B1.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	7.7E-13	3.0E-10	6.7E-13	3.0E-10
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC
Dioxins/Furans				
TEQ Human	3.0E-16	1.4E-13	3.4E-16	1.4E-13

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.9E-07	NV	1.0E-06	2.4E-06	1.9E-07	NV	1.0E-06	2.4E-06	1.9E-07	NV	1.0E-06	2.4E-06	1.9E-07	NV	1.1E-06	2.4E-06
Chromium, Hexavalent	3.0E-08	NV	NA	3.7E-07	3.2E-08	NV	NA	4.0E-07	8.0E-08	NV	NA	9.9E-07	3.8E-08	NV	NA	4.7E-07
Chromium, total	1.2E-06	NV	2.2E-06	1.5E-05	1.2E-06	NV	2.2E-06	1.5E-05	2.1E-06	NV	3.9E-06	2.6E-05	2.1E-06	NV	3.8E-06	2.6E-05
Copper	5.0E-07	NV	9.0E-07	6.1E-06	4.9E-07	NV	8.9E-07	6.1E-06	4.9E-07	NV	8.9E-07	6.1E-06	4.8E-07	NV	8.7E-07	6.0E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.6E-09	NV	1.2E-08	8.1E-08	6.6E-09	NV	1.2E-08	8.1E-08	9.6E-09	NV	1.7E-08	1.2E-07	1.1E-08	NV	2.0E-08	1.4E-07
Zinc	6.6E-06	NV	1.2E-05	8.1E-05	5.2E-06	NV	9.3E-06	6.4E-05	4.0E-06	NV	7.2E-06	4.9E-05	3.5E-06	NV	6.2E-06	4.3E-05
Volatile Organic Compounds																
Methyl acetate	NS	3.1E-07	NS	NS	6.2E-10	3.1E-07	1.1E-08	7.7E-09	6.2E-10	3.1E-07	1.1E-08	7.7E-09	6.2E-10	3.1E-07	1.1E-08	7.7E-09
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	3.0E-08	ND	ND	2.3E-10	3.0E-08	6.3E-09	2.9E-09	3.7E-10	3.0E-08	1.0E-08	4.6E-09	4.3E-10	3.0E-08	1.2E-08	5.3E-09
2-Methyl naphthalene	1.3E-10	8.4E-09	3.4E-09	1.6E-09	1.2E-10	8.4E-09	3.4E-09	1.5E-09	1.2E-10	8.4E-09	3.4E-09	1.5E-09	1.2E-10	8.4E-09	3.4E-09	1.5E-09
Acenaphthene	4.0E-10	4.4E-09	1.1E-08	5.0E-09	3.0E-10	4.4E-09	8.1E-09	3.7E-09	2.0E-10	4.4E-09	5.3E-09	2.4E-09	1.5E-10	4.4E-09	4.2E-09	1.9E-09
Acenaphthylene	3.4E-10	NV	9.1E-09	4.2E-09	2.5E-10	NV	6.9E-09	3.2E-09	1.7E-10	NV	4.7E-09	2.2E-09	1.4E-10	NV	3.8E-09	1.8E-09
Anthracene	2.0E-10	9.2E-10	5.5E-09	2.5E-09	1.7E-10	9.2E-10	4.6E-09	2.1E-09	1.3E-10	9.2E-10	3.6E-09	1.6E-09	1.2E-10	9.2E-10	3.2E-09	1.4E-09
Benzo (a) anthracene	8.3E-09	2.1E-09	2.2E-07	1.0E-07	3.3E-09	2.1E-09	9.1E-08	4.1E-08	1.9E-09	2.1E-09	5.3E-08	2.4E-08	2.2E-09	2.1E-09	6.0E-08	2.7E-08
Benzo (a) pyrene	6.5E-09	NV	1.8E-07	8.1E-08	5.1E-09	NV	1.4E-07	6.3E-08	3.0E-09	NV	8.2E-08	3.7E-08	2.0E-09	NV	5.3E-08	2.4E-08
Benzo (b) fluoranthene	1.2E-08	NV	3.4E-07	1.5E-07	9.5E-09	NV	2.6E-07	1.2E-07	5.7E-09	NV	1.5E-07	7.0E-08	3.8E-09	NV	1.0E-07	4.7E-08
Benzo (ghi) perylene	3.9E-09	NV	1.1E-07	4.9E-08	1.9E-09	NV	5.2E-08	2.4E-08	1.3E-09	NV	3.5E-08	1.6E-08	9.1E-10	NV	2.5E-08	1.1E-08
Benzo (k) fluoranthene	3.2E-09	NV	8.6E-08	3.9E-08	2.7E-09	NV	7.4E-08	3.4E-08	1.9E-09	NV	5.0E-08	2.3E-08	1.3E-09	NV	3.6E-08	1.6E-08
Chrysene	8.5E-09	NV	2.3E-07	1.1E-07	6.4E-09	NV	1.7E-07	7.9E-08	3.7E-09	NV	1.0E-07	4.6E-08	2.4E-09	NV	6.5E-08	3.0E-08
Dibenzo (a,h) anthracene	8.7E-10	NV	2.4E-08	1.1E-08	3.2E-10	NV	8.6E-09	3.9E-09	4.3E-10	NV	1.2E-08	5.3E-09	3.5E-10	NV	9.6E-09	4.4E-09
Fluoranthene	1.4E-08	NV	3.7E-07	1.7E-07	1.0E-08	NV	2.8E-07	1.3E-07	6.2E-09	NV	1.7E-07	7.7E-08	4.1E-09	NV	1.1E-07	5.1E-08
Fluorene	3.3E-10	2.0E-09	8.8E-09	4.0E-09	2.5E-10	2.0E-09	6.7E-09	3.1E-09	1.7E-10	2.0E-09	4.6E-09	2.1E-09	1.4E-10	2.0E-09	3.8E-09	1.7E-09
Indeno (1,2,3-cd) pyrene	4.1E-09	NV	1.1E-07	5.0E-08	1.6E-09	NV	4.4E-08	2.0E-08	1.1E-09	NV	2.9E-08	1.3E-08	7.8E-10	NV	2.1E-08	9.7E-09
Naphthalene	3.7E-10	1.3E-08	9.9E-09	4.5E-09	2.8E-10	1.3E-08	7.5E-09	3.4E-09	1.9E-10	1.3E-08	5.0E-09	2.3E-09	1.5E-10	1.3E-08	4.0E-09	1.8E-09
Phenanthrene	7.0E-09	NV	1.9E-07	8.7E-08	2.6E-09	NV	7.1E-08	3.2E-08	1.5E-09	NV	4.2E-08	1.9E-08	1.0E-09	NV	2.8E-08	1.3E-08
Pyrene	1.2E-08	6.1E-09	3.3E-07	1.5E-07	9.7E-09	6.1E-09	2.6E-07	1.2E-07	5.7E-09	6.1E-09	1.6E-07	7.1E-08	3.7E-09	6.1E-09	1.0E-07	4.6E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.2E-10	5.5E-10	2.0E-09	2.8E-09	2.2E-10	5.5E-10	2.0E-09	2.8E-09	2.2E-10	5.5E-10	2.0E-09	2.8E-09	2.2E-10	5.5E-10	2.0E-09	2.8E-09
alpha-Chlordane	4.4E-10	NV	4.0E-09	5.4E-09	4.4E-10	NV	4.0E-09	5.4E-09	4.4E-10	NV	4.0E-09	5.4E-09	4.4E-10	NV	4.0E-09	5.4E-09
Dieldrin	2.4E-10	NV	2.2E-09	3.0E-09	2.4E-10	NV	2.2E-09	3.0E-09	2.4E-10	NV	2.2E-09	3.0E-09	2.4E-10	NV	2.2E-09	3.0E-09
gamma-Chlordane	4.7E-10	NV	4.3E-09	5.9E-09	4.7E-10	NV	4.3E-09	5.9E-09	4.7E-10	NV	4.3E-09	5.9E-09	4.7E-10	NV	4.3E-09	5.9E-09

Table AOC11-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.6E-08	3.6E-08	4.4E-07	2.0E-07	1.4E-08	3.6E-08	3.8E-07	1.7E-07	6.8E-09	3.6E-08	1.8E-07	8.4E-08	4.6E-09	3.6E-08	1.3E-07	5.7E-08
Total Petroleum Hydrocarbons																
TPH as diesel	9.2E-07	8.0E-03	1.7E-05	1.1E-05	1.1E-06	8.0E-03	2.0E-05	1.4E-05	4.5E-06	8.0E-03	8.2E-05	5.6E-05	3.9E-06	8.0E-03	7.0E-05	4.8E-05
TPH as motor oil	8.8E-06	NV	1.6E-04	1.1E-04	9.4E-06	NV	1.7E-04	1.2E-04	9.5E-06	NV	1.7E-04	1.2E-04	8.5E-06	NV	1.5E-04	1.0E-04
Dioxins/Furans																
TEQ Human	6.3E-12	1.6E-11	3.4E-11	7.8E-11	7.3E-12	1.6E-11	3.9E-11	9.0E-11	8.5E-12	1.6E-11	4.6E-11	1.0E-10	7.8E-12	1.6E-11	4.2E-11	9.6E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	4.8E-08	NV	5.2E-07	6.0E-07	4.8E-08	NV	5.2E-07	5.9E-07	4.8E-08	NV	5.2E-07	5.9E-07	4.8E-08	NV	5.3E-07	6.0E-07
Chromium, Hexavalent	7.4E-09	NV	NA	9.2E-08	8.1E-09	NV	NA	1.0E-07	2.0E-08	NV	NA	2.5E-07	9.4E-09	NV	NA	1.2E-07
Chromium, total	3.1E-07	NV	1.1E-06	3.8E-06	3.1E-07	NV	1.1E-06	3.8E-06	5.3E-07	NV	1.9E-06	6.6E-06	5.2E-07	NV	1.9E-06	6.5E-06
Copper	1.2E-07	NV	4.5E-07	1.5E-06	1.2E-07	NV	4.4E-07	1.5E-06	1.2E-07	NV	4.5E-07	1.5E-06	1.2E-07	NV	4.4E-07	1.5E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.6E-09	NV	5.9E-09	2.0E-08	1.6E-09	NV	5.9E-09	2.0E-08	2.4E-09	NV	8.7E-09	3.0E-08	2.8E-09	NV	1.0E-08	3.5E-08
Zinc	1.6E-06	NV	5.9E-06	2.0E-05	1.3E-06	NV	4.7E-06	1.6E-05	1.0E-06	NV	3.6E-06	1.2E-05	8.6E-07	NV	3.1E-06	1.1E-05
Volatile Organic Compounds																
Methyl acetate	NS	1.4E-08	NS	NS	1.6E-10	1.4E-08	5.6E-09	1.9E-09	1.6E-10	1.4E-08	5.6E-09	1.9E-09	1.6E-10	1.4E-08	5.6E-09	1.9E-09
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	1.4E-09	ND	ND	5.8E-11	1.4E-09	3.2E-09	7.2E-10	9.3E-11	1.4E-09	5.1E-09	1.2E-09	1.1E-10	1.4E-09	5.8E-09	1.3E-09
2-Methyl naphthalene	3.2E-11	3.9E-10	1.7E-09	3.9E-10	3.1E-11	3.9E-10	1.7E-09	3.8E-10	3.1E-11	3.9E-10	1.7E-09	3.8E-10	3.1E-11	3.9E-10	1.7E-09	3.8E-10
Acenaphthene	1.0E-10	2.0E-10	5.5E-09	1.2E-09	7.5E-11	2.0E-10	4.1E-09	9.2E-10	4.9E-11	2.0E-10	2.7E-09	6.1E-10	3.9E-11	2.0E-10	2.1E-09	4.8E-10
Acenaphthylene	8.4E-11	NV	4.6E-09	1.0E-09	6.4E-11	NV	3.5E-09	7.9E-10	4.4E-11	NV	2.4E-09	5.4E-10	3.5E-11	NV	1.9E-09	4.4E-10
Anthracene	5.1E-11	4.2E-11	2.7E-09	6.3E-10	4.3E-11	4.2E-11	2.3E-09	5.3E-10	3.3E-11	4.2E-11	1.8E-09	4.1E-10	2.9E-11	4.2E-11	1.6E-09	3.6E-10
Benzo (a) anthracene	2.1E-09	9.5E-11	1.1E-07	2.6E-08	8.4E-10	9.5E-11	4.5E-08	1.0E-08	4.8E-10	9.5E-11	2.6E-08	6.0E-09	5.5E-10	9.5E-11	3.0E-08	6.8E-09
Benzo (a) pyrene	1.6E-09	NV	8.9E-08	2.0E-08	1.3E-09	NV	6.9E-08	1.6E-08	7.5E-10	NV	4.1E-08	9.3E-09	4.9E-10	NV	2.7E-08	6.1E-09
Benzo (b) fluoranthene	3.1E-09	NV	1.7E-07	3.9E-08	2.4E-09	NV	1.3E-07	2.9E-08	1.4E-09	NV	7.7E-08	1.8E-08	9.4E-10	NV	5.1E-08	1.2E-08
Benzo (ghi) perylene	9.9E-10	NV	5.4E-08	1.2E-08	4.8E-10	NV	2.6E-08	5.9E-09	3.2E-10	NV	1.7E-08	3.9E-09	2.3E-10	NV	1.2E-08	2.8E-09
Benzo (k) fluoranthene	7.9E-10	NV	4.3E-08	9.8E-09	6.9E-10	NV	3.7E-08	8.5E-09	4.6E-10	NV	2.5E-08	5.7E-09	3.3E-10	NV	1.8E-08	4.1E-09
Chrysene	2.1E-09	NV	1.2E-07	2.6E-08	1.6E-09	NV	8.7E-08	2.0E-08	9.2E-10	NV	5.0E-08	1.1E-08	6.0E-10	NV	3.3E-08	7.4E-09
Dibenzo (a,h) anthracene	2.2E-10	NV	1.2E-08	2.7E-09	8.0E-11	NV	4.3E-09	9.9E-10	1.1E-10	NV	5.8E-09	1.3E-09	8.8E-11	NV	4.8E-09	1.1E-09
Fluoranthene	3.4E-09	NV	1.9E-07	4.2E-08	2.6E-09	NV	1.4E-07	3.2E-08	1.6E-09	NV	8.5E-08	1.9E-08	1.0E-09	NV	5.6E-08	1.3E-08
Fluorene	8.1E-11	9.0E-11	4.4E-09	1.0E-09	6.2E-11	9.0E-11	3.4E-09	7.7E-10	4.3E-11	9.0E-11	2.3E-09	5.3E-10	3.5E-11	9.0E-11	1.9E-09	4.3E-10
Indeno (1,2,3-cd) pyrene	1.0E-09	NV	5.5E-08	1.3E-08	4.1E-10	NV	2.2E-08	5.0E-09	2.7E-10	NV	1.5E-08	3.4E-09	2.0E-10	NV	1.1E-08	2.4E-09
Naphthalene	9.1E-11	5.9E-10	5.0E-09	1.1E-09	6.9E-11	5.9E-10	3.7E-09	8.5E-10	4.6E-11	5.9E-10	2.5E-09	5.7E-10	3.7E-11	5.9E-10	2.0E-09	4.6E-10
Phenanthrene	1.8E-09	NV	9.5E-08	2.2E-08	6.5E-10	NV	3.5E-08	8.1E-09	3.8E-10	NV	2.1E-08	4.7E-09	2.6E-10	NV	1.4E-08	3.2E-09
Pyrene	3.0E-09	2.8E-10	1.6E-07	3.8E-08	2.4E-09	2.8E-10	1.3E-07	3.0E-08	1.4E-09	2.8E-10	7.8E-08	1.8E-08	9.2E-10	2.8E-10	5.0E-08	1.1E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10
alpha-Chlordane	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09
Dieldrin	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10
gamma-Chlordane	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09

Table AOC11-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	4.1E-09	1.6E-09	2.2E-07	5.0E-08	3.5E-09	1.6E-09	1.9E-07	4.4E-08	1.7E-09	1.6E-09	9.2E-08	2.1E-08	1.2E-09	1.6E-09	6.3E-08	1.4E-08
Total Petroleum Hydrocarbons																
TPH as diesel	2.3E-07	3.6E-04	8.4E-06	2.9E-06	2.8E-07	3.6E-04	1.0E-05	3.5E-06	1.1E-06	3.6E-04	4.1E-05	1.4E-05	9.7E-07	3.6E-04	3.5E-05	1.2E-05
TPH as motor oil	2.2E-06	NV	8.0E-05	2.7E-05	2.3E-06	NV	8.5E-05	2.9E-05	2.4E-06	NV	8.6E-05	2.9E-05	2.1E-06	NV	7.7E-05	2.6E-05
Dioxins/Furans																
TEQ Human	1.6E-12	7.5E-13	1.7E-11	1.9E-11	1.8E-12	7.5E-13	2.0E-11	2.2E-11	2.1E-12	7.5E-13	2.3E-11	2.6E-11	1.9E-12	7.5E-13	2.1E-11	2.4E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	8.5E-11	NV	1.3E-07	1.5E-06	8.5E-11	NV	1.8E-08	1.4E-07	8.4E-11	NV	1.3E-07	1.5E-06	8.4E-11	NV	1.8E-08	1.4E-07
Chromium, Hexavalent	1.3E-11	NV	NA	2.4E-07	1.3E-11	NV	NA	2.2E-08	1.4E-11	NV	NA	2.6E-07	1.4E-11	NV	NA	2.4E-08
Chromium, total	5.5E-10	NV	2.9E-07	9.9E-06	5.5E-10	NV	3.9E-08	9.3E-07	5.5E-10	NV	2.9E-07	9.9E-06	5.5E-10	NV	3.9E-08	9.3E-07
Copper	2.2E-10	NV	1.2E-07	4.0E-06	2.2E-10	NV	1.6E-08	3.7E-07	2.2E-10	NV	1.1E-07	3.9E-06	2.2E-10	NV	1.6E-08	3.7E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.9E-12	NV	1.5E-09	5.3E-08	2.9E-12	NV	2.1E-10	4.9E-09	2.9E-12	NV	1.5E-09	5.3E-08	2.9E-12	NV	2.1E-10	4.9E-09
Zinc	2.9E-09	NV	1.5E-06	5.3E-05	2.9E-09	NV	2.1E-07	4.9E-06	2.3E-09	NV	1.2E-06	4.1E-05	2.3E-09	NV	1.6E-07	3.9E-06
Volatile Organic Compounds																
Methyl acetate	NS	3.6E-08	NS	NS	NS	3.6E-08	NS	NS	2.7E-13	3.6E-08	1.4E-09	5.0E-09	2.7E-13	3.6E-08	2.0E-10	4.7E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	3.6E-09	ND	ND	ND	3.6E-09	ND	ND	1.0E-13	3.6E-09	8.1E-10	1.9E-09	1.0E-13	3.6E-09	1.1E-10	1.7E-10
2-Methyl naphthalene	5.6E-14	9.9E-10	4.4E-10	1.0E-09	5.6E-14	9.9E-10	6.0E-11	9.5E-11	5.5E-14	9.9E-10	4.3E-10	9.9E-10	5.5E-14	9.9E-10	5.9E-11	9.3E-11
Acenaphthene	1.8E-13	5.1E-10	1.4E-09	3.2E-09	1.8E-13	5.1E-10	1.9E-10	3.0E-10	1.3E-13	5.1E-10	1.0E-09	2.4E-09	1.3E-13	5.1E-10	1.4E-10	2.2E-10
Acenaphthylene	1.5E-13	NV	1.2E-09	2.7E-09	1.5E-13	NV	1.6E-10	2.5E-10	1.1E-13	NV	8.9E-10	2.0E-09	1.1E-13	NV	1.2E-10	1.9E-10
Anthracene	8.9E-14	1.1E-10	7.0E-10	1.6E-09	8.9E-14	1.1E-10	9.6E-11	1.5E-10	7.5E-14	1.1E-10	5.9E-10	1.4E-09	7.5E-14	1.1E-10	8.1E-11	1.3E-10
Benzo (a) anthracene	3.6E-12	2.4E-10	2.9E-08	6.6E-08	3.6E-12	2.4E-10	3.9E-09	6.2E-09	1.5E-12	2.4E-10	1.2E-08	2.7E-08	1.5E-12	2.4E-10	1.6E-09	2.5E-09
Benzo (a) pyrene	2.9E-12	NV	2.3E-08	5.2E-08	2.9E-12	NV	3.1E-09	4.9E-09	2.2E-12	NV	1.8E-08	4.1E-08	2.2E-12	NV	2.4E-09	3.8E-09
Benzo (b) fluoranthene	5.5E-12	NV	4.3E-08	1.0E-07	5.5E-12	NV	5.9E-09	9.4E-09	4.2E-12	NV	3.3E-08	7.6E-08	4.2E-12	NV	4.5E-09	7.1E-09
Benzo (ghi) perylene	1.7E-12	NV	1.4E-08	3.2E-08	1.7E-12	NV	1.9E-09	3.0E-09	8.4E-13	NV	6.7E-09	1.5E-08	8.4E-13	NV	9.1E-10	1.4E-09
Benzo (k) fluoranthene	1.4E-12	NV	1.1E-08	2.5E-08	1.4E-12	NV	1.5E-09	2.4E-09	1.2E-12	NV	9.5E-09	2.2E-08	1.2E-12	NV	1.3E-09	2.1E-09
Chrysene	3.8E-12	NV	3.0E-08	6.8E-08	3.8E-12	NV	4.0E-09	6.4E-09	2.8E-12	NV	2.2E-08	5.1E-08	2.8E-12	NV	3.0E-09	4.8E-09
Dibenzo (a,h) anthracene	3.8E-13	NV	3.0E-09	6.9E-09	3.8E-13	NV	4.1E-10	6.5E-10	1.4E-13	NV	1.1E-09	2.5E-09	1.4E-13	NV	1.5E-10	2.4E-10
Fluoranthene	6.0E-12	NV	4.8E-08	1.1E-07	6.0E-12	NV	6.5E-09	1.0E-08	4.5E-12	NV	3.6E-08	8.2E-08	4.5E-12	NV	4.9E-09	7.7E-09
Fluorene	1.4E-13	2.3E-10	1.1E-09	2.6E-09	1.4E-13	2.3E-10	1.5E-10	2.4E-10	1.1E-13	2.3E-10	8.6E-10	2.0E-09	1.1E-13	2.3E-10	1.2E-10	1.9E-10
Indeno (1,2,3-cd) pyrene	1.8E-12	NV	1.4E-08	3.2E-08	1.8E-12	NV	1.9E-09	3.0E-09	7.2E-13	NV	5.7E-09	1.3E-08	7.2E-13	NV	7.7E-10	1.2E-09
Naphthalene	1.6E-13	1.5E-09	1.3E-09	2.9E-09	1.6E-13	1.5E-09	1.7E-10	2.7E-10	1.2E-13	1.5E-09	9.6E-10	2.2E-09	1.2E-13	1.5E-09	1.3E-10	2.1E-10
Phenanthrene	3.1E-12	NV	2.4E-08	5.6E-08	3.1E-12	NV	3.3E-09	5.3E-09	1.2E-12	NV	9.1E-09	2.1E-08	1.2E-12	NV	1.2E-09	2.0E-09
Pyrene	5.4E-12	7.2E-10	4.2E-08	9.7E-08	5.4E-12	7.2E-10	5.8E-09	9.1E-09	4.3E-12	7.2E-10	3.4E-08	7.7E-08	4.3E-12	7.2E-10	4.6E-09	7.3E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	9.8E-14	6.4E-11	2.6E-10	1.8E-09	9.8E-14	6.4E-11	3.5E-11	1.7E-10	9.8E-14	6.4E-11	2.6E-10	1.8E-09	9.8E-14	6.4E-11	3.5E-11	1.7E-10
alpha-Chlordane	1.9E-13	NV	5.1E-10	3.5E-09	1.9E-13	NV	6.9E-11	3.3E-10	1.9E-13	NV	5.1E-10	3.5E-09	1.9E-13	NV	6.9E-11	3.3E-10
Dieldrin	1.1E-13	NV	2.8E-10	2.0E-09	1.1E-13	NV	3.9E-11	1.8E-10	1.1E-13	NV	2.8E-10	2.0E-09	1.1E-13	NV	3.9E-11	1.8E-10
gamma-Chlordane	2.1E-13	NV	5.5E-10	3.8E-09	2.1E-13	NV	7.5E-11	3.6E-10	2.1E-13	NV	5.5E-10	3.8E-09	2.1E-13	NV	7.5E-11	3.6E-10

Table AOC11-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	7.2E-12	4.2E-09	5.6E-08	1.3E-07	7.2E-12	4.2E-09	7.7E-09	1.2E-08	6.2E-12	4.2E-09	4.9E-08	1.1E-07	6.2E-12	4.2E-09	6.7E-09	1.1E-08
Total Petroleum Hydrocarbons																
TPH as diesel	4.1E-10	9.4E-04	2.1E-06	7.4E-06	4.1E-10	9.4E-04	2.9E-07	6.9E-07	4.9E-10	9.4E-04	2.6E-06	9.0E-06	4.9E-10	9.4E-04	3.6E-07	8.4E-07
TPH as motor oil	3.9E-09	NV	2.0E-05	7.0E-05	3.9E-09	NV	2.8E-06	6.6E-06	4.1E-09	NV	2.2E-05	7.5E-05	4.1E-09	NV	3.0E-06	7.0E-06
Dioxins/Furans																
TEQ Human	2.8E-15	1.9E-12	4.4E-12	5.0E-11	2.8E-15	1.9E-12	6.0E-13	4.7E-12	3.2E-15	1.9E-12	5.1E-12	5.8E-11	3.2E-15	1.9E-12	6.9E-13	5.5E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.7E-10	NV	2.7E-07	3.1E-06	1.7E-10	NV	3.7E-08	2.9E-07	1.7E-10	NV	2.7E-07	3.1E-06	1.7E-10	NV	3.6E-08	2.9E-07
Chromium, Hexavalent	2.6E-11	NV	NA	4.7E-07	2.6E-11	NV	NA	4.4E-08	2.8E-11	NV	NA	5.2E-07	2.8E-11	NV	NA	4.8E-08
Chromium, total	1.1E-09	NV	5.7E-07	2.0E-05	1.1E-09	NV	7.8E-08	1.9E-06	1.1E-09	NV	5.8E-07	2.0E-05	1.1E-09	NV	7.9E-08	1.9E-06
Copper	4.4E-10	NV	2.3E-07	7.9E-06	4.4E-10	NV	3.1E-08	7.5E-07	4.3E-10	NV	2.3E-07	7.8E-06	4.3E-10	NV	3.1E-08	7.3E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.8E-12	NV	3.1E-09	1.1E-07	5.8E-12	NV	4.2E-10	9.9E-09	5.8E-12	NV	3.1E-09	1.1E-07	5.8E-12	NV	4.2E-10	9.9E-09
Zinc	5.8E-09	NV	3.1E-06	1.1E-04	5.8E-09	NV	4.2E-07	9.9E-06	4.5E-09	NV	2.4E-06	8.2E-05	4.5E-09	NV	3.3E-07	7.7E-06
Volatile Organic Compounds																
Methyl acetate	NS	7.3E-08	NS	NS	NS	7.3E-08	NS	NS	5.5E-13	7.3E-08	2.9E-09	9.9E-09	5.5E-13	7.3E-08	3.9E-10	9.3E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	7.1E-09	ND	ND	ND	7.1E-09	ND	ND	2.1E-13	7.1E-09	1.6E-09	3.7E-09	2.1E-13	7.1E-09	2.2E-10	3.5E-10
2-Methyl naphthalene	1.1E-13	2.0E-09	8.8E-10	2.0E-09	1.1E-13	2.0E-09	1.2E-10	1.9E-10	1.1E-13	2.0E-09	8.6E-10	2.0E-09	1.1E-13	2.0E-09	1.2E-10	1.9E-10
Acenaphthene	3.5E-13	1.0E-09	2.8E-09	6.4E-09	3.5E-13	1.0E-09	3.8E-10	6.0E-10	2.6E-13	1.0E-09	2.1E-09	4.8E-09	2.6E-13	1.0E-09	2.8E-10	4.5E-10
Acenaphthylene	3.0E-13	NV	2.3E-09	5.4E-09	3.0E-13	NV	3.2E-10	5.0E-10	2.2E-13	NV	1.8E-09	4.1E-09	2.2E-13	NV	2.4E-10	3.8E-10
Anthracene	1.8E-13	2.2E-10	1.4E-09	3.2E-09	1.8E-13	2.2E-10	1.9E-10	3.0E-10	1.5E-13	2.2E-10	1.2E-09	2.7E-09	1.5E-13	2.2E-10	1.6E-10	2.6E-10
Benzo (a) anthracene	7.3E-12	4.9E-10	5.7E-08	1.3E-07	7.3E-12	4.9E-10	7.8E-09	1.2E-08	3.0E-12	4.9E-10	2.3E-08	5.4E-08	3.0E-12	4.9E-10	3.2E-09	5.0E-09
Benzo (a) pyrene	5.8E-12	NV	4.6E-08	1.0E-07	5.8E-12	NV	6.2E-09	9.8E-09	4.5E-12	NV	3.5E-08	8.1E-08	4.5E-12	NV	4.8E-09	7.6E-09
Benzo (b) fluoranthene	1.1E-11	NV	8.7E-08	2.0E-07	1.1E-11	NV	1.2E-08	1.9E-08	8.4E-12	NV	6.6E-08	1.5E-07	8.4E-12	NV	9.0E-09	1.4E-08
Benzo (ghi) perylene	3.5E-12	NV	2.7E-08	6.3E-08	3.5E-12	NV	3.7E-09	5.9E-09	1.7E-12	NV	1.3E-08	3.1E-08	1.7E-12	NV	1.8E-09	2.9E-09
Benzo (k) fluoranthene	2.8E-12	NV	2.2E-08	5.0E-08	2.8E-12	NV	3.0E-09	4.7E-09	2.4E-12	NV	1.9E-08	4.4E-08	2.4E-12	NV	2.6E-09	4.1E-09
Chrysene	7.5E-12	NV	5.9E-08	1.4E-07	7.5E-12	NV	8.1E-09	1.3E-08	5.6E-12	NV	4.4E-08	1.0E-07	5.6E-12	NV	6.1E-09	9.6E-09
Dibenzo (a,h) anthracene	7.6E-13	NV	6.0E-09	1.4E-08	7.6E-13	NV	8.2E-10	1.3E-09	2.8E-13	NV	2.2E-09	5.1E-09	2.8E-13	NV	3.0E-10	4.8E-10
Fluoranthene	1.2E-11	NV	9.5E-08	2.2E-07	1.2E-11	NV	1.3E-08	2.0E-08	9.1E-12	NV	7.1E-08	1.6E-07	9.1E-12	NV	9.8E-09	1.5E-08
Fluorene	2.9E-13	4.6E-10	2.3E-09	5.2E-09	2.9E-13	4.6E-10	3.1E-10	4.9E-10	2.2E-13	4.6E-10	1.7E-09	4.0E-09	2.2E-13	4.6E-10	2.4E-10	3.7E-10
Indeno (1,2,3-cd) pyrene	3.6E-12	NV	2.8E-08	6.5E-08	3.6E-12	NV	3.9E-09	6.1E-09	1.4E-12	NV	1.1E-08	2.6E-08	1.4E-12	NV	1.5E-09	2.4E-09
Naphthalene	3.2E-13	3.0E-09	2.5E-09	5.8E-09	3.2E-13	3.0E-09	3.5E-10	5.5E-10	2.4E-13	3.0E-09	1.9E-09	4.4E-09	2.4E-13	3.0E-09	2.6E-10	4.1E-10
Phenanthrene	6.2E-12	NV	4.9E-08	1.1E-07	6.2E-12	NV	6.7E-09	1.1E-08	2.3E-12	NV	1.8E-08	4.2E-08	2.3E-12	NV	2.5E-09	3.9E-09
Pyrene	1.1E-11	1.4E-09	8.4E-08	1.9E-07	1.1E-11	1.4E-09	1.2E-08	1.8E-08	8.5E-12	1.4E-09	6.7E-08	1.5E-07	8.5E-12	1.4E-09	9.2E-09	1.5E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.0E-13	1.3E-10	5.2E-10	3.6E-09	2.0E-13	1.3E-10	7.1E-11	3.3E-10	2.0E-13	1.3E-10	5.2E-10	3.6E-09	2.0E-13	1.3E-10	7.1E-11	3.3E-10
alpha-Chlordane	3.9E-13	NV	1.0E-09	7.0E-09	3.9E-13	NV	1.4E-10	6.6E-10	3.9E-13	NV	1.0E-09	7.0E-09	3.9E-13	NV	1.4E-10	6.6E-10
Dieldrin	2.2E-13	NV	5.7E-10	3.9E-09	2.2E-13	NV	7.8E-11	3.7E-10	2.2E-13	NV	5.7E-10	3.9E-09	2.2E-13	NV	7.8E-11	3.7E-10
gamma-Chlordane	4.2E-13	NV	1.1E-09	7.6E-09	4.2E-13	NV	1.5E-10	7.1E-10	4.2E-13	NV	1.1E-09	7.6E-09	4.2E-13	NV	1.5E-10	7.1E-10

Table AOC11-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.4E-11	8.5E-09	1.1E-07	2.6E-07	1.4E-11	8.5E-09	1.5E-08	2.4E-08	1.2E-11	8.5E-09	9.8E-08	2.3E-07	1.2E-11	8.5E-09	1.3E-08	2.1E-08
Total Petroleum Hydrocarbons																
TPH as diesel	8.2E-10	1.9E-03	4.3E-06	1.5E-05	8.2E-10	1.9E-03	5.9E-07	1.4E-06	9.9E-10	1.9E-03	5.2E-06	1.8E-05	9.9E-10	1.9E-03	7.1E-07	1.7E-06
TPH as motor oil	7.8E-09	NV	4.1E-05	1.4E-04	7.8E-09	NV	5.6E-06	1.3E-05	8.3E-09	NV	4.3E-05	1.5E-04	8.3E-09	NV	5.9E-06	1.4E-05
Dioxins/Furans																
TEQ Human	5.5E-15	3.9E-12	8.7E-12	1.0E-10	5.5E-15	3.9E-12	1.2E-12	9.4E-12	6.4E-15	3.9E-12	1.0E-11	1.2E-10	6.4E-15	3.9E-12	1.4E-12	1.1E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	8.5E-11	NV	1.8E-08	1.4E-07	8.4E-11	NV	1.8E-08	1.4E-07
Chromium, Hexavalent	1.3E-11	NV	NA	2.2E-08	1.4E-11	NV	NA	2.4E-08
Chromium, total	5.5E-10	NV	3.9E-08	9.3E-07	5.5E-10	NV	3.9E-08	9.3E-07
Copper	2.2E-10	NV	1.6E-08	3.7E-07	2.2E-10	NV	1.6E-08	3.7E-07
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.9E-12	NV	2.1E-10	4.9E-09	2.9E-12	NV	2.1E-10	4.9E-09
Zinc	2.9E-09	NV	2.1E-07	4.9E-06	2.3E-09	NV	1.6E-07	3.9E-06
Volatile Organic Compounds								
Methyl acetate	NS	3.6E-08	NS	NS	2.7E-13	3.6E-08	2.0E-10	4.7E-10
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	3.6E-09	ND	ND	1.0E-13	3.6E-09	1.1E-10	1.7E-10
2-Methyl naphthalene	5.6E-14	9.9E-10	6.0E-11	9.5E-11	5.5E-14	9.9E-10	5.9E-11	9.3E-11
Acenaphthene	1.8E-13	5.1E-10	1.9E-10	3.0E-10	1.3E-13	5.1E-10	1.4E-10	2.2E-10
Acenaphthylene	1.5E-13	NV	1.6E-10	2.5E-10	1.1E-13	NV	1.2E-10	1.9E-10
Anthracene	8.9E-14	1.1E-10	9.6E-11	1.5E-10	7.5E-14	1.1E-10	8.1E-11	1.3E-10
Benzo (a) anthracene	3.6E-12	2.4E-10	3.9E-09	6.2E-09	1.5E-12	2.4E-10	1.6E-09	2.5E-09
Benzo (a) pyrene	2.9E-12	NV	3.1E-09	4.9E-09	2.2E-12	NV	2.4E-09	3.8E-09
Benzo (b) fluoranthene	5.5E-12	NV	5.9E-09	9.4E-09	4.2E-12	NV	4.5E-09	7.1E-09
Benzo (ghi) perylene	1.7E-12	NV	1.9E-09	3.0E-09	8.4E-13	NV	9.1E-10	1.4E-09
Benzo (k) fluoranthene	1.4E-12	NV	1.5E-09	2.4E-09	1.2E-12	NV	1.3E-09	2.1E-09
Chrysene	3.8E-12	NV	4.0E-09	6.4E-09	2.8E-12	NV	3.0E-09	4.8E-09
Dibenzo (a,h) anthracene	3.8E-13	NV	4.1E-10	6.5E-10	1.4E-13	NV	1.5E-10	2.4E-10
Fluoranthene	6.0E-12	NV	6.5E-09	1.0E-08	4.5E-12	NV	4.9E-09	7.7E-09
Fluorene	1.4E-13	2.3E-10	1.5E-10	2.4E-10	1.1E-13	2.3E-10	1.2E-10	1.9E-10
Indeno (1,2,3-cd) pyrene	1.8E-12	NV	1.9E-09	3.0E-09	7.2E-13	NV	7.7E-10	1.2E-09
Naphthalene	1.6E-13	1.5E-09	1.7E-10	2.7E-10	1.2E-13	1.5E-09	1.3E-10	2.1E-10
Phenanthrene	3.1E-12	NV	3.3E-09	5.3E-09	1.2E-12	NV	1.2E-09	2.0E-09
Pyrene	5.4E-12	7.2E-10	5.8E-09	9.1E-09	4.3E-12	7.2E-10	4.6E-09	7.3E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides								
4,4-DDE	9.8E-14	6.4E-11	3.5E-11	1.7E-10	9.8E-14	6.4E-11	3.5E-11	1.7E-10
alpha-Chlordane	1.9E-13	NV	6.9E-11	3.3E-10	1.9E-13	NV	6.9E-11	3.3E-10
Dieldrin	1.1E-13	NV	3.9E-11	1.8E-10	1.1E-13	NV	3.9E-11	1.8E-10
gamma-Chlordane	2.1E-13	NV	7.5E-11	3.6E-10	2.1E-13	NV	7.5E-11	3.6E-10

Table AOC11-B1.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	7.2E-12	4.2E-09	7.7E-09	1.2E-08	6.2E-12	4.2E-09	6.7E-09	1.1E-08
Total Petroleum Hydrocarbons								
TPH as diesel	4.1E-10	9.4E-04	2.9E-07	6.9E-07	4.9E-10	9.4E-04	3.6E-07	8.4E-07
TPH as motor oil	3.9E-09	NV	2.8E-06	6.6E-06	4.1E-09	NV	3.0E-06	7.0E-06
Dioxins/Furans								
TEQ Human	2.8E-15	1.9E-12	6.0E-13	4.7E-12	3.2E-15	1.9E-12	6.9E-13	5.5E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.7E-08	NV	4.9E-07	2.2E-07	1.7E-08	NV	4.2E-07	9.0E-08	1.7E-08	NV	4.8E-07	2.1E-07	1.7E-08	NV	4.1E-07	8.9E-08
Chromium, Hexavalent	2.6E-09	NV	NA	3.3E-08	2.6E-09	NV	NA	1.4E-08	2.9E-09	NV	NA	3.6E-08	2.9E-09	NV	NA	1.5E-08
Chromium, total	1.1E-07	NV	1.0E-06	1.4E-06	1.1E-07	NV	9.0E-07	5.7E-07	1.1E-07	NV	1.0E-06	1.4E-06	1.1E-07	NV	9.0E-07	5.8E-07
Copper	4.4E-08	NV	4.2E-07	5.6E-07	4.4E-08	NV	3.6E-07	2.3E-07	4.3E-08	NV	4.1E-07	5.5E-07	4.3E-08	NV	3.5E-07	2.3E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.8E-10	NV	5.5E-09	7.4E-09	5.8E-10	NV	4.8E-09	3.1E-09	5.8E-10	NV	5.5E-09	7.4E-09	5.8E-10	NV	4.8E-09	3.1E-09
Zinc	5.8E-07	NV	5.5E-06	7.4E-06	5.8E-07	NV	4.8E-06	3.1E-06	4.6E-07	NV	4.3E-06	5.8E-06	4.6E-07	NV	3.7E-06	2.4E-06
Volatile Organic Compounds																
Methyl acetate	NS	4.6E-09	NS	NS	NS	4.6E-09	NS	NS	5.5E-11	4.6E-09	5.2E-09	7.0E-10	5.5E-11	4.6E-09	4.5E-09	2.9E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	4.4E-10	ND	ND	ND	4.4E-10	ND	ND	2.1E-11	4.4E-10	2.9E-09	2.6E-10	2.1E-11	4.4E-10	2.5E-09	1.1E-10
2-Methyl naphthalene	1.1E-11	1.2E-10	1.6E-09	1.4E-10	1.1E-11	1.2E-10	1.4E-09	5.9E-11	1.1E-11	1.2E-10	1.6E-09	1.4E-10	1.1E-11	1.2E-10	1.3E-09	5.7E-11
Acenaphthene	3.6E-11	6.4E-11	5.1E-09	4.5E-10	3.6E-11	6.4E-11	4.4E-09	1.9E-10	2.6E-11	6.4E-11	3.8E-09	3.4E-10	2.6E-11	6.4E-11	3.2E-09	1.4E-10
Acenaphthylene	3.0E-11	NV	4.3E-09	3.8E-10	3.0E-11	NV	3.6E-09	1.6E-10	2.3E-11	NV	3.2E-09	2.9E-10	2.3E-11	NV	2.8E-09	1.2E-10
Anthracene	1.8E-11	1.4E-11	2.6E-09	2.3E-10	1.8E-11	1.4E-11	2.2E-09	9.4E-11	1.5E-11	1.4E-11	2.2E-09	1.9E-10	1.5E-11	1.4E-11	1.9E-09	7.9E-11
Benzo (a) anthracene	7.3E-10	3.1E-11	1.0E-07	9.3E-09	7.3E-10	3.1E-11	9.0E-08	3.8E-09	3.0E-10	3.1E-11	4.2E-08	3.8E-09	3.0E-10	3.1E-11	3.6E-08	1.6E-09
Benzo (a) pyrene	5.8E-10	NV	8.3E-08	7.4E-09	5.8E-10	NV	7.1E-08	3.0E-09	4.5E-10	NV	6.4E-08	5.7E-09	4.5E-10	NV	5.5E-08	2.4E-09
Benzo (b) fluoranthene	1.1E-09	NV	1.6E-07	1.4E-08	1.1E-09	NV	1.4E-07	5.8E-09	8.4E-10	NV	1.2E-07	1.1E-08	8.4E-10	NV	1.0E-07	4.4E-09
Benzo (ghi) perylene	3.5E-10	NV	5.0E-08	4.4E-09	3.5E-10	NV	4.3E-08	1.8E-09	1.7E-10	NV	2.4E-08	2.2E-09	1.7E-10	NV	2.1E-08	8.9E-10
Benzo (k) fluoranthene	2.8E-10	NV	4.0E-08	3.6E-09	2.8E-10	NV	3.4E-08	1.5E-09	2.4E-10	NV	3.5E-08	3.1E-09	2.4E-10	NV	3.0E-08	1.3E-09
Chrysene	7.5E-10	NV	1.1E-07	9.6E-09	7.5E-10	NV	9.2E-08	3.9E-09	5.7E-10	NV	8.1E-08	7.2E-09	5.7E-10	NV	6.9E-08	3.0E-09
Dibenzo (a,h) anthracene	7.7E-11	NV	1.1E-08	9.7E-10	7.7E-11	NV	9.4E-09	4.0E-10	2.8E-11	NV	4.0E-09	3.6E-10	2.8E-11	NV	3.5E-09	1.5E-10
Fluoranthene	1.2E-09	NV	1.7E-07	1.5E-08	1.2E-09	NV	1.5E-07	6.3E-09	9.1E-10	NV	1.3E-07	1.2E-08	9.1E-10	NV	1.1E-07	4.8E-09
Fluorene	2.9E-11	2.9E-11	4.1E-09	3.7E-10	2.9E-11	2.9E-11	3.5E-09	1.5E-10	2.2E-11	2.9E-11	3.1E-09	2.8E-10	2.2E-11	2.9E-11	2.7E-09	1.1E-10
Indeno (1,2,3-cd) pyrene	3.6E-10	NV	5.1E-08	4.6E-09	3.6E-10	NV	4.4E-08	1.9E-09	1.4E-10	NV	2.1E-08	1.8E-09	1.4E-10	NV	1.8E-08	7.5E-10
Naphthalene	3.2E-11	1.9E-10	4.6E-09	4.1E-10	3.2E-11	1.9E-10	4.0E-09	1.7E-10	2.4E-11	1.9E-10	3.5E-09	3.1E-10	2.4E-11	1.9E-10	3.0E-09	1.3E-10
Phenanthrene	6.2E-10	NV	8.9E-08	7.9E-09	6.2E-10	NV	7.6E-08	3.3E-09	2.3E-10	NV	3.3E-08	2.9E-09	2.3E-10	NV	2.8E-08	1.2E-09
Pyrene	1.1E-09	9.0E-11	1.5E-07	1.4E-08	1.1E-09	9.0E-11	1.3E-07	5.6E-09	8.6E-10	9.0E-11	1.2E-07	1.1E-08	8.6E-10	9.0E-11	1.1E-07	4.5E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.0E-11	8.0E-12	9.4E-10	2.5E-10	2.0E-11	8.0E-12	8.1E-10	1.0E-10	2.0E-11	8.0E-12	9.4E-10	2.5E-10	2.0E-11	8.0E-12	8.1E-10	1.0E-10
alpha-Chlordane	3.9E-11	NV	1.8E-09	4.9E-10	3.9E-11	NV	1.6E-09	2.0E-10	3.9E-11	NV	1.8E-09	4.9E-10	3.9E-11	NV	1.6E-09	2.0E-10
Dieldrin	2.2E-11	NV	1.0E-09	2.8E-10	2.2E-11	NV	8.9E-10	1.1E-10	2.2E-11	NV	1.0E-09	2.8E-10	2.2E-11	NV	8.9E-10	1.1E-10
gamma-Chlordane	4.2E-11	NV	2.0E-09	5.3E-10	4.2E-11	NV	1.7E-09	2.2E-10	4.2E-11	NV	2.0E-09	5.3E-10	4.2E-11	NV	1.7E-09	2.2E-10

Table AOC11-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.4E-09	5.3E-10	2.1E-07	1.8E-08	1.4E-09	5.3E-10	1.8E-07	7.5E-09	1.2E-09	5.3E-10	1.8E-07	1.6E-08	1.2E-09	5.3E-10	1.5E-07	6.5E-09
Total Petroleum Hydrocarbons																
TPH as diesel	8.2E-08	1.2E-04	7.8E-06	1.0E-06	8.2E-08	1.2E-04	6.7E-06	4.3E-07	9.9E-08	1.2E-04	9.5E-06	1.3E-06	9.9E-08	1.2E-04	8.1E-06	5.2E-07
TPH as motor oil	7.8E-07	NV	7.4E-05	9.9E-06	7.8E-07	NV	6.4E-05	4.1E-06	8.3E-07	NV	7.9E-05	1.1E-05	8.3E-07	NV	6.8E-05	4.3E-06
Dioxins/Furans																
TEQ Human	5.6E-13	2.4E-13	1.6E-11	7.1E-12	5.6E-13	2.4E-13	1.4E-11	2.9E-12	6.4E-13	2.4E-13	1.8E-11	8.2E-12	6.4E-13	2.4E-13	1.6E-11	3.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Arsenic	1.1E-11	NV	1.1E-11	NV
Chromium, Hexavalent	1.6E-12	NV	1.8E-12	NV
Chromium, total	6.8E-11	NV	6.8E-11	NV
Copper	2.7E-11	NV	2.7E-11	NV
Lead	na	na	na	na
Mercury (inorganic)	3.6E-13	NV	3.6E-13	NV
Zinc	3.6E-10	NV	2.8E-10	NV
Volatile Organic Compounds				
Methyl acetate	NS	3.0E-09	3.4E-14	3.0E-09
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	ND	2.9E-10	1.3E-14	2.9E-10
2-Methyl naphthalene	7.0E-15	8.2E-11	6.8E-15	8.2E-11
Acenaphthene	2.2E-14	4.2E-11	1.6E-14	4.2E-11
Acenaphthylene	1.9E-14	NV	1.4E-14	NV
Anthracene	1.1E-14	9.0E-12	9.4E-15	9.0E-12
Benzo (a) anthracene	4.6E-13	2.0E-11	1.8E-13	2.0E-11
Benzo (a) pyrene	3.6E-13	NV	2.8E-13	NV
Benzo (b) fluoranthene	6.9E-13	NV	5.2E-13	NV
Benzo (ghi) perylene	2.2E-13	NV	1.1E-13	NV
Benzo (k) fluoranthene	1.7E-13	NV	1.5E-13	NV
Chrysene	4.7E-13	NV	3.5E-13	NV
Dibenzo (a,h) anthracene	4.8E-14	NV	1.8E-14	NV
Fluoranthene	7.5E-13	NV	5.7E-13	NV
Fluorene	1.8E-14	1.9E-11	1.4E-14	1.9E-11
Indeno (1,2,3-cd) pyrene	2.2E-13	NV	9.0E-14	NV
Naphthalene	2.0E-14	1.2E-10	1.5E-14	1.2E-10
Phenanthrene	3.9E-13	NV	1.4E-13	NV
Pyrene	6.7E-13	5.9E-11	5.3E-13	5.9E-11
B(a)P Equivalent	NA	NV	NA	NV
Pesticides				
4,4-DDE	1.2E-14	5.3E-12	1.2E-14	5.3E-12
alpha-Chlordane	2.4E-14	NV	2.4E-14	NV
Dieldrin	1.3E-14	NV	1.3E-14	NV
gamma-Chlordane	2.6E-14	NV	2.6E-14	NV

Table AOC11-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	8.9E-13	3.5E-10	7.8E-13	3.5E-10
Total Petroleum Hydrocarbons				
TPH as diesel	5.1E-11	7.7E-05	6.2E-11	7.7E-05
TPH as motor oil	4.9E-10	NV	5.2E-10	NV
Dioxins/Furans				
TEQ Human	3.5E-16	1.6E-13	4.0E-16	1.6E-13

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.3a
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Arsenic	9.1E-09	NV	1.4E-07	3.2E-07	4.8E-07	9.0E-09	NV	1.4E-07	3.2E-07	4.7E-07	9.0E-09	NV	1.4E-07	3.2E-07	4.7E-07	9.1E-09	NV	1.4E-07	3.3E-07	4.8E-07
Chromium, Hexavalent	6.3E-08	NV	NA	2.6E-09	6.6E-08	6.9E-08	NV	NA	2.9E-09	7.2E-08	1.7E-07	NV	NA	7.0E-09	1.8E-07	8.1E-08	NV	NA	3.3E-09	8.4E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	3.1E-12	ND	ND	3.1E-12	2.4E-14	3.1E-12	2.6E-12	1.2E-12	7.0E-12	3.9E-14	3.1E-12	4.2E-12	1.9E-12	9.3E-12	4.4E-14	3.1E-12	4.8E-12	2.2E-12	1.0E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.8E-13	6.2E-12	1.7E-11	7.7E-12	3.1E-11	1.3E-13	6.2E-12	1.3E-11	5.8E-12	2.5E-11	9.0E-14	6.2E-12	8.6E-12	3.9E-12	1.9E-11	7.2E-14	6.2E-12	6.9E-12	3.2E-12	1.6E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.3E-10	NV	3.3E-09	1.5E-09	4.9E-09	1.0E-10	NV	2.5E-09	1.2E-09	3.8E-09	6.4E-11	NV	1.6E-09	7.2E-10	2.4E-09	4.5E-11	NV	1.1E-09	5.0E-10	1.6E-09
Pesticides																				
4,4-DDE	3.1E-13	7.6E-13	9.8E-12	1.3E-11	2.4E-11	3.1E-13	7.6E-13	9.8E-12	1.3E-11	2.4E-11	3.1E-13	7.6E-13	9.8E-12	1.3E-11	2.4E-11	3.1E-13	7.6E-13	9.8E-12	1.3E-11	2.4E-11
alpha-Chlordane	2.1E-12	NV	7.4E-11	1.0E-10	1.8E-10	2.1E-12	NV	7.4E-11	1.0E-10	1.8E-10	2.1E-12	NV	7.4E-11	1.0E-10	1.8E-10	2.1E-12	NV	7.4E-11	1.0E-10	1.8E-10
Dieldrin	1.6E-11	NV	5.1E-10	6.9E-10	1.2E-09	1.6E-11	NV	5.1E-10	6.9E-10	1.2E-09	1.6E-11	NV	5.1E-10	6.9E-10	1.2E-09	1.6E-11	NV	5.1E-10	6.9E-10	1.2E-09
gamma-Chlordane	2.3E-12	NV	8.0E-11	1.1E-10	1.9E-10	2.3E-12	NV	8.0E-11	1.1E-10	1.9E-10	2.3E-12	NV	8.0E-11	1.1E-10	1.9E-10	2.3E-12	NV	8.0E-11	1.1E-10	1.9E-10

Table AOC11-B1.3a
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	1.3E-10	2.9E-10	1.3E-08	5.7E-09	1.9E-08	1.1E-10	2.9E-10	1.1E-08	5.0E-09	1.6E-08	5.5E-11	2.9E-10	5.3E-09	2.4E-09	8.0E-09	3.8E-11	2.9E-10	3.6E-09	1.6E-09	5.6E-09
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	3.4E-09	8.9E-09	6.3E-08	1.4E-07	2.2E-07	3.9E-09	8.9E-09	7.3E-08	1.7E-07	2.5E-07	4.6E-09	8.9E-09	8.5E-08	1.9E-07	2.9E-07	4.2E-09	8.9E-09	7.8E-08	1.8E-07	2.7E-07
Cumulative ILCR	8E-08	9E-09	2E-07	5E-07	8E-07	8E-08	9E-09	2E-07	5E-07	8E-07	2E-07	9E-09	2E-07	5E-07	1E-06	9E-08	9E-09	2E-07	5E-07	8E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.3b
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Arsenic	6.8E-08	NV	2.1E-06	2.4E-06	4.6E-06	6.8E-08	NV	2.1E-06	2.4E-06	4.6E-06	6.8E-08	NV	2.1E-06	2.4E-06	4.6E-06	6.9E-08	NV	2.1E-06	2.4E-06	4.7E-06
Chromium, Hexavalent	4.8E-07	NV	NA	2.0E-08	5.0E-07	5.2E-07	NV	NA	2.1E-08	5.4E-07	1.3E-06	NV	NA	5.3E-08	1.3E-06	6.0E-07	NV	NA	2.5E-08	6.3E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	4.3E-12	ND	ND	4.3E-12	1.8E-13	4.3E-12	3.9E-11	8.9E-12	5.3E-11	2.9E-13	4.3E-12	6.3E-11	1.4E-11	8.2E-11	3.3E-13	4.3E-12	7.2E-11	1.6E-11	9.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.3E-12	8.5E-12	2.5E-10	5.8E-11	3.2E-10	1.0E-12	8.5E-12	1.9E-10	4.4E-11	2.5E-10	6.7E-13	8.5E-12	1.3E-10	2.9E-11	1.7E-10	5.4E-13	8.5E-12	1.0E-10	2.4E-11	1.4E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.0E-09	NV	4.9E-08	1.1E-08	6.2E-08	7.7E-10	NV	3.8E-08	8.7E-09	4.8E-08	4.8E-10	NV	2.4E-08	5.4E-09	3.0E-08	3.3E-10	NV	1.7E-08	3.8E-09	2.1E-08
Pesticides																				
4,4-DDE	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10
alpha-Chlordane	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09
Dieldrin	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08
gamma-Chlordane	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09

Table AOC11-B1.3b
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	9.9E-10	4.0E-10	1.9E-07	4.3E-08	2.3E-07	8.6E-10	4.0E-10	1.6E-07	3.7E-08	2.0E-07	4.1E-10	4.0E-10	7.9E-08	1.8E-08	9.8E-08	2.8E-10	4.0E-10	5.4E-08	1.2E-08	6.7E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	2.6E-08	1.2E-08	9.5E-07	1.1E-06	2.1E-06	3.0E-08	1.2E-08	1.1E-06	1.3E-06	2.4E-06	3.5E-08	1.2E-08	1.3E-06	1.5E-06	2.8E-06	3.2E-08	1.2E-08	1.2E-06	1.3E-06	2.6E-06
Cumulative ILCR	6E-07	1E-08	3E-06	4E-06	8E-06	6E-07	1E-08	3E-06	4E-06	8E-06	1E-06	1E-08	4E-06	4E-06	9E-06	7E-07	1E-08	3E-06	4E-06	8E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.3c
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	1.0E-10	NV	1.6E-07	1.6E-06	1.8E-06	1.0E-10	NV	1.6E-07	1.6E-06	1.8E-06
Chromium, Hexavalent	2.0E-09	NV	NA	6.0E-08	6.2E-08	2.2E-09	NV	NA	6.6E-08	6.8E-08
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	9.6E-12	ND	ND	9.6E-12	2.8E-16	9.6E-12	2.9E-12	6.1E-12	1.9E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.0E-15	1.9E-11	1.9E-11	3.9E-11	7.8E-11	1.5E-15	1.9E-11	1.4E-11	3.0E-11	6.3E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	4.2E-12	NV	1.6E-08	3.5E-08	5.0E-08	3.3E-12	NV	1.2E-08	2.7E-08	3.9E-08
Pesticides										
4,4-DDE	3.5E-15	2.3E-12	1.1E-11	6.8E-11	8.1E-11	3.5E-15	2.3E-12	1.1E-11	6.8E-11	8.1E-11
alpha-Chlordane	2.4E-14	NV	8.2E-11	5.1E-10	6.0E-10	2.4E-14	NV	8.2E-11	5.1E-10	6.0E-10
Dieldrin	1.8E-13	NV	5.7E-10	3.5E-09	4.1E-09	1.8E-13	NV	5.7E-10	3.5E-09	4.1E-09
gamma-Chlordane	2.6E-14	NV	8.9E-11	5.6E-10	6.4E-10	2.6E-14	NV	8.9E-11	5.6E-10	6.4E-10

Table AOC11-B1.3c
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.5E-12	9.0E-10	1.4E-08	2.9E-08	4.4E-08	1.3E-12	9.0E-10	1.2E-08	2.5E-08	3.9E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	3.9E-11	2.7E-08	7.1E-08	7.4E-07	8.3E-07	4.5E-11	2.7E-08	8.2E-08	8.5E-07	9.6E-07
Cumulative ILCR	2E-09	3E-08	3E-07	3E-06	3E-06	2E-09	3E-08	3E-07	3E-06	3E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.3d

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.1E-10	NV	3.2E-07	3.3E-06	3.6E-06	2.1E-10	NV	3.2E-07	3.3E-06	3.6E-06
Chromium, Hexavalent	4.0E-09	NV	NA	1.2E-07	1.2E-07	4.4E-09	NV	NA	1.3E-07	1.4E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.9E-11	ND	ND	1.9E-11	5.5E-16	1.9E-11	5.9E-12	1.2E-11	3.7E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	4.1E-15	3.8E-11	3.8E-11	7.9E-11	1.6E-10	3.1E-15	3.8E-11	2.9E-11	5.9E-11	1.3E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	8.5E-12	NV	3.2E-08	6.9E-08	1.0E-07	6.6E-12	NV	2.4E-08	5.4E-08	7.8E-08
Pesticides										
4,4-DDE	7.1E-15	4.6E-12	2.2E-11	1.4E-10	1.6E-10	7.1E-15	4.6E-12	2.2E-11	1.4E-10	1.6E-10
alpha-Chlordane	4.9E-14	NV	1.6E-10	1.0E-09	1.2E-09	4.9E-14	NV	1.6E-10	1.0E-09	1.2E-09
Dieldrin	3.7E-13	NV	1.1E-09	7.0E-09	8.2E-09	3.7E-13	NV	1.1E-09	7.0E-09	8.2E-09
gamma-Chlordane	5.3E-14	NV	1.8E-10	1.1E-09	1.3E-09	5.3E-14	NV	1.8E-10	1.1E-09	1.3E-09

Table AOC11-B1.3d

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	3.0E-12	1.8E-09	2.8E-08	5.8E-08	8.8E-08	2.6E-12	1.8E-09	2.4E-08	5.1E-08	7.7E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	7.8E-11	5.5E-08	1.4E-07	1.5E-06	1.7E-06	9.1E-11	5.5E-08	1.6E-07	1.7E-06	1.9E-06
Cumulative ILCR	4E-09	6E-08	5E-07	5E-06	6E-06	5E-09	6E-08	5E-07	5E-06	6E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	1.0E-10	NV	6.5E-08	5.1E-07	5.8E-07	1.0E-10	NV	6.4E-08	5.1E-07	5.7E-07
Chromium, Hexavalent	7.3E-10	NV	NA	4.1E-09	4.8E-09	7.9E-10	NV	NA	4.5E-09	5.3E-09
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	9.6E-12	ND	ND	9.6E-12	2.8E-16	9.6E-12	1.2E-12	1.9E-12	1.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.0E-15	1.9E-11	7.7E-12	1.2E-11	3.9E-11	1.5E-15	1.9E-11	5.8E-12	9.2E-12	3.4E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.5E-12	NV	1.5E-09	2.4E-09	3.9E-09	1.2E-12	NV	1.2E-09	1.8E-09	3.0E-09
Pesticides										
4,4-DDE	3.5E-15	2.3E-12	4.5E-12	2.1E-11	2.8E-11	3.5E-15	2.3E-12	4.5E-12	2.1E-11	2.8E-11
alpha-Chlordane	2.4E-14	NV	3.4E-11	1.6E-10	1.9E-10	2.4E-14	NV	3.4E-11	1.6E-10	1.9E-10
Dieldrin	1.8E-13	NV	2.3E-10	1.1E-09	1.3E-09	1.8E-13	NV	2.3E-10	1.1E-09	1.3E-09
gamma-Chlordane	2.6E-14	NV	3.6E-11	1.7E-10	2.1E-10	2.6E-14	NV	3.6E-11	1.7E-10	2.1E-10

Table AOC11-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.5E-12	9.0E-10	5.7E-09	9.0E-09	1.6E-08	1.3E-12	9.0E-10	5.0E-09	7.9E-09	1.4E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	3.9E-11	2.7E-08	2.9E-08	2.3E-07	2.8E-07	4.5E-11	2.7E-08	3.3E-08	2.6E-07	3.2E-07
Cumulative ILCR	9E-10	3E-08	1E-07	8E-07	9E-07	9E-10	3E-08	1E-07	8E-07	9E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.1E-08	NV	1.5E-06	4.2E-07	2.0E-06	2.1E-08	NV	1.5E-06	4.2E-07	2.0E-06
Chromium, Hexavalent	2.6E-07	NV	NA	7.0E-09	2.7E-07	2.8E-07	NV	NA	7.7E-09	2.9E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.2E-12	ND	ND	1.2E-12	5.5E-14	1.2E-12	2.8E-11	1.5E-12	3.1E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	4.1E-13	2.4E-12	1.8E-10	1.0E-11	2.0E-10	3.1E-13	2.4E-12	1.4E-10	7.6E-12	1.5E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	5.4E-10	NV	6.4E-08	4.0E-09	6.9E-08	4.2E-10	NV	5.0E-08	3.1E-09	5.3E-08
Pesticides										
4,4-DDE	7.1E-13	2.9E-13	1.1E-10	1.7E-11	1.2E-10	7.1E-13	2.9E-13	1.1E-10	1.7E-11	1.2E-10
alpha-Chlordane	4.9E-12	NV	8.0E-10	1.3E-10	9.3E-10	4.9E-12	NV	8.0E-10	1.3E-10	9.3E-10
Dieldrin	3.7E-11	NV	5.5E-09	9.0E-10	6.4E-09	3.7E-11	NV	5.5E-09	9.0E-10	6.4E-09
gamma-Chlordane	5.3E-12	NV	8.6E-10	1.4E-10	1.0E-09	5.3E-12	NV	8.6E-10	1.4E-10	1.0E-09

Table AOC11-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	3.0E-10	1.1E-10	1.4E-07	7.4E-09	1.4E-07	2.6E-10	1.1E-10	1.2E-07	6.5E-09	1.2E-07
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	7.9E-09	3.4E-09	6.8E-07	1.9E-07	8.8E-07	9.1E-09	3.4E-09	7.9E-07	2.2E-07	1.0E-06
Cumulative ILCR	3E-07	4E-09	2E-06	6E-07	3E-06	3E-07	4E-09	2E-06	7E-07	3E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Arsenic	3.0E-11	NV	3.0E-11	3.0E-11	NV	3.0E-11
Chromium, Hexavalent	2.1E-10	NV	2.1E-10	2.3E-10	NV	2.3E-10
Chromium, total	NC	NC	--	NC	NC	--
Copper	NC	NC	--	NC	NC	--
Lead	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	--	NC	NC	--
Zinc	NC	NC	--	NC	NC	--
Volatile Organic Compounds						
Methyl acetate	NS	NC	--	NC	NC	--
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	ND	1.8E-12	1.8E-12	8.0E-17	1.8E-12	1.8E-12
2-Methyl naphthalene	NC	NC	--	NC	NC	--
Acenaphthene	NC	NC	--	NC	NC	--
Acenaphthylene	NC	NC	--	NC	NC	--
Anthracene	NC	NC	--	NC	NC	--
Benzo (a) anthracene	NA	NC	--	NA	NC	--
Benzo (a) pyrene	NA	NC	--	NA	NC	--
Benzo (b) fluoranthene	NA	NC	--	NA	NC	--
Benzo (ghi) perylene	NC	NC	--	NC	NC	--
Benzo (k) fluoranthene	NA	NC	--	NA	NC	--
Chrysene	NA	NC	--	NA	NC	--
Dibenzo (a,h) anthracene	NA	NC	--	NA	NC	--
Fluoranthene	NC	NC	--	NC	NC	--
Fluorene	NC	NC	--	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	--	NA	NC	--
Naphthalene	5.9E-16	3.6E-12	3.6E-12	4.4E-16	3.6E-12	3.6E-12
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
B(a)P Equivalent	4.4E-13	NV	4.4E-13	3.4E-13	NV	3.4E-13
Pesticides						
4,4-DDE	1.0E-15	4.4E-13	4.4E-13	1.0E-15	4.4E-13	4.4E-13
alpha-Chlordane	7.0E-15	NV	7.0E-15	7.0E-15	NV	7.0E-15
Dieldrin	5.3E-14	NV	5.3E-14	5.3E-14	NV	5.3E-14
gamma-Chlordane	7.6E-15	NV	7.6E-15	7.6E-15	NV	7.6E-15

Table AOC11-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Polychlorinated Biphenyls						
Total PCBs	4.4E-13	1.7E-10	1.7E-10	3.8E-13	1.7E-10	1.7E-10
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Dioxins/Furans						
TEQ Human	1.1E-11	5.2E-09	5.2E-09	1.3E-11	5.2E-09	5.2E-09
Cumulative ILCR	3E-10	5E-09	6E-09	3E-10	5E-09	6E-09

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.4a
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.3E-02	NV	3.5E-03	8.0E-03	2.4E-02	1.3E-02	NV	3.5E-03	7.9E-03	2.4E-02	1.3E-02	NV	3.5E-03	7.9E-03	2.4E-02	1.3E-02	NV	3.5E-03	8.0E-03	2.4E-02
Chromium, Hexavalent	3.0E-04	NV	NA	1.2E-04	4.2E-04	3.2E-04	NV	NA	1.3E-04	4.6E-04	8.0E-04	NV	NA	3.3E-04	1.1E-03	3.8E-04	NV	NA	1.6E-04	5.3E-04
Chromium, total	2.1E-07	NV	1.5E-06	1.0E-05	1.2E-05	2.1E-07	NV	1.5E-06	1.0E-05	1.2E-05	3.6E-07	NV	2.6E-06	1.8E-05	2.1E-05	3.5E-07	NV	2.5E-06	1.7E-05	2.0E-05
Copper	3.1E-06	NV	2.2E-05	1.5E-04	1.8E-04	3.1E-06	NV	2.2E-05	1.5E-04	1.8E-04	3.1E-06	NV	2.2E-05	1.5E-04	1.8E-04	3.0E-06	NV	2.2E-05	1.5E-04	1.7E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.2E-04	NV	7.4E-05	5.1E-04	8.0E-04	2.2E-04	NV	7.4E-05	5.1E-04	8.0E-04	3.2E-04	NV	1.1E-04	7.4E-04	1.2E-03	3.7E-04	NV	1.3E-04	8.6E-04	1.4E-03
Zinc	5.5E-06	NV	4.0E-05	2.7E-04	3.2E-04	4.3E-06	NV	3.1E-05	2.1E-04	2.5E-04	3.3E-06	NV	2.4E-05	1.6E-04	1.9E-04	2.9E-06	NV	2.1E-05	1.4E-04	1.7E-04
Volatile Organic Compounds																				
Methyl acetate	NS	3.1E-06	NS	NS	3.1E-06	6.2E-09	3.1E-06	1.1E-09	7.7E-10	3.1E-06	6.2E-09	3.1E-06	1.1E-09	7.7E-10	3.1E-06	6.2E-09	3.1E-06	1.1E-09	7.7E-10	3.1E-06
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	1.1E-07	ND	ND	1.1E-07	8.3E-10	1.1E-07	9.0E-08	4.1E-08	2.4E-07	1.3E-09	1.1E-07	1.4E-07	6.6E-08	3.2E-07	1.5E-09	1.1E-07	1.7E-07	7.6E-08	3.5E-07
2-Methyl naphthalene	7.9E-09	5.3E-07	8.6E-07	3.9E-07	1.8E-06	7.7E-09	5.3E-07	8.4E-07	3.8E-07	1.8E-06	7.7E-09	5.3E-07	8.4E-07	3.8E-07	1.8E-06	7.7E-09	5.3E-07	8.4E-07	3.8E-07	1.8E-06
Acenaphthene	1.7E-10	1.8E-09	1.8E-08	8.3E-09	2.8E-08	1.2E-10	1.8E-09	1.4E-08	6.2E-09	2.2E-08	8.2E-11	1.8E-09	8.9E-09	4.0E-09	1.5E-08	6.5E-11	1.8E-09	7.0E-09	3.2E-09	1.2E-08
Acenaphthylene	1.4E-10	NV	1.5E-08	6.9E-09	2.2E-08	1.1E-10	NV	1.2E-08	5.3E-09	1.7E-08	7.3E-11	NV	7.9E-09	3.6E-09	1.2E-08	5.9E-11	NV	6.4E-09	2.9E-09	9.4E-09
Anthracene	5.1E-12	2.3E-11	5.5E-10	2.5E-10	8.3E-10	4.3E-12	2.3E-11	4.6E-10	2.1E-10	7.0E-10	3.3E-12	2.3E-11	3.6E-10	1.6E-10	5.5E-10	2.9E-12	2.3E-11	3.2E-10	1.4E-10	4.9E-10
Benzo (a) anthracene	6.9E-08	1.7E-08	7.5E-06	3.4E-06	1.1E-05	2.8E-08	1.7E-08	3.0E-06	1.4E-06	4.5E-06	1.6E-08	1.7E-08	1.8E-06	8.0E-07	2.6E-06	1.8E-08	1.7E-08	2.0E-06	9.1E-07	2.9E-06
Benzo (a) pyrene	3.3E-03	NV	5.9E-04	2.7E-04	4.1E-03	2.5E-03	NV	4.6E-04	2.1E-04	3.2E-03	1.5E-03	NV	2.7E-04	1.2E-04	1.9E-03	9.8E-04	NV	1.8E-04	8.1E-05	1.2E-03
Benzo (b) fluoranthene	1.0E-07	NV	1.1E-05	5.2E-06	1.7E-05	7.9E-08	NV	8.6E-06	3.9E-06	1.3E-05	4.7E-08	NV	5.1E-06	2.3E-06	7.5E-06	3.1E-08	NV	3.4E-06	1.6E-06	5.0E-06
Benzo (ghi) perylene	3.3E-08	NV	3.6E-06	1.6E-06	5.2E-06	1.6E-08	NV	1.7E-06	7.9E-07	2.5E-06	1.1E-08	NV	1.2E-06	5.2E-07	1.7E-06	7.6E-09	NV	8.2E-07	3.8E-07	1.2E-06
Benzo (k) fluoranthene	2.6E-08	NV	2.9E-06	1.3E-06	4.2E-06	2.3E-08	NV	2.5E-06	1.1E-06	3.6E-06	1.5E-08	NV	1.7E-06	7.6E-07	2.5E-06	1.1E-08	NV	1.2E-06	5.4E-07	1.7E-06
Chrysene	7.1E-08	NV	7.7E-06	3.5E-06	1.1E-05	5.3E-08	NV	5.8E-06	2.6E-06	8.5E-06	3.1E-08	NV	3.3E-06	1.5E-06	4.9E-06	2.0E-08	NV	2.2E-06	9.9E-07	3.2E-06
Dibenzo (a,h) anthracene	4.3E-04	NV	7.8E-05	3.6E-05	5.5E-04	1.6E-04	NV	2.9E-05	1.3E-05	2.0E-04	2.1E-04	NV	3.9E-05	1.8E-05	2.7E-04	1.8E-04	NV	3.2E-05	1.5E-05	2.2E-04
Fluoranthene	8.5E-09	NV	9.3E-07	4.2E-07	1.4E-06	6.4E-09	NV	7.0E-07	3.2E-07	1.0E-06	3.9E-09	NV	4.2E-07	1.9E-07	6.2E-07	2.6E-09	NV	2.8E-07	1.3E-07	4.1E-07
Fluorene	2.0E-10	1.2E-09	2.2E-08	1.0E-08	3.4E-08	1.5E-10	1.2E-09	1.7E-08	7.7E-09	2.6E-08	1.1E-10	1.2E-09	1.2E-08	5.3E-09	1.8E-08	8.7E-11	1.2E-09	9.5E-09	4.3E-09	1.5E-08
Indeno (1,2,3-cd) pyrene	3.4E-08	NV	3.7E-06	1.7E-06	5.4E-06	1.4E-08	NV	1.5E-06	6.7E-07	2.2E-06	9.0E-09	NV	9.8E-07	4.5E-07	1.4E-06	6.5E-09	NV	7.1E-07	3.2E-07	1.0E-06
Naphthalene	1.2E-07	4.3E-06	1.7E-08	7.5E-09	4.4E-06	9.2E-08	4.3E-06	1.2E-08	5.7E-09	4.4E-06	6.2E-08	4.3E-06	8.4E-09	3.8E-09	4.4E-06	5.0E-08	4.3E-06	6.7E-09	3.1E-09	4.3E-06
Phenanthrene	1.8E-10	NV	1.9E-08	8.7E-09	2.8E-08	6.5E-11	NV	7.1E-09	3.2E-09	1.0E-08	3.8E-11	NV	4.2E-09	1.9E-09	6.1E-09	2.6E-11	NV	2.8E-09	1.3E-09	4.2E-09
Pyrene	1.0E-08	5.1E-09	1.1E-06	5.0E-07	1.6E-06	8.1E-09	5.1E-09	8.8E-07	4.0E-07	1.3E-06	4.8E-09	5.1E-09	5.2E-07	2.4E-07	7.7E-07	3.1E-09	5.1E-09	3.3E-07	1.5E-07	4.9E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.1E-07	2.7E-07	4.0E-06	5.5E-06	9.9E-06	1.1E-07	2.7E-07	4.0E-06	5.5E-06	9.9E-06	1.1E-07	2.7E-07	4.0E-06	5.5E-06	9.9E-06	1.1E-07	2.7E-07	4.0E-06	5.5E-06	9.9E-06
alpha-Chlordane	2.2E-06	NV	6.6E-06	9.0E-06	1.8E-05	2.2E-06	NV	6.6E-06	9.0E-06	1.8E-05	2.2E-06	NV	6.6E-06	9.0E-06	1.8E-05	2.2E-06	NV	6.6E-06	9.0E-06	1.8E-05
Dieldrin	6.1E-07	NV	2.2E-05	3.0E-05	5.3E-05	6.1E-07	NV	2.2E-05	3.0E-05	5.3E-05	6.1E-07	NV	2.2E-05	3.0E-05	5.3E-05	6.1E-07	NV	2.2E-05	3.0E-05	5.3E-05
gamma-Chlordane	6.8E-07	NV	8.6E-06	1.2E-05	2.1E-05	6.8E-07	NV	8.6E-06	1.2E-05	2.1E-05	6.8E-07	NV	8.6E-06	1.2E-05	2.1E-05	6.8E-07	NV	8.6E-06	1.2E-05	2.1E-05

Table AOC11-B1.4a
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	2.0E-04	4.5E-04	2.2E-02	1.0E-02	3.3E-02	1.8E-04	4.5E-04	1.9E-02	8.7E-03	2.8E-02	8.5E-05	4.5E-04	9.2E-03	4.2E-03	1.4E-02	5.8E-05	4.5E-04	6.3E-03	2.9E-03	9.7E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	7.1E-06	6.1E-02	8.4E-04	5.7E-04	6.3E-02	8.6E-06	6.1E-02	1.0E-03	6.9E-04	6.3E-02	3.5E-05	6.1E-02	4.1E-03	2.8E-03	6.8E-02	3.0E-05	6.1E-02	3.5E-03	2.4E-03	6.7E-02
TPH as motor oil	1.3E-05	NV	9.4E-04	6.4E-04	1.6E-03	1.4E-05	NV	1.0E-03	6.8E-04	1.7E-03	1.4E-05	NV	1.0E-03	6.9E-04	1.7E-03	1.2E-05	NV	9.0E-04	6.2E-04	1.5E-03
Dioxins/Furans																				
TEQ Human	1.6E-04	4.1E-04	1.7E-03	3.9E-03	6.2E-03	1.8E-04	4.1E-04	2.0E-03	4.5E-03	7.1E-03	2.1E-04	4.1E-04	2.3E-03	5.2E-03	8.2E-03	1.9E-04	4.1E-04	2.1E-03	4.8E-03	7.5E-03
Total Hazard Index	2E-02	6E-02	3E-02	2E-02	1E-01	2E-02	6E-02	3E-02	2E-02	1E-01	2E-02	6E-02	2E-02	2E-02	1E-01	2E-02	6E-02	2E-02	2E-02	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.4b
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	3.2E-03	NV	1.5E-01	1.7E-01	3.2E-01	3.2E-03	NV	1.5E-01	1.7E-01	3.2E-01	3.2E-03	NV	1.5E-01	1.7E-01	3.2E-01	3.2E-03	NV	1.5E-01	1.7E-01	3.3E-01
Chromium, Hexavalent	7.4E-05	NV	NA	3.1E-05	1.0E-04	8.1E-05	NV	NA	3.3E-05	1.1E-04	2.0E-04	NV	NA	8.2E-05	2.8E-04	9.4E-05	NV	NA	3.9E-05	1.3E-04
Chromium, total	5.2E-08	NV	7.5E-07	2.6E-06	3.4E-06	5.2E-08	NV	7.5E-07	2.6E-06	3.4E-06	8.9E-08	NV	1.3E-06	4.4E-06	5.8E-06	8.7E-08	NV	1.3E-06	4.3E-06	5.7E-06
Copper	7.8E-07	NV	1.1E-05	3.8E-05	5.0E-05	7.6E-07	NV	1.1E-05	3.8E-05	5.0E-05	7.7E-07	NV	1.1E-05	3.8E-05	5.0E-05	7.5E-07	NV	1.1E-05	3.7E-05	4.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.5E-05	NV	3.7E-05	1.3E-04	2.2E-04	5.5E-05	NV	3.7E-05	1.3E-04	2.2E-04	8.0E-05	NV	5.4E-05	1.9E-04	3.2E-04	9.3E-05	NV	6.3E-05	2.2E-04	3.7E-04
Zinc	1.4E-06	NV	2.0E-05	6.8E-05	8.9E-05	1.1E-06	NV	1.6E-05	5.3E-05	7.0E-05	8.3E-07	NV	1.2E-05	4.1E-05	5.4E-05	7.2E-07	NV	1.0E-05	3.6E-05	4.7E-05
Volatile Organic Compounds																				
Methyl acetate	NS	3.5E-09	NS	NS	3.5E-09	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	4.9E-09	ND	ND	4.9E-09	2.1E-10	4.9E-09	4.5E-08	1.0E-08	6.1E-08	3.3E-10	4.9E-09	7.2E-08	1.6E-08	9.4E-08	3.8E-10	4.9E-09	8.3E-08	1.9E-08	1.1E-07
2-Methyl naphthalene	2.0E-09	2.4E-08	4.3E-07	9.8E-08	5.5E-07	1.9E-09	2.4E-08	4.2E-07	9.6E-08	5.4E-07	1.9E-09	2.4E-08	4.2E-07	9.5E-08	5.4E-07	1.9E-09	2.4E-08	4.2E-07	9.6E-08	5.4E-07
Acenaphthene	4.2E-10	8.3E-10	9.1E-08	2.1E-08	1.1E-07	3.1E-10	8.3E-10	6.8E-08	1.5E-08	8.4E-08	2.0E-10	8.3E-10	4.4E-08	1.0E-08	5.6E-08	1.6E-10	8.3E-10	3.5E-08	8.0E-09	4.4E-08
Acenaphthylene	3.5E-10	NV	7.6E-08	1.7E-08	9.4E-08	2.7E-10	NV	5.8E-08	1.3E-08	7.1E-08	1.8E-10	NV	3.9E-08	9.0E-09	4.9E-08	1.5E-10	NV	3.2E-08	7.3E-09	4.0E-08
Anthracene	4.2E-11	3.5E-11	9.2E-09	2.1E-09	1.1E-08	3.6E-11	3.5E-11	7.7E-09	1.8E-09	9.5E-09	2.7E-11	3.5E-11	6.0E-09	1.4E-09	7.4E-09	2.4E-11	3.5E-11	5.3E-09	1.2E-09	6.6E-09
Benzo (a) anthracene	1.7E-08	7.9E-10	3.7E-06	8.5E-07	4.6E-06	7.0E-09	7.9E-10	1.5E-06	3.5E-07	1.9E-06	4.0E-09	7.9E-10	8.8E-07	2.0E-07	1.1E-06	4.6E-09	7.9E-10	1.0E-06	2.3E-07	1.2E-06
Benzo (a) pyrene	8.2E-04	NV	3.0E-04	6.7E-05	1.2E-03	6.3E-04	NV	2.3E-04	5.2E-05	9.2E-04	3.8E-04	NV	1.4E-04	3.1E-05	5.4E-04	2.5E-04	NV	8.9E-05	2.0E-05	3.6E-04
Benzo (b) fluoranthene	2.6E-08	NV	5.7E-06	1.3E-06	7.0E-06	2.0E-08	NV	4.3E-06	9.8E-07	5.3E-06	1.2E-08	NV	2.6E-06	5.8E-07	3.2E-06	7.8E-09	NV	1.7E-06	3.9E-07	2.1E-06
Benzo (ghi) perylene	8.2E-09	NV	1.8E-06	4.1E-07	2.2E-06	4.0E-09	NV	8.7E-07	2.0E-07	1.1E-06	2.6E-09	NV	5.8E-07	1.3E-07	7.1E-07	1.9E-09	NV	4.1E-07	9.4E-08	5.1E-07
Benzo (k) fluoranthene	6.6E-09	NV	1.4E-06	3.3E-07	1.8E-06	5.7E-09	NV	1.2E-06	2.8E-07	1.5E-06	3.9E-09	NV	8.4E-07	1.9E-07	1.0E-06	2.7E-09	NV	5.9E-07	1.4E-07	7.3E-07
Chrysene	1.8E-08	NV	3.9E-06	8.8E-07	4.7E-06	1.3E-08	NV	2.9E-06	6.6E-07	3.6E-06	7.7E-09	NV	1.7E-06	3.8E-07	2.1E-06	5.0E-09	NV	1.1E-06	2.5E-07	1.3E-06
Dibenzo (a,h) anthracene	1.1E-04	NV	3.9E-05	8.9E-06	1.6E-04	4.0E-05	NV	1.4E-05	3.3E-06	5.8E-05	5.3E-05	NV	1.9E-05	4.4E-06	7.7E-05	4.4E-05	NV	1.6E-05	3.6E-06	6.4E-05
Fluoranthene	2.1E-08	NV	4.6E-06	1.1E-06	5.7E-06	1.6E-08	NV	3.5E-06	7.9E-07	4.3E-06	9.8E-09	NV	2.1E-06	4.8E-07	2.6E-06	6.4E-09	NV	1.4E-06	3.2E-07	1.7E-06
Fluorene	5.1E-10	5.6E-10	1.1E-07	2.5E-08	1.4E-07	3.9E-10	5.6E-10	8.4E-08	1.9E-08	1.0E-07	2.7E-10	5.6E-10	5.8E-08	1.3E-08	7.2E-08	2.2E-10	5.6E-10	4.7E-08	1.1E-08	5.9E-08
Indeno (1,2,3-cd) pyrene	8.4E-09	NV	1.8E-06	4.2E-07	2.3E-06	3.4E-09	NV	7.4E-07	1.7E-07	9.1E-07	2.3E-09	NV	4.9E-07	1.1E-07	6.0E-07	1.6E-09	NV	3.5E-07	8.1E-08	4.4E-07
Naphthalene	3.0E-08	2.0E-07	2.5E-07	5.7E-08	5.3E-07	2.3E-08	2.0E-07	1.9E-07	4.3E-08	4.5E-07	1.5E-08	2.0E-07	1.3E-07	2.9E-08	3.7E-07	1.2E-08	2.0E-07	1.0E-07	2.3E-08	3.3E-07
Phenanthrene	1.5E-09	NV	3.2E-07	7.2E-08	3.9E-07	5.4E-10	NV	1.2E-07	2.7E-08	1.5E-07	3.2E-10	NV	6.9E-08	1.6E-08	8.6E-08	2.2E-10	NV	4.7E-08	1.1E-08	5.8E-08
Pyrene	2.5E-08	2.3E-09	5.5E-06	1.3E-06	6.8E-06	2.0E-08	2.3E-09	4.4E-06	1.0E-06	5.4E-06	1.2E-08	2.3E-09	2.6E-06	5.9E-07	3.2E-06	7.7E-09	2.3E-09	1.7E-06	3.8E-07	2.1E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06
alpha-Chlordane	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06
Dieldrin	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05
gamma-Chlordane	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06

Table AOC11-B1.4b
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	5.1E-05	2.1E-05	1.1E-02	2.5E-03	1.4E-02	4.4E-05	2.1E-05	9.6E-03	2.2E-03	1.2E-02	2.1E-05	2.1E-05	4.6E-03	1.1E-03	5.7E-03	1.4E-05	2.1E-05	3.1E-03	7.2E-04	3.9E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	1.8E-06	2.8E-03	4.2E-04	1.4E-04	3.4E-03	2.2E-06	2.8E-03	5.1E-04	1.7E-04	3.5E-03	8.7E-06	2.8E-03	2.0E-03	7.0E-04	5.6E-03	7.4E-06	2.8E-03	1.8E-03	6.0E-04	5.2E-03
TPH as motor oil	3.2E-06	NV	4.7E-04	1.6E-04	6.3E-04	3.4E-06	NV	5.0E-04	1.7E-04	6.7E-04	3.5E-06	NV	5.1E-04	1.7E-04	6.8E-04	3.1E-06	NV	4.5E-04	1.5E-04	6.1E-04
Dioxins/Furans																				
TEQ Human	3.9E-05	1.9E-05	2.4E-02	2.8E-02	5.2E-02	4.5E-05	1.9E-05	2.8E-02	3.2E-02	6.0E-02	5.3E-05	1.9E-05	3.3E-02	3.7E-02	7.0E-02	4.9E-05	1.9E-05	3.0E-02	3.4E-02	6.5E-02
Total Hazard Index	4E-03	3E-03	2E-01	2E-01	4E-01	4E-03	3E-03	2E-01	2E-01	4E-01	4E-03	3E-03	2E-01	2E-01	4E-01	4E-03	3E-03	2E-01	2E-01	4E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.4c
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	5.7E-06	NV	3.8E-02	4.4E-01	4.8E-01	5.7E-06	NV	5.2E-03	4.1E-02	4.7E-02	5.6E-06	NV	3.8E-02	4.4E-01	4.7E-01	5.6E-06	NV	5.2E-03	4.1E-02	4.6E-02
Chromium, Hexavalent	1.3E-07	NV	NA	7.9E-05	7.9E-05	1.3E-07	NV	NA	7.4E-06	7.5E-06	1.4E-07	NV	NA	8.6E-05	8.6E-05	1.4E-07	NV	NA	8.1E-06	8.2E-06
Chromium, total	9.1E-11	NV	1.9E-07	6.6E-06	6.8E-06	9.1E-11	NV	2.6E-08	6.2E-07	6.5E-07	9.1E-11	NV	1.9E-07	6.6E-06	6.8E-06	9.1E-11	NV	2.6E-08	6.2E-07	6.5E-07
Copper	1.4E-09	NV	2.9E-06	9.9E-05	1.0E-04	1.4E-09	NV	3.9E-07	9.3E-06	9.7E-06	1.3E-09	NV	2.8E-06	9.8E-05	1.0E-04	1.3E-09	NV	3.9E-07	9.2E-06	9.6E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.7E-08	NV	9.5E-06	3.3E-04	3.4E-04	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05	9.7E-08	NV	9.5E-06	3.3E-04	3.4E-04	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05
Zinc	2.4E-09	NV	5.1E-06	1.8E-04	1.8E-04	2.4E-09	NV	6.9E-07	1.6E-05	1.7E-05	1.9E-09	NV	4.0E-06	1.4E-04	1.4E-04	1.9E-09	NV	5.4E-07	1.3E-05	1.3E-05
Volatile Organic Compounds																				
Methyl acetate	NS	9.1E-09	NS	NS	9.1E-09	NS	9.1E-09	NS	NS	9.1E-09	6.8E-14	9.1E-09	1.4E-09	5.0E-09	1.6E-08	6.8E-14	9.1E-09	2.0E-10	4.7E-10	9.8E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	1.3E-08	ND	ND	1.3E-08	ND	1.3E-08	ND	ND	1.3E-08	3.7E-13	1.3E-08	1.2E-08	2.7E-08	5.1E-08	3.7E-13	1.3E-08	1.6E-09	2.5E-09	1.7E-08
2-Methyl naphthalene	3.5E-12	6.2E-08	1.1E-07	2.5E-07	4.3E-07	3.5E-12	6.2E-08	1.5E-08	2.4E-08	1.0E-07	3.4E-12	6.2E-08	1.1E-07	2.5E-07	4.2E-07	3.4E-12	6.2E-08	1.5E-08	2.3E-08	1.0E-07
Acenaphthene	7.4E-13	2.1E-09	2.3E-08	5.4E-08	7.9E-08	7.4E-13	2.1E-09	3.2E-09	5.0E-09	1.0E-08	5.5E-13	2.1E-09	1.7E-08	4.0E-08	5.9E-08	5.5E-13	2.1E-09	2.4E-09	3.7E-09	8.2E-09
Acenaphthylene	6.2E-13	NV	1.9E-08	4.5E-08	6.4E-08	6.2E-13	NV	2.7E-09	4.2E-09	6.9E-09	4.7E-13	NV	1.5E-08	3.4E-08	4.9E-08	4.7E-13	NV	2.0E-09	3.2E-09	5.2E-09
Anthracene	7.4E-14	9.1E-11	2.3E-09	5.4E-09	7.8E-09	7.4E-14	9.1E-11	3.2E-10	5.1E-10	9.2E-10	6.3E-14	9.1E-11	2.0E-09	4.5E-09	6.6E-09	6.3E-14	9.1E-11	2.7E-10	4.3E-10	7.9E-10
Benzo (a) anthracene	3.0E-11	2.0E-09	9.6E-07	2.2E-06	3.2E-06	3.0E-11	2.0E-09	1.3E-07	2.1E-07	3.4E-07	1.2E-11	2.0E-09	3.9E-07	8.9E-07	1.3E-06	1.2E-11	2.0E-09	5.3E-08	8.4E-08	1.4E-07
Benzo (a) pyrene	1.4E-06	NV	7.6E-05	1.7E-04	2.5E-04	1.4E-06	NV	1.0E-05	1.6E-05	2.8E-05	1.1E-06	NV	5.9E-05	1.4E-04	2.0E-04	1.1E-06	NV	8.0E-06	1.3E-05	2.2E-05
Benzo (b) fluoranthene	4.6E-11	NV	1.4E-06	3.3E-06	4.8E-06	4.6E-11	NV	2.0E-07	3.1E-07	5.1E-07	3.5E-11	NV	1.1E-06	2.5E-06	3.6E-06	3.5E-11	NV	1.5E-07	2.4E-07	3.9E-07
Benzo (ghi) perylene	1.5E-11	NV	4.6E-07	1.1E-06	1.5E-06	1.5E-11	NV	6.2E-08	9.9E-08	1.6E-07	7.0E-12	NV	2.2E-07	5.1E-07	7.3E-07	7.0E-12	NV	3.0E-08	4.8E-08	7.8E-08
Benzo (k) fluoranthene	1.2E-11	NV	3.7E-07	8.4E-07	1.2E-06	1.2E-11	NV	5.0E-08	7.9E-08	1.3E-07	1.0E-11	NV	3.2E-07	7.3E-07	1.0E-06	1.0E-11	NV	4.3E-08	6.9E-08	1.1E-07
Chrysene	3.1E-11	NV	9.9E-07	2.3E-06	3.3E-06	3.1E-11	NV	1.3E-07	2.1E-07	3.5E-07	2.4E-11	NV	7.4E-07	1.7E-06	2.4E-06	2.4E-11	NV	1.0E-07	1.6E-07	2.6E-07
Dibenzo (a,h) anthracene	1.9E-07	NV	1.0E-05	2.3E-05	3.3E-05	1.9E-07	NV	1.4E-06	2.2E-06	3.7E-06	7.0E-08	NV	3.7E-06	8.5E-06	1.2E-05	7.0E-08	NV	5.0E-07	8.0E-07	1.4E-06
Fluoranthene	3.8E-11	NV	1.2E-06	2.7E-06	3.9E-06	3.8E-11	NV	1.6E-07	2.6E-07	4.2E-07	2.8E-11	NV	8.9E-07	2.1E-06	2.9E-06	2.8E-11	NV	1.2E-07	1.9E-07	3.1E-07
Fluorene	9.0E-13	1.4E-09	2.8E-08	6.5E-08	9.5E-08	9.0E-13	1.4E-09	3.9E-09	6.1E-09	1.1E-08	6.8E-13	1.4E-09	2.2E-08	5.0E-08	7.3E-08	6.8E-13	1.4E-09	2.9E-09	4.6E-09	9.0E-09
Indeno (1,2,3-cd) pyrene	1.5E-11	NV	4.7E-07	1.1E-06	1.6E-06	1.5E-11	NV	6.4E-08	1.0E-07	1.7E-07	6.0E-12	NV	1.9E-07	4.3E-07	6.2E-07	6.0E-12	NV	2.6E-08	4.1E-08	6.6E-08
Naphthalene	5.4E-11	5.0E-07	6.4E-08	1.5E-07	7.1E-07	5.4E-11	5.0E-07	8.7E-09	1.4E-08	5.3E-07	4.0E-11	5.0E-07	4.8E-08	1.1E-07	6.6E-07	4.0E-11	5.0E-07	6.5E-09	1.0E-08	5.2E-07
Phenanthrene	2.6E-12	NV	8.1E-08	1.9E-07	2.7E-07	2.6E-12	NV	1.1E-08	1.8E-08	2.9E-08	9.6E-13	NV	3.0E-08	7.0E-08	1.0E-07	9.6E-13	NV	4.1E-09	6.5E-09	1.1E-08
Pyrene	4.5E-11	6.0E-09	1.4E-06	3.2E-06	4.6E-06	4.5E-11	6.0E-09	1.9E-07	3.0E-07	5.0E-07	3.6E-11	6.0E-09	1.1E-06	2.6E-06	3.7E-06	3.6E-11	6.0E-09	1.5E-07	2.4E-07	4.0E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	8.2E-11	5.4E-08	8.6E-07	5.9E-06	6.9E-06	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07	8.2E-11	5.4E-08	8.6E-07	5.9E-06	6.9E-06	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07
alpha-Chlordane	2.8E-10	NV	1.0E-06	7.0E-06	8.0E-06	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07	2.8E-10	NV	1.0E-06	7.0E-06	8.0E-06	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07
Dieldrin	5.4E-10	NV	5.7E-06	3.9E-05	4.5E-05	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06	5.4E-10	NV	5.7E-06	3.9E-05	4.5E-05	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06
gamma-Chlordane	3.0E-10	NV	1.1E-06	7.6E-06	8.7E-06	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07	3.0E-10	NV	1.1E-06	7.6E-06	8.7E-06	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07

Table AOC11-B1.4c
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	8.9E-08	5.3E-05	2.8E-03	6.5E-03	9.4E-03	8.9E-08	5.3E-05	3.9E-04	6.1E-04	1.0E-03	7.8E-08	5.3E-05	2.5E-03	5.6E-03	8.1E-03	7.8E-08	5.3E-05	3.3E-04	5.3E-04	9.2E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	3.1E-09	7.2E-03	1.1E-04	3.7E-04	7.7E-03	3.1E-09	7.2E-03	1.5E-05	3.5E-05	7.3E-03	3.8E-09	7.2E-03	1.3E-04	4.5E-04	7.8E-03	3.8E-09	7.2E-03	1.8E-05	4.2E-05	7.3E-03
TPH as motor oil	5.7E-09	NV	1.2E-04	4.1E-04	5.3E-04	5.7E-09	NV	1.6E-05	3.9E-05	5.5E-05	6.1E-09	NV	1.3E-04	4.4E-04	5.7E-04	6.1E-09	NV	1.7E-05	4.1E-05	5.9E-05
Dioxins/Furans																				
TEQ Human	6.9E-08	4.8E-05	6.2E-03	7.2E-02	7.8E-02	6.9E-08	4.8E-05	8.5E-04	6.7E-03	7.6E-03	8.0E-08	4.8E-05	7.2E-03	8.3E-02	9.0E-02	8.0E-08	4.8E-05	9.9E-04	7.8E-03	8.8E-03
Total Hazard Index	8E-06	7E-03	5E-02	5E-01	6E-01	8E-06	7E-03	7E-03	5E-02	6E-02	7E-06	7E-03	5E-02	5E-01	6E-01	7E-06	7E-03	7E-03	5E-02	6E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.4d
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.1E-05	NV	7.7E-02	8.8E-01	9.6E-01	1.1E-05	NV	1.0E-02	8.3E-02	9.3E-02	1.1E-05	NV	7.6E-02	8.7E-01	9.5E-01	1.1E-05	NV	1.0E-02	8.2E-02	9.2E-02
Chromium, Hexavalent	2.6E-07	NV	NA	1.6E-04	1.6E-04	2.6E-07	NV	NA	1.5E-05	1.5E-05	2.8E-07	NV	NA	1.7E-04	1.7E-04	2.8E-07	NV	NA	1.6E-05	1.6E-05
Chromium, total	1.8E-10	NV	3.8E-07	1.3E-05	1.4E-05	1.8E-10	NV	5.2E-08	1.2E-06	1.3E-06	1.8E-10	NV	3.8E-07	1.3E-05	1.4E-05	1.8E-10	NV	5.2E-08	1.2E-06	1.3E-06
Copper	2.7E-09	NV	5.8E-06	2.0E-04	2.0E-04	2.7E-09	NV	7.9E-07	1.9E-05	1.9E-05	2.7E-09	NV	5.7E-06	2.0E-04	2.0E-04	2.7E-09	NV	7.8E-07	1.8E-05	1.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-07	NV	1.9E-05	6.6E-04	6.8E-04	1.9E-07	NV	2.6E-06	6.2E-05	6.4E-05	1.9E-07	NV	1.9E-05	6.6E-04	6.8E-04	1.9E-07	NV	2.6E-06	6.2E-05	6.4E-05
Zinc	4.8E-09	NV	1.0E-05	3.5E-04	3.6E-04	4.8E-09	NV	1.4E-06	3.3E-05	3.4E-05	3.8E-09	NV	8.0E-06	2.7E-04	2.8E-04	3.8E-09	NV	1.1E-06	2.6E-05	2.7E-05
Volatile Organic Compounds																				
Methyl acetate	NS	1.8E-08	NS	NS	1.8E-08	NS	1.8E-08	NS	NS	1.8E-08	1.4E-13	1.8E-08	2.9E-09	9.9E-09	3.1E-08	1.4E-13	1.8E-08	3.9E-10	9.3E-10	2.0E-08
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	2.5E-08	ND	ND	2.5E-08	ND	2.5E-08	ND	ND	2.5E-08	7.3E-13	2.5E-08	2.3E-08	5.3E-08	1.0E-07	7.3E-13	2.5E-08	3.2E-09	5.0E-09	3.4E-08
2-Methyl naphthalene	7.0E-12	1.2E-07	2.2E-07	5.1E-07	8.5E-07	7.0E-12	1.2E-07	3.0E-08	4.8E-08	2.0E-07	6.8E-12	1.2E-07	2.2E-07	5.0E-07	8.4E-07	6.8E-12	1.2E-07	2.9E-08	4.6E-08	2.0E-07
Acenaphthene	1.5E-12	4.3E-09	4.7E-08	1.1E-07	1.6E-07	1.5E-12	4.3E-09	6.4E-09	1.0E-08	2.1E-08	1.1E-12	4.3E-09	3.5E-08	8.0E-08	1.2E-07	1.1E-12	4.3E-09	4.7E-09	7.5E-09	1.6E-08
Acenaphthylene	1.2E-12	NV	3.9E-08	9.0E-08	1.3E-07	1.2E-12	NV	5.3E-09	8.4E-09	1.4E-08	9.4E-13	NV	3.0E-08	6.8E-08	9.8E-08	9.4E-13	NV	4.0E-09	6.4E-09	1.0E-08
Anthracene	1.5E-13	1.8E-10	4.7E-09	1.1E-08	1.6E-08	1.5E-13	1.8E-10	6.4E-10	1.0E-09	1.8E-09	1.3E-13	1.8E-10	4.0E-09	9.1E-09	1.3E-08	1.3E-13	1.8E-10	5.4E-10	8.5E-10	1.6E-09
Benzo (a) anthracene	6.1E-11	4.1E-09	1.9E-06	4.4E-06	6.3E-06	6.1E-11	4.1E-09	2.6E-07	4.1E-07	6.8E-07	2.5E-11	4.1E-09	7.8E-07	1.8E-06	2.6E-06	2.5E-11	4.1E-09	1.1E-07	1.7E-07	2.8E-07
Benzo (a) pyrene	2.9E-06	NV	1.5E-04	3.5E-04	5.0E-04	2.9E-06	NV	2.1E-05	3.3E-05	5.6E-05	2.2E-06	NV	1.2E-04	2.7E-04	3.9E-04	2.2E-06	NV	1.6E-05	2.5E-05	4.4E-05
Benzo (b) fluoranthene	9.2E-11	NV	2.9E-06	6.7E-06	9.6E-06	9.2E-11	NV	4.0E-07	6.2E-07	1.0E-06	7.0E-11	NV	2.2E-06	5.1E-06	7.3E-06	7.0E-11	NV	3.0E-07	4.7E-07	7.8E-07
Benzo (ghi) perylene	2.9E-11	NV	9.2E-07	2.1E-06	3.0E-06	2.9E-11	NV	1.2E-07	2.0E-07	3.2E-07	1.4E-11	NV	4.4E-07	1.0E-06	1.5E-06	1.4E-11	NV	6.1E-08	9.6E-08	1.6E-07
Benzo (k) fluoranthene	2.3E-11	NV	7.3E-07	1.7E-06	2.4E-06	2.3E-11	NV	1.0E-07	1.6E-07	2.6E-07	2.0E-11	NV	6.4E-07	1.5E-06	2.1E-06	2.0E-11	NV	8.7E-08	1.4E-07	2.2E-07
Chrysene	6.3E-11	NV	2.0E-06	4.5E-06	6.5E-06	6.3E-11	NV	2.7E-07	4.3E-07	7.0E-07	4.7E-11	NV	1.5E-06	3.4E-06	4.9E-06	4.7E-11	NV	2.0E-07	3.2E-07	5.2E-07
Dibenzo (a,h) anthracene	3.8E-07	NV	2.0E-05	4.6E-05	6.7E-05	3.8E-07	NV	2.7E-06	4.3E-06	7.5E-06	1.4E-07	NV	7.4E-06	1.7E-05	2.5E-05	1.4E-07	NV	1.0E-06	1.6E-06	2.7E-06
Fluoranthene	7.5E-11	NV	2.4E-06	5.5E-06	7.8E-06	7.5E-11	NV	3.2E-07	5.1E-07	8.4E-07	5.7E-11	NV	1.8E-06	4.1E-06	5.9E-06	5.7E-11	NV	2.4E-07	3.8E-07	6.3E-07
Fluorene	1.8E-12	2.9E-09	5.7E-08	1.3E-07	1.9E-07	1.8E-12	2.9E-09	7.7E-09	1.2E-08	2.3E-08	1.4E-12	2.9E-09	4.3E-08	9.9E-08	1.5E-07	1.4E-12	2.9E-09	5.9E-09	9.3E-09	1.8E-08
Indeno (1,2,3-cd) pyrene	3.0E-11	NV	9.4E-07	2.2E-06	3.1E-06	3.0E-11	NV	1.3E-07	2.0E-07	3.3E-07	1.2E-11	NV	3.8E-07	8.7E-07	1.2E-06	1.2E-11	NV	5.1E-08	8.1E-08	1.3E-07
Naphthalene	1.1E-10	1.0E-06	1.3E-07	2.9E-07	1.4E-06	1.1E-10	1.0E-06	1.7E-08	2.7E-08	1.1E-06	8.1E-11	1.0E-06	9.6E-08	2.2E-07	1.3E-06	8.1E-11	1.0E-06	1.3E-08	2.1E-08	1.0E-06
Phenanthrene	5.2E-12	NV	1.6E-07	3.7E-07	5.4E-07	5.2E-12	NV	2.2E-08	3.5E-08	5.7E-08	1.9E-12	NV	6.1E-08	1.4E-07	2.0E-07	1.9E-12	NV	8.3E-09	1.3E-08	2.1E-08
Pyrene	8.9E-11	1.2E-08	2.8E-06	6.5E-06	9.3E-06	8.9E-11	1.2E-08	3.8E-07	6.1E-07	1.0E-06	7.1E-11	1.2E-08	2.2E-06	5.2E-06	7.4E-06	7.1E-11	1.2E-08	3.1E-07	4.8E-07	8.0E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.6E-10	1.1E-07	1.7E-06	1.2E-05	1.4E-05	1.6E-10	1.1E-07	2.4E-07	1.1E-06	1.5E-06	1.6E-10	1.1E-07	1.7E-06	1.2E-05	1.4E-05	1.6E-10	1.1E-07	2.4E-07	1.1E-06	1.5E-06
alpha-Chlordane	5.5E-10	NV	2.0E-06	1.4E-05	1.6E-05	5.5E-10	NV	2.8E-07	1.3E-06	1.6E-06	5.5E-10	NV	2.0E-06	1.4E-05	1.6E-05	5.5E-10	NV	2.8E-07	1.3E-06	1.6E-06
Dieldrin	1.1E-09	NV	1.1E-05	7.8E-05	9.0E-05	1.1E-09	NV	1.6E-06	7.3E-06	8.9E-06	1.1E-09	NV	1.1E-05	7.8E-05	9.0E-05	1.1E-09	NV	1.6E-06	7.3E-06	8.9E-06
gamma-Chlordane	6.0E-10	NV	2.2E-06	1.5E-05	1.7E-05	6.0E-10	NV	3.0E-07	1.4E-06	1.7E-06	6.0E-10	NV	2.2E-06	1.5E-05	1.7E-05	6.0E-10	NV	3.0E-07	1.4E-06	1.7E-06

Table AOC11-B1.4d
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	1.8E-07	1.1E-04	5.6E-03	1.3E-02	1.9E-02	1.8E-07	1.1E-04	7.7E-04	1.2E-03	2.1E-03	1.6E-07	1.1E-04	4.9E-03	1.1E-02	1.6E-02	1.6E-07	1.1E-04	6.7E-04	1.1E-03	1.8E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	6.3E-09	1.4E-02	2.1E-04	7.4E-04	1.5E-02	6.3E-09	1.4E-02	2.9E-05	6.9E-05	1.5E-02	7.6E-09	1.4E-02	2.6E-04	9.0E-04	1.6E-02	7.6E-09	1.4E-02	3.6E-05	8.4E-05	1.5E-02
TPH as motor oil	1.1E-08	NV	2.4E-04	8.3E-04	1.1E-03	1.1E-08	NV	3.3E-05	7.8E-05	1.1E-04	1.2E-08	NV	2.6E-04	8.8E-04	1.1E-03	1.2E-08	NV	3.5E-05	8.3E-05	1.2E-04
Dioxins/Furans																				
TEQ Human	1.4E-07	9.7E-05	1.2E-02	1.4E-01	1.6E-01	1.4E-07	9.7E-05	1.7E-03	1.3E-02	1.5E-02	1.6E-07	9.7E-05	1.4E-02	1.7E-01	1.8E-01	1.6E-07	9.7E-05	2.0E-03	1.6E-02	1.8E-02
Total Hazard Index	2E-05	1E-02	1E-01	1E+00	1E+00	2E-05	1E-02	1E-02	1E-01	1E-01	1E-05	1E-02	1E-01	1E+00	1E+00	1E-05	1E-02	1E-02	1E-01	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.4e
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Arsenic	5.7E-06	NV	5.2E-03	4.1E-02	4.7E-02	5.6E-06	NV	5.2E-03	4.1E-02	4.6E-02
Chromium, Hexavalent	1.3E-07	NV	NA	7.4E-06	7.5E-06	1.4E-07	NV	NA	8.1E-06	8.2E-06
Chromium, total	9.1E-11	NV	2.6E-08	6.2E-07	6.5E-07	9.1E-11	NV	2.6E-08	6.2E-07	6.5E-07
Copper	1.4E-09	NV	3.9E-07	9.3E-06	9.7E-06	1.3E-09	NV	3.9E-07	9.2E-06	9.6E-06
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05
Zinc	2.4E-09	NV	6.9E-07	1.6E-05	1.7E-05	1.9E-09	NV	5.4E-07	1.3E-05	1.3E-05
Volatile Organic Compounds										
Methyl acetate	NS	9.1E-09	NS	NS	9.1E-09	6.8E-14	9.1E-09	2.0E-10	4.7E-10	9.8E-09
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.3E-08	ND	ND	1.3E-08	3.7E-13	1.3E-08	1.6E-09	2.5E-09	1.7E-08
2-Methyl naphthalene	3.5E-12	6.2E-08	1.5E-08	2.4E-08	1.0E-07	3.4E-12	6.2E-08	1.5E-08	2.3E-08	1.0E-07
Acenaphthene	7.4E-13	2.1E-09	3.2E-09	5.0E-09	1.0E-08	5.5E-13	2.1E-09	2.4E-09	3.7E-09	8.2E-09
Acenaphthylene	6.2E-13	NV	2.7E-09	4.2E-09	6.9E-09	4.7E-13	NV	2.0E-09	3.2E-09	5.2E-09
Anthracene	7.4E-14	9.1E-11	3.2E-10	5.1E-10	9.2E-10	6.3E-14	9.1E-11	2.7E-10	4.3E-10	7.9E-10
Benzo (a) anthracene	3.0E-11	2.0E-09	1.3E-07	2.1E-07	3.4E-07	1.2E-11	2.0E-09	5.3E-08	8.4E-08	1.4E-07
Benzo (a) pyrene	1.4E-06	NV	1.0E-05	1.6E-05	2.8E-05	1.1E-06	NV	8.0E-06	1.3E-05	2.2E-05
Benzo (b) fluoranthene	4.6E-11	NV	2.0E-07	3.1E-07	5.1E-07	3.5E-11	NV	1.5E-07	2.4E-07	3.9E-07
Benzo (ghi) perylene	1.5E-11	NV	6.2E-08	9.9E-08	1.6E-07	7.0E-12	NV	3.0E-08	4.8E-08	7.8E-08
Benzo (k) fluoranthene	1.2E-11	NV	5.0E-08	7.9E-08	1.3E-07	1.0E-11	NV	4.3E-08	6.9E-08	1.1E-07
Chrysene	3.1E-11	NV	1.3E-07	2.1E-07	3.5E-07	2.4E-11	NV	1.0E-07	1.6E-07	2.6E-07
Dibenzo (a,h) anthracene	1.9E-07	NV	1.4E-06	2.2E-06	3.7E-06	7.0E-08	NV	5.0E-07	8.0E-07	1.4E-06
Fluoranthene	3.8E-11	NV	1.6E-07	2.6E-07	4.2E-07	2.8E-11	NV	1.2E-07	1.9E-07	3.1E-07
Fluorene	9.0E-13	1.4E-09	3.9E-09	6.1E-09	1.1E-08	6.8E-13	1.4E-09	2.9E-09	4.6E-09	9.0E-09
Indeno (1,2,3-cd) pyrene	1.5E-11	NV	6.4E-08	1.0E-07	1.7E-07	6.0E-12	NV	2.6E-08	4.1E-08	6.6E-08
Naphthalene	5.4E-11	5.0E-07	8.7E-09	1.4E-08	5.3E-07	4.0E-11	5.0E-07	6.5E-09	1.0E-08	5.2E-07
Phenanthrene	2.6E-12	NV	1.1E-08	1.8E-08	2.9E-08	9.6E-13	NV	4.1E-09	6.5E-09	1.1E-08
Pyrene	4.5E-11	6.0E-09	1.9E-07	3.0E-07	5.0E-07	3.6E-11	6.0E-09	1.5E-07	2.4E-07	4.0E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides										
4,4-DDE	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07
alpha-Chlordane	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07
Dieldrin	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06
gamma-Chlordane	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07

Table AOC11-B1.4e
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls										
Total PCBs	8.9E-08	5.3E-05	3.9E-04	6.1E-04	1.0E-03	7.8E-08	5.3E-05	3.3E-04	5.3E-04	9.2E-04
Total Petroleum Hydrocarbons										
TPH as diesel	3.1E-09	7.2E-03	1.5E-05	3.5E-05	7.3E-03	3.8E-09	7.2E-03	1.8E-05	4.2E-05	7.3E-03
TPH as motor oil	5.7E-09	NV	1.6E-05	3.9E-05	5.5E-05	6.1E-09	NV	1.7E-05	4.1E-05	5.9E-05
Dioxins/Furans										
TEQ Human	6.9E-08	4.8E-05	8.5E-04	6.7E-03	7.6E-03	8.0E-08	4.8E-05	9.9E-04	7.8E-03	8.8E-03
Total Hazard Index	8E-06	7E-03	7E-03	5E-02	6E-02	7E-06	7E-03	7E-03	5E-02	6E-02

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.4f
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.1E-03	NV	1.4E-01	6.2E-02	2.0E-01	1.1E-03	NV	1.2E-01	2.6E-02	1.5E-01	1.1E-03	NV	1.4E-01	6.1E-02	2.0E-01	1.1E-03	NV	1.2E-01	2.5E-02	1.4E-01
Chromium, Hexavalent	2.6E-05	NV	NA	1.1E-05	3.7E-05	2.6E-05	NV	NA	4.6E-06	3.1E-05	2.9E-05	NV	NA	1.2E-05	4.1E-05	2.9E-05	NV	NA	5.0E-06	3.4E-05
Chromium, total	1.8E-08	NV	7.0E-07	9.3E-07	1.6E-06	1.8E-08	NV	6.0E-07	3.8E-07	1.0E-06	1.8E-08	NV	7.0E-07	9.3E-07	1.6E-06	1.8E-08	NV	6.0E-07	3.8E-07	1.0E-06
Copper	2.7E-07	NV	1.0E-05	1.4E-05	2.5E-05	2.7E-07	NV	9.0E-06	5.8E-06	1.5E-05	2.7E-07	NV	1.0E-05	1.4E-05	2.4E-05	2.7E-07	NV	8.9E-06	5.7E-06	1.5E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-05	NV	3.5E-05	4.6E-05	1.0E-04	1.9E-05	NV	3.0E-05	1.9E-05	6.8E-05	1.9E-05	NV	3.5E-05	4.6E-05	1.0E-04	1.9E-05	NV	3.0E-05	1.9E-05	6.8E-05
Zinc	4.9E-07	NV	1.8E-05	2.5E-05	4.4E-05	4.9E-07	NV	1.6E-05	1.0E-05	2.7E-05	3.8E-07	NV	1.4E-05	1.9E-05	3.4E-05	3.8E-07	NV	1.2E-05	8.0E-06	2.1E-05
Volatile Organic Compounds																				
Methyl acetate	NS	1.1E-09	NS	NS	1.1E-09	NS	1.1E-09	NS	NS	1.1E-09	1.4E-11	1.1E-09	5.2E-09	7.0E-10	7.1E-09	1.4E-11	1.1E-09	4.5E-09	2.9E-10	5.9E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	1.6E-09	ND	ND	1.6E-09	ND	1.6E-09	ND	ND	1.6E-09	7.4E-11	1.6E-09	4.2E-08	3.7E-09	4.7E-08	7.4E-11	1.6E-09	3.6E-08	1.5E-09	3.9E-08
2-Methyl naphthalene	7.0E-10	7.8E-09	4.0E-07	3.6E-08	4.5E-07	7.0E-10	7.8E-09	3.4E-07	1.5E-08	3.7E-07	6.9E-10	7.8E-09	3.9E-07	3.5E-08	4.4E-07	6.9E-10	7.8E-09	3.4E-07	1.4E-08	3.6E-07
Acenaphthene	1.5E-10	2.7E-10	8.5E-08	7.5E-09	9.3E-08	1.5E-10	2.7E-10	7.3E-08	3.1E-09	7.6E-08	1.1E-10	2.7E-10	6.3E-08	5.6E-09	6.9E-08	1.1E-10	2.7E-10	5.4E-08	2.3E-09	5.7E-08
Acenaphthylene	1.2E-10	NV	7.1E-08	6.3E-09	7.7E-08	1.2E-10	NV	6.1E-08	2.6E-09	6.4E-08	9.4E-11	NV	5.4E-08	4.8E-09	5.9E-08	9.4E-11	NV	4.6E-08	2.0E-09	4.8E-08
Anthracene	1.5E-11	1.1E-11	8.5E-09	7.6E-10	9.3E-09	1.5E-11	1.1E-11	7.3E-09	3.1E-10	7.7E-09	1.3E-11	1.1E-11	7.2E-09	6.4E-10	7.9E-09	1.3E-11	1.1E-11	6.2E-09	2.6E-10	6.5E-09
Benzo (a) anthracene	6.1E-09	2.5E-10	3.5E-06	3.1E-07	3.8E-06	6.1E-09	2.5E-10	3.0E-06	1.3E-07	3.1E-06	2.5E-09	2.5E-10	1.4E-06	1.3E-07	1.5E-06	2.5E-09	2.5E-10	1.2E-06	5.2E-08	1.3E-06
Benzo (a) pyrene	2.9E-04	NV	2.8E-04	2.5E-05	5.9E-04	2.9E-04	NV	2.4E-04	1.0E-05	5.4E-04	2.2E-04	NV	2.1E-04	1.9E-05	4.6E-04	2.2E-04	NV	1.8E-04	7.9E-06	4.2E-04
Benzo (b) fluoranthene	9.2E-09	NV	5.3E-06	4.7E-07	5.7E-06	9.2E-09	NV	4.5E-06	1.9E-07	4.7E-06	7.0E-09	NV	4.0E-06	3.6E-07	4.4E-06	7.0E-09	NV	3.4E-06	1.5E-07	3.6E-06
Benzo (ghi) perylene	2.9E-09	NV	1.7E-06	1.5E-07	1.8E-06	2.9E-09	NV	1.4E-06	6.1E-08	1.5E-06	1.4E-09	NV	8.1E-07	7.2E-08	8.8E-07	1.4E-09	NV	6.9E-07	3.0E-08	7.2E-07
Benzo (k) fluoranthene	2.3E-09	NV	1.3E-06	1.2E-07	1.5E-06	2.3E-09	NV	1.1E-06	4.9E-08	1.2E-06	2.0E-09	NV	1.2E-06	1.0E-07	1.3E-06	2.0E-09	NV	9.9E-07	4.2E-08	1.0E-06
Chrysene	6.3E-09	NV	3.6E-06	3.2E-07	3.9E-06	6.3E-09	NV	3.1E-06	1.3E-07	3.2E-06	4.7E-09	NV	2.7E-06	2.4E-07	2.9E-06	4.7E-09	NV	2.3E-06	9.9E-08	2.4E-06
Dibenzo (a,h) anthracene	3.8E-05	NV	3.7E-05	3.2E-06	7.8E-05	3.8E-05	NV	3.1E-05	1.3E-06	7.1E-05	1.4E-05	NV	1.3E-05	1.2E-06	2.9E-05	1.4E-05	NV	1.2E-05	4.9E-07	2.6E-05
Fluoranthene	7.6E-09	NV	4.3E-06	3.8E-07	4.7E-06	7.6E-09	NV	3.7E-06	1.6E-07	3.9E-06	5.7E-09	NV	3.2E-06	2.9E-07	3.5E-06	5.7E-09	NV	2.8E-06	1.2E-07	2.9E-06
Fluorene	1.8E-10	1.8E-10	1.0E-07	9.1E-09	1.1E-07	1.8E-10	1.8E-10	8.8E-08	3.8E-09	9.2E-08	1.4E-10	1.8E-10	7.8E-08	7.0E-09	8.6E-08	1.4E-10	1.8E-10	6.7E-08	2.9E-09	7.0E-08
Indeno (1,2,3-cd) pyrene	3.0E-09	NV	1.7E-06	1.5E-07	1.9E-06	3.0E-09	NV	1.5E-06	6.3E-08	1.5E-06	1.2E-09	NV	6.9E-07	6.1E-08	7.5E-07	1.2E-09	NV	5.9E-07	2.5E-08	6.1E-07
Naphthalene	1.1E-08	6.3E-08	2.3E-07	2.1E-08	3.3E-07	1.1E-08	6.3E-08	2.0E-07	8.5E-09	2.8E-07	8.1E-09	6.3E-08	1.7E-07	1.5E-08	2.6E-07	8.1E-09	6.3E-08	1.5E-07	6.4E-09	2.3E-07
Phenanthrene	5.2E-10	NV	3.0E-07	2.6E-08	3.2E-07	5.2E-10	NV	2.5E-07	1.1E-08	2.7E-07	1.9E-10	NV	1.1E-07	9.8E-09	1.2E-07	1.9E-10	NV	9.5E-08	4.0E-09	9.9E-08
Pyrene	8.9E-09	7.5E-10	5.1E-06	4.5E-07	5.6E-06	8.9E-09	7.5E-10	4.4E-06	1.9E-07	4.6E-06	7.1E-09	7.5E-10	4.1E-06	3.6E-07	4.5E-06	7.1E-09	7.5E-10	3.5E-06	1.5E-07	3.7E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.6E-08	6.7E-09	3.1E-06	8.4E-07	4.0E-06	1.6E-08	6.7E-09	2.7E-06	3.4E-07	3.1E-06	1.6E-08	6.7E-09	3.1E-06	8.4E-07	4.0E-06	1.6E-08	6.7E-09	2.7E-06	3.4E-07	3.1E-06
alpha-Chlordane	5.5E-08	NV	3.7E-06	9.9E-07	4.7E-06	5.5E-08	NV	3.2E-06	4.1E-07	3.6E-06	5.5E-08	NV	3.7E-06	9.9E-07	4.7E-06	5.5E-08	NV	3.2E-06	4.1E-07	3.6E-06
Dieldrin	1.1E-07	NV	2.1E-05	5.5E-06	2.6E-05	1.1E-07	NV	1.8E-05	2.3E-06	2.0E-05	1.1E-07	NV	2.1E-05	5.5E-06	2.6E-05	1.1E-07	NV	1.8E-05	2.3E-06	2.0E-05
gamma-Chlordane	6.0E-08	NV	4.0E-06	1.1E-06	5.1E-06	6.0E-08	NV	3.4E-06	4.4E-07	3.9E-06	6.0E-08	NV	4.0E-06	1.1E-06	5.1E-06	6.0E-08	NV	3.4E-06	4.4E-07	3.9E-06

Table AOC11-B1.4f
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	1.8E-05	6.6E-06	1.0E-02	9.1E-04	1.1E-02	1.8E-05	6.6E-06	8.8E-03	3.8E-04	9.2E-03	1.6E-05	6.6E-06	8.9E-03	7.9E-04	9.7E-03	1.6E-05	6.6E-06	7.7E-03	3.3E-04	8.0E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	6.3E-07	9.0E-04	3.9E-04	5.2E-05	1.3E-03	6.3E-07	9.0E-04	3.3E-04	2.1E-05	1.3E-03	7.6E-07	9.0E-04	4.7E-04	6.3E-05	1.4E-03	7.6E-07	9.0E-04	4.1E-04	2.6E-05	1.3E-03
TPH as motor oil	1.1E-06	NV	4.4E-04	5.8E-05	5.0E-04	1.1E-06	NV	3.7E-04	2.4E-05	4.0E-04	1.2E-06	NV	4.6E-04	6.2E-05	5.3E-04	1.2E-06	NV	4.0E-04	2.6E-05	4.2E-04
Dioxins/Furans																				
TEQ Human	1.4E-05	6.0E-06	2.3E-02	1.0E-02	3.3E-02	1.4E-05	6.0E-06	1.9E-02	4.2E-03	2.4E-02	1.6E-05	6.0E-06	2.6E-02	1.2E-02	3.8E-02	1.6E-05	6.0E-06	2.3E-02	4.8E-03	2.7E-02
Total Hazard Index	2E-03	9E-04	2E-01	7E-02	2E-01	2E-03	9E-04	1E-01	3E-02	2E-01	1E-03	9E-04	2E-01	7E-02	3E-01	1E-03	9E-04	1E-01	3E-02	2E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B1.4g
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Arsenic	7.1E-07	NV	7.1E-07	7.0E-07	NV	7.0E-07
Chromium, Hexavalent	1.6E-08	NV	1.6E-08	1.8E-08	NV	1.8E-08
Chromium, total	1.1E-11	NV	1.1E-11	1.1E-11	NV	1.1E-11
Copper	1.7E-10	NV	1.7E-10	1.7E-10	NV	1.7E-10
Lead	na	na	na	na	na	na
Mercury (inorganic)	1.2E-08	NV	1.2E-08	1.2E-08	NV	1.2E-08
Zinc	3.0E-10	NV	3.0E-10	2.4E-10	NV	2.4E-10
Volatile Organic Compounds						
Methyl acetate	NS	7.5E-10	7.5E-10	8.6E-15	7.5E-10	7.5E-10
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	ND	1.0E-09	1.0E-09	4.6E-14	1.0E-09	1.0E-09
2-Methyl naphthalene	4.4E-13	5.1E-09	5.1E-09	4.3E-13	5.1E-09	5.1E-09
Acenaphthene	9.2E-14	1.8E-10	1.8E-10	6.9E-14	1.8E-10	1.8E-10
Acenaphthylene	7.7E-14	NV	7.7E-14	5.9E-14	NV	5.9E-14
Anthracene	9.3E-15	7.5E-12	7.5E-12	7.8E-15	7.5E-12	7.5E-12
Benzo (a) anthracene	3.8E-12	1.7E-10	1.7E-10	1.5E-12	1.7E-10	1.7E-10
Benzo (a) pyrene	1.8E-07	NV	1.8E-07	1.4E-07	NV	1.4E-07
Benzo (b) fluoranthene	5.7E-12	NV	5.7E-12	4.4E-12	NV	4.4E-12
Benzo (ghi) perylene	1.8E-12	NV	1.8E-12	8.8E-13	NV	8.8E-13
Benzo (k) fluoranthene	1.5E-12	NV	1.5E-12	1.3E-12	NV	1.3E-12
Chrysene	3.9E-12	NV	3.9E-12	2.9E-12	NV	2.9E-12
Dibenzo (a,h) anthracene	2.4E-08	NV	2.4E-08	8.8E-09	NV	8.8E-09
Fluoranthene	4.7E-12	NV	4.7E-12	3.5E-12	NV	3.5E-12
Fluorene	1.1E-13	1.2E-10	1.2E-10	8.5E-14	1.2E-10	1.2E-10
Indeno (1,2,3-cd) pyrene	1.9E-12	NV	1.9E-12	7.5E-13	NV	7.5E-13
Naphthalene	6.7E-12	4.1E-08	4.1E-08	5.1E-12	4.1E-08	4.1E-08
Phenanthrene	3.2E-13	NV	3.2E-13	1.2E-13	NV	1.2E-13
Pyrene	5.6E-12	4.9E-10	5.0E-10	4.4E-12	4.9E-10	5.0E-10
B(a)P Equivalent	NA	NV	--	NA	NV	--
Pesticides						
4,4-DDE	1.0E-11	4.4E-09	4.4E-09	1.0E-11	4.4E-09	4.4E-09
alpha-Chlordane	3.5E-11	NV	3.5E-11	3.5E-11	NV	3.5E-11
Dieldrin	6.7E-11	NV	6.7E-11	6.7E-11	NV	6.7E-11
gamma-Chlordane	3.7E-11	NV	3.7E-11	3.7E-11	NV	3.7E-11

Table AOC11-B1.4g
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Polychlorinated Biphenyls						
Total PCBs	1.1E-08	4.4E-06	4.4E-06	9.7E-09	4.4E-06	4.4E-06
Total Petroleum Hydrocarbons						
TPH as diesel	3.9E-10	5.9E-04	5.9E-04	4.8E-10	5.9E-04	5.9E-04
TPH as motor oil	7.1E-10	NV	7.1E-10	7.6E-10	NV	7.6E-10
Dioxins/Furans						
TEQ Human	8.7E-09	4.0E-06	4.0E-06	1.0E-08	4.0E-06	4.0E-06
Total Hazard Index	1E-06	6E-04	6E-04	9E-07	6E-04	6E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B1.5a

Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	23.6	22.3	18.5	26.0
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.012	0.012	0.010	0.014
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.02	0.02	0.02	0.03
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC11-B1.5b

Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	23.6	22.3	18.5	26.0
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.003	0.003	0.002	0.003
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.01	0.00	0.01
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC11-B1.5c

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	23.6
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.006	0.011	0.01	0.02	0.02
BLOOD Pb, PICA CHILD	0.012	0.02	0.03	0.03	0.04

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	4.9E-05	1%		4.9E-05	0.4%
Soil Ingestion	2.5E-4	5.9E-03	99%	5.0E-4	1.2E-02	100%
Inhalation	7.0E-8	1.7E-06	0.03%		1.7E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B1.5d

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	22.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.006	0.010	0.01	0.01	0.02
BLOOD Pb, PICA CHILD	0.011	0.02	0.02	0.03	0.03

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	4.6E-05	1%		4.6E-05	0.4%
Soil Ingestion	2.5E-4	5.6E-03	99%	5.0E-4	1.1E-02	100%
Inhalation	7.0E-8	1.6E-06	0.03%		1.6E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B1.5e

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	23.6
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.012	0.022	0.03	0.03	0.04	1079
BLOOD Pb, PICA CHILD	0.024	0.04	0.05	0.06	0.07	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	9.8E-05	1%		9.8E-05	0.4%
Soil Ingestion	5.0E-4	1.2E-02	99%	1.0E-3	2.4E-02	100%
Inhalation	1.4E-7	3.3E-06	0.03%		3.3E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B1.5f

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	22.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.011	0.021	0.02	0.03	0.03	1079
BLOOD Pb, PICA CHILD	0.023	0.04	0.05	0.06	0.07	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	9.2E-05	1%		9.2E-05	0.4%
Soil Ingestion	5.0E-4	1.1E-02	99%	1.0E-3	2.2E-02	100%
Inhalation	1.4E-7	3.1E-06	0.03%		3.1E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B1.5g

Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	23.6	22.3
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.05	0.05
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	8	8
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.001	0.001
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.002	0.002
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%

PRG90

9942

Notes:

Highlighted values are site-specific: soil ingestion rate of 50 mg/day is the default incidental soil ingestion rate evaluation of exposure to lead in soil (USEPA 2003). Exposure frequency (8 days/year) based on the assumption of 8 days per month, 1 month per year as shown in Table 5.1 of the main report.

References:

USEPA. 2003. Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. EPA-540-R-03-001. January.

Table AOC11-B1.5h

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	23.6
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.004	0.007	0.01	0.01	0.01
BLOOD Pb, PICA CHILD	0.024	0.04	0.05	0.06	0.07

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	3.9E-04	10%		3.9E-04	1.6%
Soil Ingestion	1.6E-4	3.7E-03	90%	1.0E-3	2.4E-02	98%
Inhalation	8.7E-9	2.1E-07	0.01%		2.1E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	22.3
Respirable Dust (ua/m ³)	1.5

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-9
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.004	0.007	0.01	0.01	0.01	3180
BLOOD Pb, PICA CHILD	0.023	0.04	0.05	0.06	0.07	535

Notes:
Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Attachment AOC11-B2**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 11
Using Area-Weighted EPCs****Tables**

AOC11-B2.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B2.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper
AOC11-B2.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC11-B2.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B2.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B2.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper
AOC11-B2.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC11-B2.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B2.3a	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B2.3b	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User- Camper
AOC11-B2.3c	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC11-B2.3d	Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B2.4a	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B2.4b	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper
AOC11-B2.4c	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC11-B2.4d	Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC11-B2.5a	Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC11-B2.5b	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Recreational User (Camper)
AOC11-B2.5c	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Recreational User (Camper)
AOC11-B2.5d	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Recreational User (Hiker)
AOC11-B2.5e	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Recreational User (Hiker)
AOC11-B2.5f	Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC11-B2.5g	Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC11-B2.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	2.2E-08	NV	2.4E-07	2.8E-07	2.3E-08	NV	2.5E-07	2.8E-07	2.3E-08	NV	2.5E-07	2.9E-07	2.4E-08	NV	2.6E-07	3.0E-07
Chromium, Hexavalent	7.4E-09	NV	NA	9.1E-08	7.6E-09	NV	NA	9.4E-08	8.0E-09	NV	NA	9.9E-08	8.1E-09	NV	NA	1.0E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	5.9E-10	ND	ND	2.5E-11	5.9E-10	1.4E-09	3.1E-10	4.0E-11	5.9E-10	2.2E-09	4.9E-10	4.6E-11	5.9E-10	2.5E-09	5.7E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	3.9E-11	2.5E-10	2.1E-09	4.8E-10	2.9E-11	2.5E-10	1.6E-09	3.6E-10	2.0E-11	2.5E-10	1.1E-09	2.5E-10	1.6E-11	2.5E-10	8.7E-10	2.0E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	8.3E-10	NV	4.5E-08	1.0E-08	6.0E-10	NV	3.3E-08	7.5E-09	3.5E-10	NV	1.9E-08	4.3E-09	2.5E-10	NV	1.4E-08	3.1E-09
Pesticides																
4,4-DDE	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10	2.4E-11	1.1E-11	4.3E-10	3.0E-10
alpha-Chlordane	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10	4.7E-11	NV	8.5E-10	5.8E-10
Dieldrin	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10	2.6E-11	NV	4.7E-10	3.2E-10
gamma-Chlordane	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10	5.1E-11	NV	9.2E-10	6.3E-10

Table AOC11-B2.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	9.0E-10	5.0E-10	4.9E-08	1.1E-08	8.1E-10	5.0E-10	4.4E-08	1.0E-08	5.4E-10	5.0E-10	2.9E-08	6.6E-09	3.5E-10	5.0E-10	1.9E-08	4.4E-09
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	2.9E-13	1.7E-13	3.1E-12	3.5E-12	4.0E-13	1.7E-13	4.3E-12	4.9E-12	5.2E-13	1.7E-13	5.7E-12	6.5E-12	4.4E-13	1.7E-13	4.8E-12	5.5E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.1b

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	3.4E-11	NV	1.8E-08	1.9E-07	3.5E-11	NV	1.8E-08	1.9E-07
Chromium, Hexavalent	3.1E-11	NV	NA	2.8E-07	3.2E-11	NV	NA	2.9E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.3E-09	ND	ND	3.8E-14	1.3E-09	1.0E-10	2.1E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	6.0E-14	5.6E-10	1.6E-10	3.3E-10	4.5E-14	5.6E-10	1.2E-10	2.5E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	3.5E-12	NV	1.4E-08	3.2E-08	2.6E-12	NV	1.0E-08	2.3E-08
Pesticides								
4,4-DDE	3.7E-14	2.4E-11	3.2E-11	2.0E-10	3.7E-14	2.4E-11	3.2E-11	2.0E-10
alpha-Chlordane	7.2E-14	NV	6.3E-11	3.9E-10	7.2E-14	NV	6.3E-11	3.9E-10
Dieldrin	4.0E-14	NV	3.5E-11	2.2E-10	4.0E-14	NV	3.5E-11	2.2E-10
gamma-Chlordane	7.8E-14	NV	6.9E-11	4.3E-10	7.8E-14	NV	6.9E-11	4.3E-10

Table AOC11-B2.1b

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.4E-12	1.1E-09	3.7E-09	7.6E-09	1.2E-12	1.1E-09	3.3E-09	6.8E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	4.4E-16	3.8E-13	2.3E-13	2.4E-12	6.0E-16	3.8E-13	3.2E-13	3.3E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	6.9E-11	NV	3.6E-08	3.8E-07	6.9E-11	NV	3.7E-08	3.8E-07
Chromium, Hexavalent	6.2E-11	NV	NA	5.6E-07	6.4E-11	NV	NA	5.8E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	2.6E-09	ND	ND	7.6E-14	2.6E-09	2.0E-10	4.2E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	1.2E-13	1.1E-09	3.2E-10	6.6E-10	9.0E-14	1.1E-09	2.4E-10	5.0E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	7.1E-12	NV	2.9E-08	6.4E-08	5.1E-12	NV	2.1E-08	4.6E-08
Pesticides								
4,4-DDE	7.3E-14	4.8E-11	6.4E-11	4.0E-10	7.3E-14	4.8E-11	6.4E-11	4.0E-10
alpha-Chlordane	1.4E-13	NV	1.3E-10	7.9E-10	1.4E-13	NV	1.3E-10	7.9E-10
Dieldrin	8.0E-14	NV	7.1E-11	4.4E-10	8.0E-14	NV	7.1E-11	4.4E-10
gamma-Chlordane	1.6E-13	NV	1.4E-10	8.5E-10	1.6E-13	NV	1.4E-10	8.5E-10

Table AOC11-B2.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	2.8E-12	2.3E-09	7.3E-09	1.5E-08	2.5E-12	2.3E-09	6.5E-09	1.4E-08
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	8.8E-16	7.6E-13	4.6E-13	4.8E-12	1.2E-15	7.6E-13	6.4E-13	6.6E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	6.9E-09	NV	1.8E-07	4.8E-08	6.9E-09	NV	1.8E-07	4.8E-08
Chromium, Hexavalent	4.0E-09	NV	NA	3.3E-08	4.1E-09	NV	NA	3.4E-08
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Methyl acetate	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
1-Methyl naphthalene	ND	1.6E-10	ND	ND	7.7E-12	1.6E-10	9.7E-10	5.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	1.2E-11	7.0E-11	1.5E-09	8.4E-11	9.0E-12	7.0E-11	1.2E-09	6.3E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	4.5E-10	NV	5.9E-08	3.7E-09	3.3E-10	NV	4.3E-08	2.7E-09
Pesticides								
4,4-DDE	7.3E-12	3.0E-12	3.1E-10	5.1E-11	7.3E-12	3.0E-12	3.1E-10	5.1E-11
alpha-Chlordane	1.4E-11	NV	6.1E-10	1.0E-10	1.4E-11	NV	6.1E-10	1.0E-10
Dieldrin	8.0E-12	NV	3.4E-10	5.6E-11	8.0E-12	NV	3.4E-10	5.6E-11
gamma-Chlordane	1.6E-11	NV	6.6E-10	1.1E-10	1.6E-11	NV	6.6E-10	1.1E-10

Table AOC11-B2.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	2.8E-10	1.4E-10	3.5E-08	1.9E-09	2.5E-10	1.4E-10	3.2E-08	1.7E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	8.8E-14	4.8E-14	2.2E-12	6.1E-13	1.2E-13	4.8E-14	3.1E-12	8.4E-13

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	5.2E-08	NV	5.7E-07	6.5E-07	5.3E-08	NV	5.7E-07	6.5E-07	5.4E-08	NV	5.9E-07	6.7E-07	5.6E-08	NV	6.1E-07	7.0E-07
Chromium, Hexavalent	1.7E-08	NV	NA	2.1E-07	1.8E-08	NV	NA	2.2E-07	1.9E-08	NV	NA	2.3E-07	1.9E-08	NV	NA	2.3E-07
Chromium, total	4.6E-07	NV	1.7E-06	5.7E-06	4.6E-07	NV	1.7E-06	5.7E-06	4.7E-07	NV	1.7E-06	5.8E-06	4.8E-07	NV	1.8E-06	6.0E-06
Copper	1.1E-07	NV	4.1E-07	1.4E-06	1.1E-07	NV	4.1E-07	1.4E-06	1.2E-07	NV	4.4E-07	1.5E-06	1.3E-07	NV	4.6E-07	1.6E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.6E-09	NV	5.9E-09	2.0E-08	1.6E-09	NV	5.9E-09	2.0E-08	2.4E-09	NV	8.7E-09	3.0E-08	2.8E-09	NV	1.0E-08	3.5E-08
Zinc	1.0E-06	NV	3.7E-06	1.3E-05	6.9E-07	NV	2.5E-06	8.5E-06	6.2E-07	NV	2.2E-06	7.6E-06	6.1E-07	NV	2.2E-06	7.6E-06
Volatile Organic Compounds																
Methyl acetate	NS	1.4E-08	NS	NS	1.6E-10	1.4E-08	5.6E-09	1.9E-09	1.6E-10	1.4E-08	5.6E-09	1.9E-09	1.6E-10	1.4E-08	5.6E-09	1.9E-09
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	1.4E-09	ND	ND	5.8E-11	1.4E-09	3.2E-09	7.2E-10	9.3E-11	1.4E-09	5.1E-09	1.2E-09	1.1E-10	1.4E-09	5.8E-09	1.3E-09
2-Methyl naphthalene	9.7E-11	8.5E-10	5.3E-09	1.2E-09	9.1E-11	8.5E-10	4.9E-09	1.1E-09	7.4E-11	8.5E-10	4.0E-09	9.1E-10	6.8E-11	8.5E-10	3.7E-09	8.4E-10
Acenaphthene	1.0E-10	2.0E-10	5.5E-09	1.2E-09	7.5E-11	2.0E-10	4.1E-09	9.2E-10	4.9E-11	2.0E-10	2.7E-09	6.1E-10	3.9E-11	2.0E-10	2.1E-09	4.8E-10
Acenaphthylene	8.4E-11	NV	4.6E-09	1.0E-09	6.4E-11	NV	3.5E-09	7.9E-10	4.4E-11	NV	2.4E-09	5.4E-10	3.5E-11	NV	1.9E-09	4.4E-10
Anthracene	5.0E-11	4.4E-11	2.7E-09	6.1E-10	4.2E-11	4.4E-11	2.3E-09	5.2E-10	3.4E-11	4.4E-11	1.9E-09	4.3E-10	3.0E-11	4.4E-11	1.6E-09	3.8E-10
Benzo (a) anthracene	1.2E-09	5.1E-11	6.4E-08	1.5E-08	8.0E-10	5.1E-11	4.3E-08	9.8E-09	4.5E-10	5.1E-11	2.4E-08	5.5E-09	3.0E-10	5.1E-11	1.6E-08	3.7E-09
Benzo (a) pyrene	1.3E-09	NV	7.3E-08	1.7E-08	9.5E-10	NV	5.2E-08	1.2E-08	5.5E-10	NV	3.0E-08	6.7E-09	3.7E-10	NV	2.0E-08	4.6E-09
Benzo (b) fluoranthene	2.2E-09	NV	1.2E-07	2.7E-08	1.5E-09	NV	8.3E-08	1.9E-08	8.8E-10	NV	4.8E-08	1.1E-08	6.1E-10	NV	3.3E-08	7.6E-09
Benzo (ghi) perylene	6.5E-10	NV	3.5E-08	8.1E-09	4.9E-10	NV	2.6E-08	6.0E-09	3.0E-10	NV	1.6E-08	3.7E-09	2.1E-10	NV	1.2E-08	2.6E-09
Benzo (k) fluoranthene	7.9E-10	NV	4.3E-08	9.8E-09	5.6E-10	NV	3.0E-08	6.9E-09	3.3E-10	NV	1.8E-08	4.1E-09	2.4E-10	NV	1.3E-08	3.0E-09
Chrysene	1.9E-09	NV	1.0E-07	2.3E-08	1.3E-09	NV	6.9E-08	1.6E-08	7.0E-10	NV	3.8E-08	8.7E-09	4.7E-10	NV	2.5E-08	5.8E-09
Dibenzo (a,h) anthracene	2.5E-10	NV	1.4E-08	3.1E-09	1.9E-10	NV	1.0E-08	2.3E-09	1.2E-10	NV	6.5E-09	1.5E-09	9.6E-11	NV	5.2E-09	1.2E-09
Fluoranthene	2.9E-09	NV	1.6E-07	3.6E-08	2.1E-09	NV	1.1E-07	2.6E-08	1.2E-09	NV	6.2E-08	1.4E-08	7.5E-10	NV	4.1E-08	9.3E-09
Fluorene	8.1E-11	9.0E-11	4.4E-09	1.0E-09	6.2E-11	9.0E-11	3.4E-09	7.7E-10	4.3E-11	9.0E-11	2.3E-09	5.3E-10	3.5E-11	9.0E-11	1.9E-09	4.3E-10
Indeno (1,2,3-cd) pyrene	6.6E-10	NV	3.6E-08	8.2E-09	4.8E-10	NV	2.6E-08	5.9E-09	3.0E-10	NV	1.6E-08	3.7E-09	2.1E-10	NV	1.1E-08	2.6E-09
Naphthalene	9.1E-11	5.9E-10	5.0E-09	1.1E-09	6.9E-11	5.9E-10	3.7E-09	8.5E-10	4.6E-11	5.9E-10	2.5E-09	5.7E-10	3.7E-11	5.9E-10	2.0E-09	4.6E-10
Phenanthrene	1.0E-09	NV	5.7E-08	1.3E-08	6.9E-10	NV	3.7E-08	8.5E-09	3.7E-10	NV	2.0E-08	4.6E-09	2.5E-10	NV	1.4E-08	3.1E-09
Pyrene	2.7E-09	2.1E-10	1.5E-07	3.3E-08	1.9E-09	2.1E-10	1.0E-07	2.3E-08	1.0E-09	2.1E-10	5.6E-08	1.3E-08	6.8E-10	2.1E-10	3.7E-08	8.4E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10	5.6E-11	2.5E-11	1.0E-09	6.9E-10
alpha-Chlordane	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09	1.1E-10	NV	2.0E-09	1.4E-09
Dieldrin	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10	6.1E-11	NV	1.1E-09	7.6E-10
gamma-Chlordane	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09	1.2E-10	NV	2.1E-09	1.5E-09

Table AOC11-B2.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	2.1E-09	1.2E-09	1.1E-07	2.6E-08	1.9E-09	1.2E-09	1.0E-07	2.3E-08	1.3E-09	1.2E-09	6.8E-08	1.5E-08	8.3E-10	1.2E-09	4.5E-08	1.0E-08
Total Petroleum Hydrocarbons																
TPH as diesel	4.6E-07	1.5E-04	1.7E-05	5.7E-06	5.0E-07	1.5E-04	1.8E-05	6.2E-06	4.7E-07	1.5E-04	1.7E-05	5.8E-06	4.0E-07	1.5E-04	1.5E-05	5.0E-06
TPH as motor oil	1.0E-06	NV	3.6E-05	1.2E-05	9.8E-07	NV	3.5E-05	1.2E-05	8.9E-07	NV	3.2E-05	1.1E-05	7.4E-07	NV	2.7E-05	9.2E-06
Dioxins/Furans																
TEQ Human	6.7E-13	4.0E-13	7.3E-12	8.3E-12	9.2E-13	4.0E-13	1.0E-11	1.1E-11	1.2E-12	4.0E-13	1.3E-11	1.5E-11	1.0E-12	4.0E-13	1.1E-11	1.3E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	9.2E-11	NV	1.5E-07	1.7E-06	9.2E-11	NV	2.0E-08	1.6E-07	9.3E-11	NV	1.5E-07	1.7E-06	9.3E-11	NV	2.0E-08	1.6E-07
Chromium, Hexavalent	3.0E-11	NV	NA	5.5E-07	3.0E-11	NV	NA	5.2E-08	3.1E-11	NV	NA	5.7E-07	3.1E-11	NV	NA	5.3E-08
Chromium, total	8.1E-10	NV	4.2E-07	1.5E-05	8.1E-10	NV	5.8E-08	1.4E-06	8.2E-10	NV	4.3E-07	1.5E-05	8.2E-10	NV	5.9E-08	1.4E-06
Copper	2.0E-10	NV	1.1E-07	3.7E-06	2.0E-10	NV	1.4E-08	3.4E-07	2.0E-10	NV	1.1E-07	3.7E-06	2.0E-10	NV	1.4E-08	3.4E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.9E-12	NV	1.5E-09	5.3E-08	2.9E-12	NV	2.1E-10	4.9E-09	2.9E-12	NV	1.5E-09	5.3E-08	2.9E-12	NV	2.1E-10	4.9E-09
Zinc	1.8E-09	NV	9.5E-07	3.3E-05	1.8E-09	NV	1.3E-07	3.1E-06	1.2E-09	NV	6.4E-07	2.2E-05	1.2E-09	NV	8.7E-08	2.1E-06
Volatile Organic Compounds																
Methyl acetate	NS	3.6E-08	NS	NS	NS	3.6E-08	NS	NS	2.7E-13	3.6E-08	1.4E-09	5.0E-09	2.7E-13	3.6E-08	2.0E-10	4.7E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	3.6E-09	ND	ND	ND	3.6E-09	ND	ND	1.0E-13	3.6E-09	8.1E-10	1.9E-09	1.0E-13	3.6E-09	1.1E-10	1.7E-10
2-Methyl naphthalene	1.7E-13	2.2E-09	1.3E-09	3.1E-09	1.7E-13	2.2E-09	1.8E-10	2.9E-10	1.6E-13	2.2E-09	1.3E-09	2.9E-09	1.6E-13	2.2E-09	1.7E-10	2.7E-10
Acenaphthene	1.8E-13	5.1E-10	1.4E-09	3.2E-09	1.8E-13	5.1E-10	1.9E-10	3.0E-10	1.3E-13	5.1E-10	1.0E-09	2.4E-09	1.3E-13	5.1E-10	1.4E-10	2.2E-10
Acenaphthylene	1.5E-13	NV	1.2E-09	2.7E-09	1.5E-13	NV	1.6E-10	2.5E-10	1.1E-13	NV	8.9E-10	2.0E-09	1.1E-13	NV	1.2E-10	1.9E-10
Anthracene	8.8E-14	1.1E-10	6.9E-10	1.6E-09	8.8E-14	1.1E-10	9.4E-11	1.5E-10	7.5E-14	1.1E-10	5.9E-10	1.4E-09	7.5E-14	1.1E-10	8.1E-11	1.3E-10
Benzo (a) anthracene	2.1E-12	1.3E-10	1.6E-08	3.8E-08	2.1E-12	1.3E-10	2.2E-09	3.5E-09	1.4E-12	1.3E-10	1.1E-08	2.5E-08	1.4E-12	1.3E-10	1.5E-09	2.4E-09
Benzo (a) pyrene	2.4E-12	NV	1.9E-08	4.3E-08	2.4E-12	NV	2.6E-09	4.0E-09	1.7E-12	NV	1.3E-08	3.0E-08	1.7E-12	NV	1.8E-09	2.8E-09
Benzo (b) fluoranthene	3.8E-12	NV	3.0E-08	6.9E-08	3.8E-12	NV	4.1E-09	6.5E-09	2.7E-12	NV	2.1E-08	4.9E-08	2.7E-12	NV	2.9E-09	4.6E-09
Benzo (ghi) perylene	1.2E-12	NV	9.1E-09	2.1E-08	1.2E-12	NV	1.2E-09	2.0E-09	8.6E-13	NV	6.8E-09	1.6E-08	8.6E-13	NV	9.2E-10	1.5E-09
Benzo (k) fluoranthene	1.4E-12	NV	1.1E-08	2.5E-08	1.4E-12	NV	1.5E-09	2.4E-09	9.8E-13	NV	7.7E-09	1.8E-08	9.8E-13	NV	1.1E-09	1.7E-09
Chrysene	3.3E-12	NV	2.6E-08	5.9E-08	3.3E-12	NV	3.5E-09	5.6E-09	2.2E-12	NV	1.8E-08	4.1E-08	2.2E-12	NV	2.4E-09	3.8E-09
Dibenzo (a,h) anthracene	4.5E-13	NV	3.5E-09	8.1E-09	4.5E-13	NV	4.8E-10	7.6E-10	3.3E-13	NV	2.6E-09	6.0E-09	3.3E-13	NV	3.5E-10	5.6E-10
Fluoranthene	5.2E-12	NV	4.1E-08	9.4E-08	5.2E-12	NV	5.6E-09	8.8E-09	3.7E-12	NV	2.9E-08	6.7E-08	3.7E-12	NV	4.0E-09	6.3E-09
Fluorene	1.4E-13	2.3E-10	1.1E-09	2.6E-09	1.4E-13	2.3E-10	1.5E-10	2.4E-10	1.1E-13	2.3E-10	8.6E-10	2.0E-09	1.1E-13	2.3E-10	1.2E-10	1.9E-10
Indeno (1,2,3-cd) pyrene	1.2E-12	NV	9.2E-09	2.1E-08	1.2E-12	NV	1.3E-09	2.0E-09	8.5E-13	NV	6.7E-09	1.5E-08	8.5E-13	NV	9.1E-10	1.4E-09
Naphthalene	1.6E-13	1.5E-09	1.3E-09	2.9E-09	1.6E-13	1.5E-09	1.7E-10	2.7E-10	1.2E-13	1.5E-09	9.6E-10	2.2E-09	1.2E-13	1.5E-09	1.3E-10	2.1E-10
Phenanthrene	1.8E-12	NV	1.4E-08	3.3E-08	1.8E-12	NV	2.0E-09	3.1E-09	1.2E-12	NV	9.5E-09	2.2E-08	1.2E-12	NV	1.3E-09	2.1E-09
Pyrene	4.8E-12	5.3E-10	3.8E-08	8.7E-08	4.8E-12	5.3E-10	5.1E-09	8.1E-09	3.3E-12	5.3E-10	2.6E-08	5.9E-08	3.3E-12	5.3E-10	3.5E-09	5.6E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	9.8E-14	6.4E-11	2.6E-10	1.8E-09	9.8E-14	6.4E-11	3.5E-11	1.7E-10	9.8E-14	6.4E-11	2.6E-10	1.8E-09	9.8E-14	6.4E-11	3.5E-11	1.7E-10
alpha-Chlordane	1.9E-13	NV	5.1E-10	3.5E-09	1.9E-13	NV	6.9E-11	3.3E-10	1.9E-13	NV	5.1E-10	3.5E-09	1.9E-13	NV	6.9E-11	3.3E-10
Dieldrin	1.1E-13	NV	2.8E-10	2.0E-09	1.1E-13	NV	3.9E-11	1.8E-10	1.1E-13	NV	2.8E-10	2.0E-09	1.1E-13	NV	3.9E-11	1.8E-10
gamma-Chlordane	2.1E-13	NV	5.5E-10	3.8E-09	2.1E-13	NV	7.5E-11	3.6E-10	2.1E-13	NV	5.5E-10	3.8E-09	2.1E-13	NV	7.5E-11	3.6E-10

Table AOC11-B2.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	3.7E-12	3.0E-09	2.9E-08	6.8E-08	3.7E-12	3.0E-09	4.0E-09	6.3E-09	3.3E-12	3.0E-09	2.6E-08	6.0E-08	3.3E-12	3.0E-09	3.6E-09	5.6E-09
Total Petroleum Hydrocarbons																
TPH as diesel	8.2E-10	3.9E-04	4.3E-06	1.5E-05	8.2E-10	3.9E-04	5.9E-07	1.4E-06	8.8E-10	3.9E-04	4.6E-06	1.6E-05	8.8E-10	3.9E-04	6.3E-07	1.5E-06
TPH as motor oil	1.8E-09	NV	9.2E-06	3.2E-05	1.8E-09	NV	1.3E-06	3.0E-06	1.7E-09	NV	9.1E-06	3.1E-05	1.7E-09	NV	1.2E-06	2.9E-06
Dioxins/Furans																
TEQ Human	1.2E-15	1.0E-12	1.9E-12	2.1E-11	1.2E-15	1.0E-12	2.5E-13	2.0E-12	1.6E-15	1.0E-12	2.6E-12	3.0E-11	1.6E-15	1.0E-12	3.5E-13	2.8E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.8E-10	NV	2.9E-07	3.3E-06	1.8E-10	NV	4.0E-08	3.1E-07	1.9E-10	NV	2.9E-07	3.4E-06	1.9E-10	NV	4.0E-08	3.2E-07
Chromium, Hexavalent	6.1E-11	NV	NA	1.1E-06	6.1E-11	NV	NA	1.0E-07	6.3E-11	NV	NA	1.1E-06	6.3E-11	NV	NA	1.1E-07
Chromium, total	1.6E-09	NV	8.5E-07	2.9E-05	1.6E-09	NV	1.2E-07	2.7E-06	1.6E-09	NV	8.6E-07	3.0E-05	1.6E-09	NV	1.2E-07	2.8E-06
Copper	4.0E-10	NV	2.1E-07	7.3E-06	4.0E-10	NV	2.9E-08	6.8E-07	4.0E-10	NV	2.1E-07	7.3E-06	4.0E-10	NV	2.9E-08	6.8E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.8E-12	NV	3.1E-09	1.1E-07	5.8E-12	NV	4.2E-10	9.9E-09	5.8E-12	NV	3.1E-09	1.1E-07	5.8E-12	NV	4.2E-10	9.9E-09
Zinc	3.6E-09	NV	1.9E-06	6.5E-05	3.6E-09	NV	2.6E-07	6.1E-06	2.4E-09	NV	1.3E-06	4.4E-05	2.4E-09	NV	1.7E-07	4.1E-06
Volatile Organic Compounds																
Methyl acetate	NS	7.3E-08	NS	NS	NS	7.3E-08	NS	NS	5.5E-13	7.3E-08	2.9E-09	9.9E-09	5.5E-13	7.3E-08	3.9E-10	9.3E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	7.1E-09	ND	ND	ND	7.1E-09	ND	ND	2.1E-13	7.1E-09	1.6E-09	3.7E-09	2.1E-13	7.1E-09	2.2E-10	3.5E-10
2-Methyl naphthalene	3.4E-13	4.4E-09	2.7E-09	6.2E-09	3.4E-13	4.4E-09	3.7E-10	5.8E-10	3.2E-13	4.4E-09	2.5E-09	5.8E-09	3.2E-13	4.4E-09	3.4E-10	5.4E-10
Acenaphthene	3.5E-13	1.0E-09	2.8E-09	6.4E-09	3.5E-13	1.0E-09	3.8E-10	6.0E-10	2.6E-13	1.0E-09	2.1E-09	4.8E-09	2.6E-13	1.0E-09	2.8E-10	4.5E-10
Acenaphthylene	3.0E-13	NV	2.3E-09	5.4E-09	3.0E-13	NV	3.2E-10	5.0E-10	2.2E-13	NV	1.8E-09	4.1E-09	2.2E-13	NV	2.4E-10	3.8E-10
Anthracene	1.8E-13	2.3E-10	1.4E-09	3.2E-09	1.8E-13	2.3E-10	1.9E-10	3.0E-10	1.5E-13	2.3E-10	1.2E-09	2.7E-09	1.5E-13	2.3E-10	1.6E-10	2.5E-10
Benzo (a) anthracene	4.2E-12	2.6E-10	3.3E-08	7.5E-08	4.2E-12	2.6E-10	4.5E-09	7.1E-09	2.8E-12	2.6E-10	2.2E-08	5.1E-08	2.8E-12	2.6E-10	3.0E-09	4.8E-09
Benzo (a) pyrene	4.7E-12	NV	3.7E-08	8.6E-08	4.7E-12	NV	5.1E-09	8.1E-09	3.4E-12	NV	2.6E-08	6.1E-08	3.4E-12	NV	3.6E-09	5.7E-09
Benzo (b) fluoranthene	7.6E-12	NV	6.0E-08	1.4E-07	7.6E-12	NV	8.2E-09	1.3E-08	5.4E-12	NV	4.2E-08	9.8E-08	5.4E-12	NV	5.8E-09	9.2E-09
Benzo (ghi) perylene	2.3E-12	NV	1.8E-08	4.2E-08	2.3E-12	NV	2.5E-09	3.9E-09	1.7E-12	NV	1.4E-08	3.1E-08	1.7E-12	NV	1.8E-09	2.9E-09
Benzo (k) fluoranthene	2.8E-12	NV	2.2E-08	5.0E-08	2.8E-12	NV	3.0E-09	4.7E-09	2.0E-12	NV	1.5E-08	3.6E-08	2.0E-12	NV	2.1E-09	3.3E-09
Chrysene	6.5E-12	NV	5.2E-08	1.2E-07	6.5E-12	NV	7.0E-09	1.1E-08	4.5E-12	NV	3.5E-08	8.1E-08	4.5E-12	NV	4.8E-09	7.6E-09
Dibenzo (a,h) anthracene	8.9E-13	NV	7.0E-09	1.6E-08	8.9E-13	NV	9.6E-10	1.5E-09	6.6E-13	NV	5.2E-09	1.2E-08	6.6E-13	NV	7.1E-10	1.1E-09
Fluoranthene	1.0E-11	NV	8.2E-08	1.9E-07	1.0E-11	NV	1.1E-08	1.8E-08	7.4E-12	NV	5.8E-08	1.3E-07	7.4E-12	NV	8.0E-09	1.3E-08
Fluorene	2.9E-13	4.6E-10	2.3E-09	5.2E-09	2.9E-13	4.6E-10	3.1E-10	4.9E-10	2.2E-13	4.6E-10	1.7E-09	4.0E-09	2.2E-13	4.6E-10	2.4E-10	3.7E-10
Indeno (1,2,3-cd) pyrene	2.3E-12	NV	1.8E-08	4.2E-08	2.3E-12	NV	2.5E-09	4.0E-09	1.7E-12	NV	1.3E-08	3.1E-08	1.7E-12	NV	1.8E-09	2.9E-09
Naphthalene	3.2E-13	3.0E-09	2.5E-09	5.8E-09	3.2E-13	3.0E-09	3.5E-10	5.5E-10	2.4E-13	3.0E-09	1.9E-09	4.4E-09	2.4E-13	3.0E-09	2.6E-10	4.1E-10
Phenanthrene	3.7E-12	NV	2.9E-08	6.7E-08	3.7E-12	NV	4.0E-09	6.2E-09	2.4E-12	NV	1.9E-08	4.4E-08	2.4E-12	NV	2.6E-09	4.1E-09
Pyrene	9.5E-12	1.1E-09	7.5E-08	1.7E-07	9.5E-12	1.1E-09	1.0E-08	1.6E-08	6.5E-12	1.1E-09	5.2E-08	1.2E-07	6.5E-12	1.1E-09	7.0E-09	1.1E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.0E-13	1.3E-10	5.2E-10	3.6E-09	2.0E-13	1.3E-10	7.1E-11	3.3E-10	2.0E-13	1.3E-10	5.2E-10	3.6E-09	2.0E-13	1.3E-10	7.1E-11	3.3E-10
alpha-Chlordane	3.9E-13	NV	1.0E-09	7.0E-09	3.9E-13	NV	1.4E-10	6.6E-10	3.9E-13	NV	1.0E-09	7.0E-09	3.9E-13	NV	1.4E-10	6.6E-10
Dieldrin	2.2E-13	NV	5.7E-10	3.9E-09	2.2E-13	NV	7.8E-11	3.7E-10	2.2E-13	NV	5.7E-10	3.9E-09	2.2E-13	NV	7.8E-11	3.7E-10
gamma-Chlordane	4.2E-13	NV	1.1E-09	7.6E-09	4.2E-13	NV	1.5E-10	7.1E-10	4.2E-13	NV	1.1E-09	7.6E-09	4.2E-13	NV	1.5E-10	7.1E-10

Table AOC11-B2.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	7.4E-12	6.1E-09	5.9E-08	1.4E-07	7.4E-12	6.1E-09	8.0E-09	1.3E-08	6.6E-12	6.1E-09	5.2E-08	1.2E-07	6.6E-12	6.1E-09	7.1E-09	1.1E-08
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-09	7.8E-04	8.6E-06	3.0E-05	1.6E-09	7.8E-04	1.2E-06	2.8E-06	1.8E-09	7.8E-04	9.3E-06	3.2E-05	1.8E-09	7.8E-04	1.3E-06	3.0E-06
TPH as motor oil	3.5E-09	NV	1.8E-05	6.4E-05	3.5E-09	NV	2.5E-06	6.0E-06	3.4E-09	NV	1.8E-05	6.3E-05	3.4E-09	NV	2.5E-06	5.9E-06
Dioxins/Furans																
TEQ Human	2.4E-15	2.0E-12	3.7E-12	4.3E-11	2.4E-15	2.0E-12	5.1E-13	4.0E-12	3.3E-15	2.0E-12	5.1E-12	5.9E-11	3.3E-15	2.0E-12	7.0E-13	5.5E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.9E-08	NV	5.3E-07	2.4E-07	1.9E-08	NV	4.5E-07	9.7E-08	1.9E-08	NV	5.3E-07	2.4E-07	1.9E-08	NV	4.6E-07	9.8E-08
Chromium, Hexavalent	6.1E-09	NV	NA	7.7E-08	6.1E-09	NV	NA	3.2E-08	6.3E-09	NV	NA	8.0E-08	6.3E-09	NV	NA	3.3E-08
Chromium, total	1.6E-07	NV	1.5E-06	2.1E-06	1.6E-07	NV	1.3E-06	8.5E-07	1.6E-07	NV	1.6E-06	2.1E-06	1.6E-07	NV	1.3E-06	8.6E-07
Copper	4.0E-08	NV	3.9E-07	5.1E-07	4.0E-08	NV	3.3E-07	2.1E-07	4.0E-08	NV	3.9E-07	5.1E-07	4.0E-08	NV	3.3E-07	2.1E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.8E-10	NV	5.5E-09	7.4E-09	5.8E-10	NV	4.8E-09	3.1E-09	5.8E-10	NV	5.5E-09	7.4E-09	5.8E-10	NV	4.8E-09	3.1E-09
Zinc	3.6E-07	NV	3.5E-06	4.6E-06	3.6E-07	NV	3.0E-06	1.9E-06	2.4E-07	NV	2.3E-06	3.1E-06	2.4E-07	NV	2.0E-06	1.3E-06
Volatile Organic Compounds																
Methyl acetate	NS	4.6E-09	NS	NS	NS	4.6E-09	NS	NS	5.5E-11	4.6E-09	5.2E-09	7.0E-10	5.5E-11	4.6E-09	4.5E-09	2.9E-10
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ND	4.4E-10	ND	ND	ND	4.4E-10	ND	ND	2.1E-11	4.4E-10	2.9E-09	2.6E-10	2.1E-11	4.4E-10	2.5E-09	1.1E-10
2-Methyl naphthalene	3.4E-11	2.7E-10	4.9E-09	4.4E-10	3.4E-11	2.7E-10	4.2E-09	1.8E-10	3.2E-11	2.7E-10	4.6E-09	4.1E-10	3.2E-11	2.7E-10	3.9E-09	1.7E-10
Acenaphthene	3.6E-11	6.4E-11	5.1E-09	4.5E-10	3.6E-11	6.4E-11	4.4E-09	1.9E-10	2.6E-11	6.4E-11	3.8E-09	3.4E-10	2.6E-11	6.4E-11	3.2E-09	1.4E-10
Acenaphthylene	3.0E-11	NV	4.3E-09	3.8E-10	3.0E-11	NV	3.6E-09	1.6E-10	2.3E-11	NV	3.2E-09	2.9E-10	2.3E-11	NV	2.8E-09	1.2E-10
Anthracene	1.8E-11	1.4E-11	2.5E-09	2.2E-10	1.8E-11	1.4E-11	2.2E-09	9.2E-11	1.5E-11	1.4E-11	2.1E-09	1.9E-10	1.5E-11	1.4E-11	1.8E-09	7.9E-11
Benzo (a) anthracene	4.2E-10	1.6E-11	6.0E-08	5.3E-09	4.2E-10	1.6E-11	5.1E-08	2.2E-09	2.8E-10	1.6E-11	4.0E-08	3.6E-09	2.8E-10	1.6E-11	3.5E-08	1.5E-09
Benzo (a) pyrene	4.8E-10	NV	6.8E-08	6.0E-09	4.8E-10	NV	5.8E-08	2.5E-09	3.4E-10	NV	4.8E-08	4.3E-09	3.4E-10	NV	4.1E-08	1.8E-09
Benzo (b) fluoranthene	7.7E-10	NV	1.1E-07	9.7E-09	7.7E-10	NV	9.4E-08	4.0E-09	5.4E-10	NV	7.7E-08	6.9E-09	5.4E-10	NV	6.6E-08	2.8E-09
Benzo (ghi) perylene	2.3E-10	NV	3.3E-08	2.9E-09	2.3E-10	NV	2.8E-08	1.2E-09	1.7E-10	NV	2.5E-08	2.2E-09	1.7E-10	NV	2.1E-08	9.0E-10
Benzo (k) fluoranthene	2.8E-10	NV	4.0E-08	3.5E-09	2.8E-10	NV	3.4E-08	1.5E-09	2.0E-10	NV	2.8E-08	2.5E-09	2.0E-10	NV	2.4E-08	1.0E-09
Chrysene	6.6E-10	NV	9.4E-08	8.3E-09	6.6E-10	NV	8.1E-08	3.4E-09	4.5E-10	NV	6.4E-08	5.7E-09	4.5E-10	NV	5.5E-08	2.4E-09
Dibenzo (a,h) anthracene	9.0E-11	NV	1.3E-08	1.1E-09	9.0E-11	NV	1.1E-08	4.7E-10	6.6E-11	NV	9.4E-09	8.4E-10	6.6E-11	NV	8.1E-09	3.5E-10
Fluoranthene	1.0E-09	NV	1.5E-07	1.3E-08	1.0E-09	NV	1.3E-07	5.5E-09	7.4E-10	NV	1.1E-07	9.5E-09	7.4E-10	NV	9.1E-08	3.9E-09
Fluorene	2.9E-11	2.9E-11	4.1E-09	3.7E-10	2.9E-11	2.9E-11	3.5E-09	1.5E-10	2.2E-11	2.9E-11	3.1E-09	2.8E-10	2.2E-11	2.9E-11	2.7E-09	1.1E-10
Indeno (1,2,3-cd) pyrene	2.3E-10	NV	3.3E-08	3.0E-09	2.3E-10	NV	2.9E-08	1.2E-09	1.7E-10	NV	2.4E-08	2.2E-09	1.7E-10	NV	2.1E-08	8.9E-10
Naphthalene	3.2E-11	1.9E-10	4.6E-09	4.1E-10	3.2E-11	1.9E-10	4.0E-09	1.7E-10	2.4E-11	1.9E-10	3.5E-09	3.1E-10	2.4E-11	1.9E-10	3.0E-09	1.3E-10
Phenanthrene	3.7E-10	NV	5.3E-08	4.7E-09	3.7E-10	NV	4.5E-08	1.9E-09	2.4E-10	NV	3.5E-08	3.1E-09	2.4E-10	NV	3.0E-08	1.3E-09
Pyrene	9.6E-10	6.6E-11	1.4E-07	1.2E-08	9.6E-10	6.6E-11	1.2E-07	5.0E-09	6.6E-10	6.6E-11	9.4E-08	8.3E-09	6.6E-10	6.6E-11	8.1E-08	3.4E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.0E-11	8.0E-12	9.4E-10	2.5E-10	2.0E-11	8.0E-12	8.1E-10	1.0E-10	2.0E-11	8.0E-12	9.4E-10	2.5E-10	2.0E-11	8.0E-12	8.1E-10	1.0E-10
alpha-Chlordane	3.9E-11	NV	1.8E-09	4.9E-10	3.9E-11	NV	1.6E-09	2.0E-10	3.9E-11	NV	1.8E-09	4.9E-10	3.9E-11	NV	1.6E-09	2.0E-10
Dieldrin	2.2E-11	NV	1.0E-09	2.8E-10	2.2E-11	NV	8.9E-10	1.1E-10	2.2E-11	NV	1.0E-09	2.8E-10	2.2E-11	NV	8.9E-10	1.1E-10
gamma-Chlordane	4.2E-11	NV	2.0E-09	5.3E-10	4.2E-11	NV	1.7E-09	2.2E-10	4.2E-11	NV	2.0E-09	5.3E-10	4.2E-11	NV	1.7E-09	2.2E-10

Table AOC11-B2.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 11 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	7.5E-10	3.8E-10	1.1E-07	9.5E-09	7.5E-10	3.8E-10	9.2E-08	3.9E-09	6.7E-10	3.8E-10	9.5E-08	8.5E-09	6.7E-10	3.8E-10	8.2E-08	3.5E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-07	4.9E-05	1.6E-05	2.1E-06	1.6E-07	4.9E-05	1.3E-05	8.6E-07	1.8E-07	4.9E-05	1.7E-05	2.2E-06	1.8E-07	4.9E-05	1.4E-05	9.3E-07
TPH as motor oil	3.5E-07	NV	3.4E-05	4.5E-06	3.5E-07	NV	2.9E-05	1.8E-06	3.5E-07	NV	3.3E-05	4.4E-06	3.5E-07	NV	2.8E-05	1.8E-06
Dioxins/Furans																
TEQ Human	2.4E-13	1.3E-13	6.8E-12	3.0E-12	2.4E-13	1.3E-13	5.8E-12	1.2E-12	3.3E-13	1.3E-13	9.3E-12	4.2E-12	3.3E-13	1.3E-13	8.0E-12	1.7E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.3a
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs) ¹				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Arsenic	7.4E-08	NV	2.3E-06	2.6E-06	5.0E-06	7.5E-08	NV	2.3E-06	2.7E-06	5.1E-06	7.6E-08	NV	2.4E-06	2.7E-06	5.2E-06	8.0E-08	NV	2.5E-06	2.8E-06	5.4E-06
Chromium, Hexavalent	1.1E-06	NV	NA	4.6E-08	1.1E-06	1.1E-06	NV	NA	4.7E-08	1.2E-06	1.2E-06	NV	NA	5.0E-08	1.3E-06	1.2E-06	NV	NA	5.0E-08	1.3E-06
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	4.3E-12	ND	ND	4.3E-12	1.8E-13	4.3E-12	3.9E-11	8.9E-12	5.3E-11	2.9E-13	4.3E-12	6.3E-11	1.4E-11	8.2E-11	3.3E-13	4.3E-12	7.2E-11	1.6E-11	9.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.3E-12	8.5E-12	2.5E-10	5.8E-11	3.2E-10	1.0E-12	8.5E-12	1.9E-10	4.4E-11	2.5E-10	6.7E-13	8.5E-12	1.3E-10	2.9E-11	1.7E-10	5.4E-13	8.5E-12	1.0E-10	2.4E-11	1.4E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	9.2E-10	NV	4.5E-08	1.0E-08	5.6E-08	6.6E-10	NV	3.3E-08	7.5E-09	4.1E-08	3.9E-10	NV	1.9E-08	4.3E-09	2.4E-08	2.8E-10	NV	1.4E-08	3.1E-09	1.7E-08
Pesticides																				
4,4-DDE	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10	2.3E-12	1.0E-12	1.5E-10	1.0E-10	2.5E-10
alpha-Chlordane	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09	1.6E-11	NV	1.1E-09	7.6E-10	1.9E-09
Dieldrin	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08	1.2E-10	NV	7.6E-09	5.2E-09	1.3E-08
gamma-Chlordane	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09	1.7E-11	NV	1.2E-09	8.2E-10	2.0E-09

Table AOC11-B2.3a
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs) ¹				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	5.2E-10	2.9E-10	9.8E-08	2.2E-08	1.2E-07	4.6E-10	2.9E-10	8.8E-08	2.0E-08	1.1E-07	3.1E-10	2.9E-10	5.8E-08	1.3E-08	7.2E-08	2.0E-10	2.9E-10	3.9E-08	8.8E-09	4.8E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	1.1E-08	6.5E-09	4.0E-07	4.6E-07	8.8E-07	1.5E-08	6.5E-09	5.6E-07	6.4E-07	1.2E-06	2.0E-08	6.5E-09	7.4E-07	8.4E-07	1.6E-06	1.7E-08	6.5E-09	6.2E-07	7.1E-07	1.4E-06
Cumulative ILCR	1E-06	7E-09	3E-06	3E-06	7E-06	1E-06	7E-09	3E-06	3E-06	8E-06	1E-06	7E-09	3E-06	4E-06	8E-06	1E-06	7E-09	3E-06	4E-06	8E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.3b

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	1.1E-10	NV	1.7E-07	1.8E-06	2.0E-06	1.1E-10	NV	1.7E-07	1.8E-06	2.0E-06
Chromium, Hexavalent	4.7E-09	NV	NA	1.4E-07	1.4E-07	4.8E-09	NV	NA	1.4E-07	1.5E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	9.6E-12	ND	ND	9.6E-12	2.8E-16	9.6E-12	2.9E-12	6.1E-12	1.9E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.0E-15	1.9E-11	1.9E-11	3.9E-11	7.8E-11	1.5E-15	1.9E-11	1.4E-11	3.0E-11	6.3E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	3.9E-12	NV	1.4E-08	3.2E-08	4.6E-08	2.8E-12	NV	1.0E-08	2.3E-08	3.3E-08
Pesticides										
4,4-DDE	3.5E-15	2.3E-12	1.1E-11	6.8E-11	8.1E-11	3.5E-15	2.3E-12	1.1E-11	6.8E-11	8.1E-11
alpha-Chlordane	2.4E-14	NV	8.2E-11	5.1E-10	6.0E-10	2.4E-14	NV	8.2E-11	5.1E-10	6.0E-10
Dieldrin	1.8E-13	NV	5.7E-10	3.5E-09	4.1E-09	1.8E-13	NV	5.7E-10	3.5E-09	4.1E-09
gamma-Chlordane	2.6E-14	NV	8.9E-11	5.6E-10	6.4E-10	2.6E-14	NV	8.9E-11	5.6E-10	6.4E-10

Table AOC11-B2.3b

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	7.9E-13	6.4E-10	7.3E-09	1.5E-08	2.3E-08	7.0E-13	6.4E-10	6.5E-09	1.4E-08	2.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.7E-11	1.4E-08	3.0E-08	3.1E-07	3.6E-07	2.3E-11	1.4E-08	4.2E-08	4.3E-07	4.9E-07
Cumulative ILCR	5E-09	2E-08	2E-07	2E-06	3E-06	5E-09	2E-08	2E-07	2E-06	3E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.3c
Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.3E-10	NV	3.5E-07	3.6E-06	3.9E-06	2.3E-10	NV	3.5E-07	3.6E-06	4.0E-06
Chromium, Hexavalent	9.3E-09	NV	NA	2.8E-07	2.9E-07	9.6E-09	NV	NA	2.9E-07	3.0E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.9E-11	ND	ND	1.9E-11	5.5E-16	1.9E-11	5.9E-12	1.2E-11	3.7E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	4.1E-15	3.8E-11	3.8E-11	7.9E-11	1.6E-10	3.1E-15	3.8E-11	2.9E-11	5.9E-11	1.3E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	7.8E-12	NV	2.9E-08	6.4E-08	9.3E-08	5.6E-12	NV	2.1E-08	4.6E-08	6.7E-08
Pesticides										
4,4-DDE	7.1E-15	4.6E-12	2.2E-11	1.4E-10	1.6E-10	7.1E-15	4.6E-12	2.2E-11	1.4E-10	1.6E-10
alpha-Chlordane	4.9E-14	NV	1.6E-10	1.0E-09	1.2E-09	4.9E-14	NV	1.6E-10	1.0E-09	1.2E-09
Dieldrin	3.7E-13	NV	1.1E-09	7.0E-09	8.2E-09	3.7E-13	NV	1.1E-09	7.0E-09	8.2E-09
gamma-Chlordane	5.3E-14	NV	1.8E-10	1.1E-09	1.3E-09	5.3E-14	NV	1.8E-10	1.1E-09	1.3E-09

Table AOC11-B2.3c

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.6E-12	1.3E-09	1.5E-08	3.0E-08	4.6E-08	1.4E-12	1.3E-09	1.3E-08	2.7E-08	4.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	3.3E-11	2.9E-08	6.0E-08	6.3E-07	7.2E-07	4.6E-11	2.9E-08	8.3E-08	8.6E-07	9.8E-07
Cumulative ILCR	1E-08	3E-08	5E-07	5E-06	5E-06	1E-08	3E-08	5E-07	5E-06	5E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.3d

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.3E-08	NV	1.7E-06	4.6E-07	2.1E-06	2.3E-08	NV	1.7E-06	4.6E-07	2.2E-06
Chromium, Hexavalent	6.0E-07	NV	NA	1.6E-08	6.2E-07	6.2E-07	NV	NA	1.7E-08	6.4E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Methyl acetate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ND	1.2E-12	ND	ND	1.2E-12	5.5E-14	1.2E-12	2.8E-11	1.5E-12	3.1E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	4.1E-13	2.4E-12	1.8E-10	1.0E-11	2.0E-10	3.1E-13	2.4E-12	1.4E-10	7.6E-12	1.5E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	5.0E-10	NV	5.9E-08	3.7E-09	6.3E-08	3.6E-10	NV	4.3E-08	2.7E-09	4.6E-08
Pesticides										
4,4-DDE	7.1E-13	2.9E-13	1.1E-10	1.7E-11	1.2E-10	7.1E-13	2.9E-13	1.1E-10	1.7E-11	1.2E-10
alpha-Chlordane	4.9E-12	NV	8.0E-10	1.3E-10	9.3E-10	4.9E-12	NV	8.0E-10	1.3E-10	9.3E-10
Dieldrin	3.7E-11	NV	5.5E-09	9.0E-10	6.4E-09	3.7E-11	NV	5.5E-09	9.0E-10	6.4E-09
gamma-Chlordane	5.3E-12	NV	8.6E-10	1.4E-10	1.0E-09	5.3E-12	NV	8.6E-10	1.4E-10	1.0E-09

Table AOC11-B2.3d

Baseline Scenario ILCRs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.6E-10	8.0E-11	7.1E-08	3.9E-09	7.5E-08	1.4E-10	8.0E-11	6.3E-08	3.4E-09	6.7E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	3.3E-09	1.8E-09	2.9E-07	8.0E-08	3.8E-07	4.6E-09	1.8E-09	4.0E-07	1.1E-07	5.2E-07
Cumulative ILCR	6E-07	2E-09	2E-06	6E-07	3E-06	6E-07	2E-09	2E-06	6E-07	3E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC11-B2.4a
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	3.5E-03	NV	1.6E-01	1.9E-01	3.5E-01	3.5E-03	NV	1.6E-01	1.9E-01	3.5E-01	3.6E-03	NV	1.7E-01	1.9E-01	3.6E-01	3.8E-03	NV	1.7E-01	2.0E-01	3.8E-01
Chromium, Hexavalent	1.7E-04	NV	NA	7.1E-05	2.4E-04	1.8E-04	NV	NA	7.3E-05	2.5E-04	1.9E-04	NV	NA	7.7E-05	2.6E-04	1.9E-04	NV	NA	7.8E-05	2.7E-04
Chromium, total	7.6E-08	NV	1.1E-06	3.8E-06	5.0E-06	7.7E-08	NV	1.1E-06	3.8E-06	5.0E-06	7.9E-08	NV	1.1E-06	3.9E-06	5.1E-06	8.1E-08	NV	1.2E-06	4.0E-06	5.2E-06
Copper	7.1E-07	NV	1.0E-05	3.5E-05	4.6E-05	7.1E-07	NV	1.0E-05	3.5E-05	4.6E-05	7.6E-07	NV	1.1E-05	3.8E-05	4.9E-05	7.9E-07	NV	1.1E-05	3.9E-05	5.2E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.5E-05	NV	3.7E-05	1.3E-04	2.2E-04	5.5E-05	NV	3.7E-05	1.3E-04	2.2E-04	8.0E-05	NV	5.4E-05	1.9E-04	3.2E-04	9.3E-05	NV	6.3E-05	2.2E-04	3.7E-04
Zinc	8.5E-07	NV	1.2E-05	4.2E-05	5.5E-05	5.8E-07	NV	8.3E-06	2.8E-05	3.7E-05	5.1E-07	NV	7.4E-06	2.5E-05	3.3E-05	5.1E-07	NV	7.4E-06	2.5E-05	3.3E-05
Volatile Organic Compounds																				
Methyl acetate	NS	3.5E-09	NS	NS	3.5E-09	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08	3.9E-11	3.5E-09	5.6E-09	1.9E-09	1.1E-08
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	4.9E-09	ND	ND	4.9E-09	2.1E-10	4.9E-09	4.5E-08	1.0E-08	6.1E-08	3.3E-10	4.9E-09	7.2E-08	1.6E-08	9.4E-08	3.8E-10	4.9E-09	8.3E-08	1.9E-08	1.1E-07
2-Methyl naphthalene	6.1E-09	5.3E-08	1.3E-06	3.0E-07	1.7E-06	5.7E-09	5.3E-08	1.2E-06	2.8E-07	1.6E-06	4.6E-09	5.3E-08	1.0E-06	2.3E-07	1.3E-06	4.2E-09	5.3E-08	9.2E-07	2.1E-07	1.2E-06
Acenaphthene	4.2E-10	8.3E-10	9.1E-08	2.1E-08	1.1E-07	3.1E-10	8.3E-10	6.8E-08	1.5E-08	8.4E-08	2.0E-10	8.3E-10	4.4E-08	1.0E-08	5.6E-08	1.6E-10	8.3E-10	3.5E-08	8.0E-09	4.4E-08
Acenaphthylene	3.5E-10	NV	7.6E-08	1.7E-08	9.4E-08	2.7E-10	NV	5.8E-08	1.3E-08	7.1E-08	1.8E-10	NV	3.9E-08	9.0E-09	4.9E-08	1.5E-10	NV	3.2E-08	7.3E-09	4.0E-08
Anthracene	4.1E-11	3.6E-11	9.0E-09	2.0E-09	1.1E-08	3.5E-11	3.6E-11	7.7E-09	1.7E-09	9.5E-09	2.9E-11	3.6E-11	6.2E-09	1.4E-09	7.7E-09	2.5E-11	3.6E-11	5.5E-09	1.3E-09	6.8E-09
Benzo (a) anthracene	9.8E-09	4.3E-10	2.1E-06	4.9E-07	2.6E-06	6.6E-09	4.3E-10	1.4E-06	3.3E-07	1.8E-06	3.7E-09	4.3E-10	8.1E-07	1.8E-07	9.9E-07	2.5E-09	4.3E-10	5.4E-07	1.2E-07	6.6E-07
Benzo (a) pyrene	6.7E-04	NV	2.4E-04	5.5E-05	9.7E-04	4.7E-04	NV	1.7E-04	3.9E-05	6.9E-04	2.7E-04	NV	9.9E-05	2.2E-05	3.9E-04	1.9E-04	NV	6.7E-05	1.5E-05	2.7E-04
Benzo (b) fluoranthene	1.8E-08	NV	3.9E-06	8.9E-07	4.8E-06	1.3E-08	NV	2.8E-06	6.3E-07	3.4E-06	7.3E-09	NV	1.6E-06	3.6E-07	2.0E-06	5.1E-09	NV	1.1E-06	2.5E-07	1.4E-06
Benzo (ghi) perylene	5.4E-09	NV	1.2E-06	2.7E-07	1.5E-06	4.1E-09	NV	8.8E-07	2.0E-07	1.1E-06	2.5E-09	NV	5.4E-07	1.2E-07	6.7E-07	1.8E-09	NV	3.9E-07	8.8E-08	4.7E-07
Benzo (k) fluoranthene	6.6E-09	NV	1.4E-06	3.3E-07	1.8E-06	4.6E-09	NV	1.0E-06	2.3E-07	1.2E-06	2.8E-09	NV	6.0E-07	1.4E-07	7.4E-07	2.0E-09	NV	4.4E-07	1.0E-07	5.4E-07
Chrysene	1.5E-08	NV	3.4E-06	7.6E-07	4.1E-06	1.1E-08	NV	2.3E-06	5.2E-07	2.8E-06	5.9E-09	NV	1.3E-06	2.9E-07	1.6E-06	3.9E-09	NV	8.5E-07	1.9E-07	1.0E-06
Dibenzo (a,h) anthracene	1.3E-04	NV	4.6E-05	1.0E-05	1.8E-04	9.3E-05	NV	3.4E-05	7.7E-06	1.3E-04	6.0E-05	NV	2.2E-05	5.0E-06	8.7E-05	4.8E-05	NV	1.7E-05	4.0E-06	6.9E-05
Fluoranthene	1.8E-08	NV	4.0E-06	9.1E-07	4.9E-06	1.3E-08	NV	2.9E-06	6.5E-07	3.5E-06	7.2E-09	NV	1.6E-06	3.6E-07	1.9E-06	4.7E-09	NV	1.0E-06	2.3E-07	1.3E-06
Fluorene	5.1E-10	5.6E-10	1.1E-07	2.5E-08	1.4E-07	3.9E-10	5.6E-10	8.4E-08	1.9E-08	1.0E-07	2.7E-10	5.6E-10	5.8E-08	1.3E-08	7.2E-08	2.2E-10	5.6E-10	4.7E-08	1.1E-08	5.9E-08
Indeno (1,2,3-cd) pyrene	5.5E-09	NV	1.2E-06	2.7E-07	1.5E-06	4.0E-09	NV	8.7E-07	2.0E-07	1.1E-06	2.5E-09	NV	5.4E-07	1.2E-07	6.6E-07	1.7E-09	NV	3.7E-07	8.5E-08	4.6E-07
Naphthalene	3.0E-08	2.0E-07	2.5E-07	5.7E-08	5.3E-07	2.3E-08	2.0E-07	1.9E-07	4.3E-08	4.5E-07	1.5E-08	2.0E-07	1.3E-07	2.9E-08	3.7E-07	1.2E-08	2.0E-07	1.0E-07	2.3E-08	3.3E-07
Phenanthrene	8.7E-10	NV	1.9E-07	4.3E-08	2.3E-07	5.7E-10	NV	1.2E-07	2.8E-08	1.5E-07	3.1E-10	NV	6.8E-08	1.5E-08	8.4E-08	2.1E-10	NV	4.5E-08	1.0E-08	5.6E-08
Pyrene	2.3E-08	1.7E-09	4.9E-06	1.1E-06	6.0E-06	1.5E-08	1.7E-09	3.4E-06	7.6E-07	4.1E-06	8.6E-09	1.7E-09	1.9E-06	4.3E-07	2.3E-06	5.7E-09	1.7E-09	1.2E-06	2.8E-07	1.5E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06	2.8E-08	1.2E-08	2.0E-06	1.4E-06	3.4E-06
alpha-Chlordane	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06	1.6E-07	NV	4.0E-06	2.7E-06	6.8E-06
Dieldrin	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05	3.1E-07	NV	2.2E-05	1.5E-05	3.8E-05
gamma-Chlordane	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06	1.7E-07	NV	4.3E-06	2.9E-06	7.4E-06

Table AOC11-B2.4a
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	2.6E-05	1.5E-05	5.7E-03	1.3E-03	7.1E-03	2.4E-05	1.5E-05	5.1E-03	1.2E-03	6.3E-03	1.6E-05	1.5E-05	3.4E-03	7.7E-04	4.2E-03	1.0E-05	1.5E-05	2.2E-03	5.1E-04	2.8E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	3.6E-06	1.2E-03	8.4E-04	2.9E-04	2.3E-03	3.8E-06	1.2E-03	9.0E-04	3.1E-04	2.4E-03	3.6E-06	1.2E-03	8.5E-04	2.9E-04	2.3E-03	3.1E-06	1.2E-03	7.3E-04	2.5E-04	2.2E-03
TPH as motor oil	1.5E-06	NV	2.1E-04	7.2E-05	2.9E-04	1.4E-06	NV	2.1E-04	7.1E-05	2.8E-04	1.3E-06	NV	1.9E-04	6.5E-05	2.6E-04	1.1E-06	NV	1.6E-04	5.4E-05	2.1E-04
Dioxins/Furans																				
TEQ Human	1.7E-05	9.9E-06	1.0E-02	1.2E-02	2.2E-02	2.3E-05	9.9E-06	1.4E-02	1.6E-02	3.1E-02	3.1E-05	9.9E-06	1.9E-02	2.2E-02	4.1E-02	2.6E-05	9.9E-06	1.6E-02	1.8E-02	3.4E-02
Total Hazard Index	5E-03	1E-03	2E-01	2E-01	4E-01	4E-03	1E-03	2E-01	2E-01	4E-01	4E-03	1E-03	2E-01	2E-01	4E-01	4E-03	1E-03	2E-01	2E-01	4E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.4b
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	6.2E-06	NV	4.2E-02	4.8E-01	5.2E-01	6.2E-06	NV	5.7E-03	4.5E-02	5.1E-02	6.2E-06	NV	4.2E-02	4.8E-01	5.2E-01	6.2E-06	NV	5.7E-03	4.5E-02	5.1E-02
Chromium, Hexavalent	3.0E-07	NV	NA	1.8E-04	1.8E-04	3.0E-07	NV	NA	1.7E-05	1.7E-05	3.1E-07	NV	NA	1.9E-04	1.9E-04	3.1E-07	NV	NA	1.8E-05	1.8E-05
Chromium, total	1.3E-10	NV	2.8E-07	9.8E-06	1.0E-05	1.3E-10	NV	3.9E-08	9.2E-07	9.5E-07	1.4E-10	NV	2.9E-07	9.9E-06	1.0E-05	1.4E-10	NV	3.9E-08	9.3E-07	9.7E-07
Copper	1.3E-09	NV	2.6E-06	9.1E-05	9.4E-05	1.3E-09	NV	3.6E-07	8.6E-06	8.9E-06	1.3E-09	NV	2.6E-06	9.1E-05	9.4E-05	1.3E-09	NV	3.6E-07	8.6E-06	8.9E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.7E-08	NV	9.5E-06	3.3E-04	3.4E-04	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05	9.7E-08	NV	9.5E-06	3.3E-04	3.4E-04	9.7E-08	NV	1.3E-06	3.1E-05	3.2E-05
Zinc	1.5E-09	NV	3.2E-06	1.1E-04	1.1E-04	1.5E-09	NV	4.3E-07	1.0E-05	1.1E-05	1.0E-09	NV	2.1E-06	7.4E-05	7.6E-05	1.0E-09	NV	2.9E-07	6.9E-06	7.2E-06
Volatile Organic Compounds																				
Methyl acetate	NS	9.1E-09	NS	NS	9.1E-09	NS	9.1E-09	NS	NS	9.1E-09	6.8E-14	9.1E-09	1.4E-09	5.0E-09	1.6E-08	6.8E-14	9.1E-09	2.0E-10	4.7E-10	9.8E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	1.3E-08	ND	ND	1.3E-08	ND	1.3E-08	ND	ND	1.3E-08	3.7E-13	1.3E-08	1.2E-08	2.7E-08	5.1E-08	3.7E-13	1.3E-08	1.6E-09	2.5E-09	1.7E-08
2-Methyl naphthalene	1.1E-11	1.4E-07	3.4E-07	7.7E-07	1.2E-06	1.1E-11	1.4E-07	4.6E-08	7.3E-08	2.5E-07	1.0E-11	1.4E-07	3.2E-07	7.3E-07	1.2E-06	1.0E-11	1.4E-07	4.3E-08	6.8E-08	2.5E-07
Acenaphthene	7.4E-13	2.1E-09	2.3E-08	5.4E-08	7.9E-08	7.4E-13	2.1E-09	3.2E-09	5.0E-09	1.0E-08	5.5E-13	2.1E-09	1.7E-08	4.0E-08	5.9E-08	5.5E-13	2.1E-09	2.4E-09	3.7E-09	8.2E-09
Acenaphthylene	6.2E-13	NV	1.9E-08	4.5E-08	6.4E-08	6.2E-13	NV	2.7E-09	4.2E-09	6.9E-09	4.7E-13	NV	1.5E-08	3.4E-08	4.9E-08	4.7E-13	NV	2.0E-09	3.2E-09	5.2E-09
Anthracene	7.3E-14	9.4E-11	2.3E-09	5.3E-09	7.7E-09	7.3E-14	9.4E-11	3.1E-10	5.0E-10	9.1E-10	6.2E-14	9.4E-11	2.0E-09	4.5E-09	6.6E-09	6.2E-14	9.4E-11	2.7E-10	4.2E-10	7.9E-10
Benzo (a) anthracene	1.7E-11	1.1E-09	5.5E-07	1.3E-06	1.8E-06	1.7E-11	1.1E-09	7.5E-08	1.2E-07	1.9E-07	1.2E-11	1.1E-09	3.7E-07	8.5E-07	1.2E-06	1.2E-11	1.1E-09	5.0E-08	8.0E-08	1.3E-07
Benzo (a) pyrene	1.2E-06	NV	6.2E-05	1.4E-04	2.1E-04	1.2E-06	NV	8.5E-06	1.3E-05	2.3E-05	8.4E-07	NV	4.4E-05	1.0E-04	1.5E-04	8.4E-07	NV	6.0E-06	9.5E-06	1.6E-05
Benzo (b) fluoranthene	3.2E-11	NV	1.0E-06	2.3E-06	3.3E-06	3.2E-11	NV	1.4E-07	2.2E-07	3.5E-07	2.2E-11	NV	7.1E-07	1.6E-06	2.3E-06	2.2E-11	NV	9.7E-08	1.5E-07	2.5E-07
Benzo (ghi) perylene	9.6E-12	NV	3.0E-07	7.0E-07	1.0E-06	9.6E-12	NV	4.1E-08	6.5E-08	1.1E-07	7.2E-12	NV	2.3E-07	5.2E-07	7.5E-07	7.2E-12	NV	3.1E-08	4.9E-08	8.0E-08
Benzo (k) fluoranthene	1.2E-11	NV	3.7E-07	8.4E-07	1.2E-06	1.2E-11	NV	5.0E-08	7.9E-08	1.3E-07	8.2E-12	NV	2.6E-07	5.9E-07	8.5E-07	8.2E-12	NV	3.5E-08	5.6E-08	9.1E-08
Chrysene	2.7E-11	NV	8.6E-07	2.0E-06	2.8E-06	2.7E-11	NV	1.2E-07	1.9E-07	3.0E-07	1.9E-11	NV	5.9E-07	1.4E-06	1.9E-06	1.9E-11	NV	8.0E-08	1.3E-07	2.1E-07
Dibenzo (a,h) anthracene	2.2E-07	NV	1.2E-05	2.7E-05	3.9E-05	2.2E-07	NV	1.6E-06	2.5E-06	4.4E-06	1.6E-07	NV	8.6E-06	2.0E-05	2.9E-05	1.6E-07	NV	1.2E-06	1.9E-06	3.2E-06
Fluoranthene	3.2E-11	NV	1.0E-06	2.4E-06	3.4E-06	3.2E-11	NV	1.4E-07	2.2E-07	3.6E-07	2.3E-11	NV	7.3E-07	1.7E-06	2.4E-06	2.3E-11	NV	1.0E-07	1.6E-07	2.6E-07
Fluorene	9.0E-13	1.4E-09	2.8E-08	6.5E-08	9.5E-08	9.0E-13	1.4E-09	3.9E-09	6.1E-09	1.1E-08	6.8E-13	1.4E-09	2.2E-08	5.0E-08	7.3E-08	6.8E-13	1.4E-09	2.9E-09	4.6E-09	9.0E-09
Indeno (1,2,3-cd) pyrene	9.7E-12	NV	3.1E-07	7.0E-07	1.0E-06	9.7E-12	NV	4.2E-08	6.6E-08	1.1E-07	7.1E-12	NV	2.2E-07	5.1E-07	7.4E-07	7.1E-12	NV	3.0E-08	4.8E-08	7.8E-08
Naphthalene	5.4E-11	5.0E-07	6.4E-08	1.5E-07	7.1E-07	5.4E-11	5.0E-07	8.7E-09	1.4E-08	5.3E-07	4.0E-11	5.0E-07	4.8E-08	1.1E-07	6.6E-07	4.0E-11	5.0E-07	6.5E-09	1.0E-08	5.2E-07
Phenanthrene	1.5E-12	NV	4.8E-08	1.1E-07	1.6E-07	1.5E-12	NV	6.6E-09	1.0E-08	1.7E-08	1.0E-12	NV	3.2E-08	7.3E-08	1.0E-07	1.0E-12	NV	4.3E-09	6.9E-09	1.1E-08
Pyrene	4.0E-11	4.4E-09	1.3E-06	2.9E-06	4.1E-06	4.0E-11	4.4E-09	1.7E-07	2.7E-07	4.5E-07	2.7E-11	4.4E-09	8.6E-07	2.0E-06	2.8E-06	2.7E-11	4.4E-09	1.2E-07	1.9E-07	3.1E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	8.2E-11	5.4E-08	8.6E-07	5.9E-06	6.9E-06	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07	8.2E-11	5.4E-08	8.6E-07	5.9E-06	6.9E-06	8.2E-11	5.4E-08	1.2E-07	5.6E-07	7.3E-07
alpha-Chlordane	2.8E-10	NV	1.0E-06	7.0E-06	8.0E-06	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07	2.8E-10	NV	1.0E-06	7.0E-06	8.0E-06	2.8E-10	NV	1.4E-07	6.6E-07	8.0E-07
Dieldrin	5.4E-10	NV	5.7E-06	3.9E-05	4.5E-05	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06	5.4E-10	NV	5.7E-06	3.9E-05	4.5E-05	5.4E-10	NV	7.8E-07	3.7E-06	4.4E-06
gamma-Chlordane	3.0E-10	NV	1.1E-06	7.6E-06	8.7E-06	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07	3.0E-10	NV	1.1E-06	7.6E-06	8.7E-06	3.0E-10	NV	1.5E-07	7.1E-07	8.6E-07

Table AOC11-B2.4b
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	4.7E-08	3.8E-05	1.5E-03	3.4E-03	4.9E-03	4.7E-08	3.8E-05	2.0E-04	3.2E-04	5.5E-04	4.1E-08	3.8E-05	1.3E-03	3.0E-03	4.4E-03	4.1E-08	3.8E-05	1.8E-04	2.8E-04	5.0E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	6.3E-09	3.0E-03	2.1E-04	7.4E-04	4.0E-03	6.3E-09	3.0E-03	2.9E-05	6.9E-05	3.1E-03	6.8E-09	3.0E-03	2.3E-04	8.0E-04	4.0E-03	6.8E-09	3.0E-03	3.2E-05	7.5E-05	3.1E-03
TPH as motor oil	2.6E-09	NV	5.4E-05	1.9E-04	2.4E-04	2.6E-09	NV	7.4E-06	1.8E-05	2.5E-05	2.5E-09	NV	5.3E-05	1.8E-04	2.4E-04	2.5E-09	NV	7.3E-06	1.7E-05	2.5E-05
Dioxins/Furans																				
TEQ Human	2.9E-08	2.6E-05	2.7E-03	3.1E-02	3.3E-02	2.9E-08	2.6E-05	3.6E-04	2.9E-03	3.3E-03	4.1E-08	2.6E-05	3.7E-03	4.2E-02	4.6E-02	4.1E-08	2.6E-05	5.0E-04	4.0E-03	4.5E-03
Total Hazard Index	8E-06	3E-03	5E-02	5E-01	6E-01	8E-06	3E-03	6E-03	5E-02	6E-02	8E-06	3E-03	5E-02	5E-01	6E-01	8E-06	3E-03	6E-03	5E-02	6E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.4c
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.2E-05	NV	8.3E-02	9.6E-01	1.0E+00	1.2E-05	NV	1.1E-02	9.0E-02	1.0E-01	1.2E-05	NV	8.4E-02	9.7E-01	1.0E+00	1.2E-05	NV	1.1E-02	9.0E-02	1.0E-01
Chromium, Hexavalent	6.1E-07	NV	NA	3.7E-04	3.7E-04	6.1E-07	NV	NA	3.4E-05	3.5E-05	6.3E-07	NV	NA	3.8E-04	3.8E-04	6.3E-07	NV	NA	3.5E-05	3.6E-05
Chromium, total	2.7E-10	NV	5.7E-07	2.0E-05	2.0E-05	2.7E-10	NV	7.7E-08	1.8E-06	1.9E-06	2.7E-10	NV	5.7E-07	2.0E-05	2.0E-05	2.7E-10	NV	7.8E-08	1.9E-06	1.9E-06
Copper	2.5E-09	NV	5.3E-06	1.8E-04	1.9E-04	2.5E-09	NV	7.2E-07	1.7E-05	1.8E-05	2.5E-09	NV	5.3E-06	1.8E-04	1.9E-04	2.5E-09	NV	7.2E-07	1.7E-05	1.8E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-07	NV	1.9E-05	6.6E-04	6.8E-04	1.9E-07	NV	2.6E-06	6.2E-05	6.4E-05	1.9E-07	NV	1.9E-05	6.6E-04	6.8E-04	1.9E-07	NV	2.6E-06	6.2E-05	6.4E-05
Zinc	3.0E-09	NV	6.3E-06	2.2E-04	2.2E-04	3.0E-09	NV	8.6E-07	2.0E-05	2.1E-05	2.0E-09	NV	4.3E-06	1.5E-04	1.5E-04	2.0E-09	NV	5.8E-07	1.4E-05	1.4E-05
Volatile Organic Compounds																				
Methyl acetate	NS	1.8E-08	NS	NS	1.8E-08	NS	1.8E-08	NS	NS	1.8E-08	1.4E-13	1.8E-08	2.9E-09	9.9E-09	3.1E-08	1.4E-13	1.8E-08	3.9E-10	9.3E-10	2.0E-08
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	2.5E-08	ND	ND	2.5E-08	ND	2.5E-08	ND	ND	2.5E-08	7.3E-13	2.5E-08	2.3E-08	5.3E-08	1.0E-07	7.3E-13	2.5E-08	3.2E-09	5.0E-09	3.4E-08
2-Methyl naphthalene	2.1E-11	2.7E-07	6.7E-07	1.5E-06	2.5E-06	2.1E-11	2.7E-07	9.2E-08	1.5E-07	5.1E-07	2.0E-11	2.7E-07	6.3E-07	1.5E-06	2.4E-06	2.0E-11	2.7E-07	8.6E-08	1.4E-07	5.0E-07
Acenaphthene	1.5E-12	4.3E-09	4.7E-08	1.1E-07	1.6E-07	1.5E-12	4.3E-09	6.4E-09	1.0E-08	2.1E-08	1.1E-12	4.3E-09	3.5E-08	8.0E-08	1.2E-07	1.1E-12	4.3E-09	4.7E-09	7.5E-09	1.6E-08
Acenaphthylene	1.2E-12	NV	3.9E-08	9.0E-08	1.3E-07	1.2E-12	NV	5.3E-09	8.4E-09	1.4E-08	9.4E-13	NV	3.0E-08	6.8E-08	9.8E-08	9.4E-13	NV	4.0E-09	6.4E-09	1.0E-08
Anthracene	1.5E-13	1.9E-10	4.6E-09	1.1E-08	1.5E-08	1.5E-13	1.9E-10	6.3E-10	9.9E-10	1.8E-09	1.2E-13	1.9E-10	3.9E-09	9.0E-09	1.3E-08	1.2E-13	1.9E-10	5.4E-10	8.5E-10	1.6E-09
Benzo (a) anthracene	3.5E-11	2.2E-09	1.1E-06	2.5E-06	3.6E-06	3.5E-11	2.2E-09	1.5E-07	2.4E-07	3.9E-07	2.3E-11	2.2E-09	7.4E-07	1.7E-06	2.4E-06	2.3E-11	2.2E-09	1.0E-07	1.6E-07	2.6E-07
Benzo (a) pyrene	2.4E-06	NV	1.2E-04	2.9E-04	4.1E-04	2.4E-06	NV	1.7E-05	2.7E-05	4.6E-05	1.7E-06	NV	8.8E-05	2.0E-04	2.9E-04	1.7E-06	NV	1.2E-05	1.9E-05	3.3E-05
Benzo (b) fluoranthene	6.4E-11	NV	2.0E-06	4.6E-06	6.6E-06	6.4E-11	NV	2.7E-07	4.3E-07	7.1E-07	4.5E-11	NV	1.4E-06	3.3E-06	4.7E-06	4.5E-11	NV	1.9E-07	3.1E-07	5.0E-07
Benzo (ghi) perylene	1.9E-11	NV	6.1E-07	1.4E-06	2.0E-06	1.9E-11	NV	8.3E-08	1.3E-07	2.1E-07	1.4E-11	NV	4.5E-07	1.0E-06	1.5E-06	1.4E-11	NV	6.2E-08	9.7E-08	1.6E-07
Benzo (k) fluoranthene	2.3E-11	NV	7.3E-07	1.7E-06	2.4E-06	2.3E-11	NV	1.0E-07	1.6E-07	2.6E-07	1.6E-11	NV	5.2E-07	1.2E-06	1.7E-06	1.6E-11	NV	7.0E-08	1.1E-07	1.8E-07
Chrysene	5.5E-11	NV	1.7E-06	4.0E-06	5.7E-06	5.5E-11	NV	2.3E-07	3.7E-07	6.1E-07	3.7E-11	NV	1.2E-06	2.7E-06	3.9E-06	3.7E-11	NV	1.6E-07	2.5E-07	4.1E-07
Dibenzo (a,h) anthracene	4.5E-07	NV	2.3E-05	5.4E-05	7.8E-05	4.5E-07	NV	3.2E-06	5.1E-06	8.7E-06	3.3E-07	NV	1.7E-05	4.0E-05	5.7E-05	3.3E-07	NV	2.4E-06	3.7E-06	6.4E-06
Fluoranthene	6.5E-11	NV	2.0E-06	4.7E-06	6.8E-06	6.5E-11	NV	2.8E-07	4.4E-07	7.2E-07	4.6E-11	NV	1.5E-06	3.4E-06	4.8E-06	4.6E-11	NV	2.0E-07	3.2E-07	5.1E-07
Fluorene	1.8E-12	2.9E-09	5.7E-08	1.3E-07	1.9E-07	1.8E-12	2.9E-09	7.7E-09	1.2E-08	2.3E-08	1.4E-12	2.9E-09	4.3E-08	9.9E-08	1.5E-07	1.4E-12	2.9E-09	5.9E-09	9.3E-09	1.8E-08
Indeno (1,2,3-cd) pyrene	1.9E-11	NV	6.1E-07	1.4E-06	2.0E-06	1.9E-11	NV	8.4E-08	1.3E-07	2.2E-07	1.4E-11	NV	4.5E-07	1.0E-06	1.5E-06	1.4E-11	NV	6.1E-08	9.6E-08	1.6E-07
Naphthalene	1.1E-10	1.0E-06	1.3E-07	2.9E-07	1.4E-06	1.1E-10	1.0E-06	1.7E-08	2.7E-08	1.1E-06	8.1E-11	1.0E-06	9.6E-08	2.2E-07	1.3E-06	8.1E-11	1.0E-06	1.3E-08	2.1E-08	1.0E-06
Phenanthrene	3.1E-12	NV	9.7E-08	2.2E-07	3.2E-07	3.1E-12	NV	1.3E-08	2.1E-08	3.4E-08	2.0E-12	NV	6.4E-08	1.5E-07	2.1E-07	2.0E-12	NV	8.7E-09	1.4E-08	2.2E-08
Pyrene	8.0E-11	8.8E-09	2.5E-06	5.8E-06	8.3E-06	8.0E-11	8.8E-09	3.4E-07	5.4E-07	8.9E-07	5.5E-11	8.8E-09	1.7E-06	4.0E-06	5.7E-06	5.5E-11	8.8E-09	2.3E-07	3.7E-07	6.1E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.6E-10	1.1E-07	1.7E-06	1.2E-05	1.4E-05	1.6E-10	1.1E-07	2.4E-07	1.1E-06	1.5E-06	1.6E-10	1.1E-07	1.7E-06	1.2E-05	1.4E-05	1.6E-10	1.1E-07	2.4E-07	1.1E-06	1.5E-06
alpha-Chlordane	5.5E-10	NV	2.0E-06	1.4E-05	1.6E-05	5.5E-10	NV	2.8E-07	1.3E-06	1.6E-06	5.5E-10	NV	2.0E-06	1.4E-05	1.6E-05	5.5E-10	NV	2.8E-07	1.3E-06	1.6E-06
Dieldrin	1.1E-09	NV	1.1E-05	7.8E-05	9.0E-05	1.1E-09	NV	1.6E-06	7.3E-06	8.9E-06	1.1E-09	NV	1.1E-05	7.8E-05	9.0E-05	1.1E-09	NV	1.6E-06	7.3E-06	8.9E-06
gamma-Chlordane	6.0E-10	NV	2.2E-06	1.5E-05	1.7E-05	6.0E-10	NV	3.0E-07	1.4E-06	1.7E-06	6.0E-10	NV	2.2E-06	1.5E-05	1.7E-05	6.0E-10	NV	3.0E-07	1.4E-06	1.7E-06

Table AOC11-B2.4c
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	9.3E-08	7.6E-05	2.9E-03	6.8E-03	9.8E-03	9.3E-08	7.6E-05	4.0E-04	6.3E-04	1.1E-03	8.3E-08	7.6E-05	2.6E-03	6.0E-03	8.7E-03	8.3E-08	7.6E-05	3.6E-04	5.6E-04	1.0E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	1.3E-08	6.0E-03	4.3E-04	1.5E-03	7.9E-03	1.3E-08	6.0E-03	5.9E-05	1.4E-04	6.2E-03	1.4E-08	6.0E-03	4.6E-04	1.6E-03	8.1E-03	1.4E-08	6.0E-03	6.3E-05	1.5E-04	6.2E-03
TPH as motor oil	5.2E-09	NV	1.1E-04	3.7E-04	4.8E-04	5.2E-09	NV	1.5E-05	3.5E-05	5.0E-05	5.1E-09	NV	1.1E-04	3.7E-04	4.7E-04	5.1E-09	NV	1.5E-05	3.4E-05	4.9E-05
Dioxins/Furans																				
TEQ Human	5.9E-08	5.1E-05	5.3E-03	6.1E-02	6.6E-02	5.9E-08	5.1E-05	7.3E-04	5.7E-03	6.5E-03	8.1E-08	5.1E-05	7.3E-03	8.4E-02	9.2E-02	8.1E-08	5.1E-05	1.0E-03	7.9E-03	9.0E-03
Total Hazard Index	2E-05	6E-03	9E-02	1E+00	1E+00	2E-05	6E-03	1E-02	1E-01	1E-01	2E-05	6E-03	9E-02	1E+00	1E+00	2E-05	6E-03	1E-02	1E-01	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.4d
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.2E-03	NV	1.5E-01	6.7E-02	2.2E-01	1.2E-03	NV	1.3E-01	2.8E-02	1.6E-01	1.2E-03	NV	1.5E-01	6.8E-02	2.2E-01	1.2E-03	NV	1.3E-01	2.8E-02	1.6E-01
Chromium, Hexavalent	6.1E-05	NV	NA	2.6E-05	8.7E-05	6.1E-05	NV	NA	1.1E-05	7.1E-05	6.3E-05	NV	NA	2.7E-05	8.9E-05	6.3E-05	NV	NA	1.1E-05	7.4E-05
Chromium, total	2.7E-08	NV	1.0E-06	1.4E-06	2.4E-06	2.7E-08	NV	8.8E-07	5.7E-07	1.5E-06	2.7E-08	NV	1.0E-06	1.4E-06	2.5E-06	2.7E-08	NV	9.0E-07	5.7E-07	1.5E-06
Copper	2.5E-07	NV	9.6E-06	1.3E-05	2.3E-05	2.5E-07	NV	8.3E-06	5.3E-06	1.4E-05	2.5E-07	NV	9.6E-06	1.3E-05	2.3E-05	2.5E-07	NV	8.3E-06	5.3E-06	1.4E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.9E-05	NV	3.5E-05	4.6E-05	1.0E-04	1.9E-05	NV	3.0E-05	1.9E-05	6.8E-05	1.9E-05	NV	3.5E-05	4.6E-05	1.0E-04	1.9E-05	NV	3.0E-05	1.9E-05	6.8E-05
Zinc	3.0E-07	NV	1.2E-05	1.5E-05	2.7E-05	3.0E-07	NV	9.9E-06	6.3E-06	1.7E-05	2.0E-07	NV	7.8E-06	1.0E-05	1.8E-05	2.0E-07	NV	6.7E-06	4.3E-06	1.1E-05
Volatile Organic Compounds																				
Methyl acetate	NS	1.1E-09	NS	NS	1.1E-09	NS	1.1E-09	NS	NS	1.1E-09	1.4E-11	1.1E-09	5.2E-09	7.0E-10	7.1E-09	1.4E-11	1.1E-09	4.5E-09	2.9E-10	5.9E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	ND	1.6E-09	ND	ND	1.6E-09	ND	1.6E-09	ND	ND	1.6E-09	7.4E-11	1.6E-09	4.2E-08	3.7E-09	4.7E-08	7.4E-11	1.6E-09	3.6E-08	1.5E-09	3.9E-08
2-Methyl naphthalene	2.1E-09	1.7E-08	1.2E-06	1.1E-07	1.4E-06	2.1E-09	1.7E-08	1.1E-06	4.5E-08	1.1E-06	2.0E-09	1.7E-08	1.1E-06	1.0E-07	1.3E-06	2.0E-09	1.7E-08	9.9E-07	4.2E-08	1.0E-06
Acenaphthene	1.5E-10	2.7E-10	8.5E-08	7.5E-09	9.3E-08	1.5E-10	2.7E-10	7.3E-08	3.1E-09	7.6E-08	1.1E-10	2.7E-10	6.3E-08	5.6E-09	6.9E-08	1.1E-10	2.7E-10	5.4E-08	2.3E-09	5.7E-08
Acenaphthylene	1.2E-10	NV	7.1E-08	6.3E-09	7.7E-08	1.2E-10	NV	6.1E-08	2.6E-09	6.4E-08	9.4E-11	NV	5.4E-08	4.8E-09	5.9E-08	9.4E-11	NV	4.6E-08	2.0E-09	4.8E-08
Anthracene	1.5E-11	1.2E-11	8.4E-09	7.5E-10	9.2E-09	1.5E-11	1.2E-11	7.2E-09	3.1E-10	7.5E-09	1.3E-11	1.2E-11	7.1E-09	6.4E-10	7.8E-09	1.3E-11	1.2E-11	6.1E-09	2.6E-10	6.4E-09
Benzo (a) anthracene	3.5E-09	1.4E-10	2.0E-06	1.8E-07	2.2E-06	3.5E-09	1.4E-10	1.7E-06	7.3E-08	1.8E-06	2.3E-09	1.4E-10	1.3E-06	1.2E-07	1.5E-06	2.3E-09	1.4E-10	1.2E-06	4.9E-08	1.2E-06
Benzo (a) pyrene	2.4E-04	NV	2.3E-04	2.0E-05	4.8E-04	2.4E-04	NV	1.9E-04	8.3E-06	4.4E-04	1.7E-04	NV	1.6E-04	1.4E-05	3.4E-04	1.7E-04	NV	1.4E-04	5.9E-06	3.1E-04
Benzo (b) fluoranthene	6.4E-09	NV	3.7E-06	3.2E-07	4.0E-06	6.4E-09	NV	3.1E-06	1.3E-07	3.3E-06	4.5E-09	NV	2.6E-06	2.3E-07	2.8E-06	4.5E-09	NV	2.2E-06	9.4E-08	2.3E-06
Benzo (ghi) perylene	1.9E-09	NV	1.1E-06	9.8E-08	1.2E-06	1.9E-09	NV	9.5E-07	4.0E-08	9.9E-07	1.4E-09	NV	8.2E-07	7.3E-08	9.0E-07	1.4E-09	NV	7.0E-07	3.0E-08	7.4E-07
Benzo (k) fluoranthene	2.3E-09	NV	1.3E-06	1.2E-07	1.5E-06	2.3E-09	NV	1.1E-06	4.9E-08	1.2E-06	1.6E-09	NV	9.4E-07	8.3E-08	1.0E-06	1.6E-09	NV	8.0E-07	3.4E-08	8.4E-07
Chrysene	5.5E-09	NV	3.1E-06	2.8E-07	3.4E-06	5.5E-09	NV	2.7E-06	1.1E-07	2.8E-06	3.7E-09	NV	2.1E-06	1.9E-07	2.3E-06	3.7E-09	NV	1.8E-06	7.9E-08	1.9E-06
Dibenzo (a,h) anthracene	4.5E-05	NV	4.3E-05	3.8E-06	9.1E-05	4.5E-05	NV	3.7E-05	1.6E-06	8.3E-05	3.3E-05	NV	3.1E-05	2.8E-06	6.7E-05	3.3E-05	NV	2.7E-05	1.2E-06	6.1E-05
Fluoranthene	6.5E-09	NV	3.7E-06	3.3E-07	4.1E-06	6.5E-09	NV	3.2E-06	1.4E-07	3.3E-06	4.6E-09	NV	2.7E-06	2.4E-07	2.9E-06	4.6E-09	NV	2.3E-06	9.7E-08	2.4E-06
Fluorene	1.8E-10	1.8E-10	1.0E-07	9.1E-09	1.1E-07	1.8E-10	1.8E-10	8.8E-08	3.8E-09	9.2E-08	1.4E-10	1.8E-10	7.8E-08	7.0E-09	8.6E-08	1.4E-10	1.8E-10	6.7E-08	2.9E-09	7.0E-08
Indeno (1,2,3-cd) pyrene	1.9E-09	NV	1.1E-06	9.9E-08	1.2E-06	1.9E-09	NV	9.6E-07	4.1E-08	1.0E-06	1.4E-09	NV	8.1E-07	7.2E-08	8.8E-07	1.4E-09	NV	7.0E-07	3.0E-08	7.3E-07
Naphthalene	1.1E-08	6.3E-08	2.3E-07	2.1E-08	3.3E-07	1.1E-08	6.3E-08	2.0E-07	8.5E-09	2.8E-07	8.1E-09	6.3E-08	1.7E-07	1.5E-08	2.6E-07	8.1E-09	6.3E-08	1.5E-07	6.4E-09	2.3E-07
Phenanthrene	3.1E-10	NV	1.8E-07	1.6E-08	1.9E-07	3.1E-10	NV	1.5E-07	6.4E-09	1.6E-07	2.0E-10	NV	1.2E-07	1.0E-08	1.3E-07	2.0E-10	NV	9.9E-08	4.2E-09	1.0E-07
Pyrene	8.0E-09	5.5E-10	4.6E-06	4.1E-07	5.0E-06	8.0E-09	5.5E-10	3.9E-06	1.7E-07	4.1E-06	5.5E-09	5.5E-10	3.1E-06	2.8E-07	3.4E-06	5.5E-09	5.5E-10	2.7E-06	1.1E-07	2.8E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.6E-08	6.7E-09	3.1E-06	8.4E-07	4.0E-06	1.6E-08	6.7E-09	2.7E-06	3.4E-07	3.1E-06	1.6E-08	6.7E-09	3.1E-06	8.4E-07	4.0E-06	1.6E-08	6.7E-09	2.7E-06	3.4E-07	3.1E-06
alpha-Chlordane	5.5E-08	NV	3.7E-06	9.9E-07	4.7E-06	5.5E-08	NV	3.2E-06	4.1E-07	3.6E-06	5.5E-08	NV	3.7E-06	9.9E-07	4.7E-06	5.5E-08	NV	3.2E-06	4.1E-07	3.6E-06
Dieldrin	1.1E-07	NV	2.1E-05	5.5E-06	2.6E-05	1.1E-07	NV	1.8E-05	2.3E-06	2.0E-05	1.1E-07	NV	2.1E-05	5.5E-06	2.6E-05	1.1E-07	NV	1.8E-05	2.3E-06	2.0E-05
gamma-Chlordane	6.0E-08	NV	4.0E-06	1.1E-06	5.1E-06	6.0E-08	NV	3.4E-06	4.4E-07	3.9E-06	6.0E-08	NV	4.0E-06	1.1E-06	5.1E-06	6.0E-08	NV	3.4E-06	4.4E-07	3.9E-06

Table AOC11-B2.4d
Baseline Scenario HIs for COPCs in AOC 11 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	9.3E-06	4.7E-06	5.3E-03	4.7E-04	5.8E-03	9.3E-06	4.7E-06	4.6E-03	2.0E-04	4.8E-03	8.3E-06	4.7E-06	4.8E-03	4.2E-04	5.2E-03	8.3E-06	4.7E-06	4.1E-03	1.7E-04	4.3E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	1.3E-06	3.8E-04	7.8E-04	1.0E-04	1.3E-03	1.3E-06	3.8E-04	6.7E-04	4.3E-05	1.1E-03	1.4E-06	3.8E-04	8.4E-04	1.1E-04	1.3E-03	1.4E-06	3.8E-04	7.2E-04	4.6E-05	1.1E-03
TPH as motor oil	5.2E-07	NV	2.0E-04	2.6E-05	2.2E-04	5.2E-07	NV	1.7E-04	1.1E-05	1.8E-04	5.1E-07	NV	1.9E-04	2.6E-05	2.2E-04	5.1E-07	NV	1.7E-04	1.1E-05	1.8E-04
Dioxins/Furans																				
TEQ Human	5.9E-06	3.2E-06	9.7E-03	4.3E-03	1.4E-02	5.9E-06	3.2E-06	8.3E-03	1.8E-03	1.0E-02	8.2E-06	3.2E-06	1.3E-02	5.9E-03	1.9E-02	8.2E-06	3.2E-06	1.1E-02	2.4E-03	1.4E-02
Total Hazard Index	2E-03	4E-04	2E-01	7E-02	2E-01	2E-03	4E-04	1E-01	3E-02	2E-01	2E-03	4E-04	2E-01	7E-02	2E-01	2E-03	4E-04	1E-01	3E-02	2E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC11-B2.5a

Baseline Scenario Risk Evaluation for Lead in AOC 11 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	38.2	29.3	21.6	17.8
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.005	0.004	0.003	0.002
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.01	0.01	0.00
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC11-B2.5b

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	38.2
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.010	0.018	0.02	0.03	0.03
BLOOD Pb, PICA CHILD	0.019	0.04	0.04	0.05	0.06

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	7.9E-05	1%		7.9E-05	0.4%
Soil Ingestion	2.5E-4	9.6E-03	99%	5.0E-4	1.9E-02	100%
Inhalation	7.0E-8	2.7E-06	0.03%		2.7E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B2.5c

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	29.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.007	0.014	0.02	0.02	0.02
BLOOD Pb, PICA CHILD	0.015	0.03	0.03	0.04	0.04

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	6.1E-05	1%		6.1E-05	0.4%
Soil Ingestion	2.5E-4	7.4E-03	99%	5.0E-4	1.5E-02	100%
Inhalation	7.0E-8	2.0E-06	0.03%		2.0E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B2.5d

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	38.2
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.019	0.035	0.04	0.05	0.06
BLOOD Pb, PICA CHILD	0.039	0.07	0.08	0.10	0.12

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	1.6E-04	1%		1.6E-04	0.4%
Soil Ingestion	5.0E-4	1.9E-02	99%	1.0E-3	3.8E-02	100%
Inhalation	1.4E-7	5.3E-06	0.03%		5.3E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B2.5e

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	29.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.015	0.027	0.03	0.04	0.04
BLOOD Pb, PICA CHILD	0.030	0.05	0.06	0.08	0.09

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	1.2E-04	1%		1.2E-04	0.4%
Soil Ingestion	5.0E-4	1.5E-02	99%	1.0E-3	2.9E-02	100%
Inhalation	1.4E-7	4.1E-06	0.03%		4.1E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC11-B2.5f

Baseline Scenario Risk Evaluation for Lead in AOC 11 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	38.2
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.007	0.012	0.01	0.02	0.02
BLOOD Pb, PICA CHILD	0.039	0.07	0.08	0.10	0.12

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	6.3E-04	10%		6.3E-04	1.6%
Soil Ingestion	1.6E-4	5.9E-03	90%	1.0E-3	3.8E-02	98%
Inhalation	8.7E-9	3.3E-07	0.01%		3.3E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table AOC11-B2.5g

Baseline Scenario Risk Evaluation for Lead in AOC 11 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	29.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.005	0.009	0.01	0.01	0.02
BLOOD Pb, PICA CHILD	0.030	0.05	0.06	0.08	0.09

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	4.9E-04	10%		4.9E-04	1.6%
Soil Ingestion	1.6E-4	4.6E-03	90%	1.0E-3	2.9E-02	98%
Inhalation	8.7E-9	2.6E-07	0.01%		2.6E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at AOC 11 Using
Depth-Weighted EPCs and Area-Weighted EPCs



Attachment AOC11-C**Dose and Risk Calculations for Ecological Receptors at AOC11 Using Depth-Weighted EPCs and Area-Weighted EPCs**

Table AOC11-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 11
Table AOC11-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11
Table AOC11-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 11
Table AOC11-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11
Table AOC11-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 11
Table AOC11-C.6	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 11
Table AOC11-C.7	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11
Table AOC11-C.8	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 11
Table AOC11-C.9	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11
Table AOC11-C.10	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 11
Table AOC11-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC11-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 11

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Arsenic	5.28E+00	18	3E-01	5.28E+00	60	9E-02
Chromium, hexavalent	2.18E+00	1	2E+00	8.10E-01	0.4	2E+00
Chromium, total	5.85E+01	--	No SL	3.39E+01	57	6E-01
Copper	1.36E+01	70	2E-01	1.36E+01	80	2E-01
Lead	2.36E+01	120	2E-01	2.36E+01	1700	1E-02
Mercury	2.63E-01	0.3	9E-01	1.80E-01	0.1	2E+00
Zinc	1.80E+02	160	1E+00	1.80E+02	120	2E+00
Volatile Organic Compounds						
Methyl acetate	1.70E-02	--	No SL	--	--	No SL
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	3.69E-01	10	4E-02	3.69E-01	29	1E-02
PAH High molecular weight	4.83E+00	1.2	4E+00	4.83E+00	18	3E-01
Pesticides						
4,4-DDE	6.10E-03	0.9	7E-03	6.10E-03	0.01	6E-01
Alpha-Chlordane	1.20E-02	0.224	5E-02	1.20E-02	0.0043	3E+00
Dieldrin	6.70E-03	1	7E-03	6.70E-03	0.05	1E-01
Gamma-Chlordane	1.30E-02	0.224	6E-02	1.30E-02	0.0043	3E+00
Polychlorinated Biphenyls						
Total PCBs	4.44E-01	40	1E-02	4.44E-01	1	4E-01
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.00E+00	--	No SL	1.00E+00	8800	1E-04

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 mg/kg = milligrams per kilogram
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC11-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.3E+00	100% Plants	1.0E-01	2.0E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	8.1E-01	100% Plants	1.0E-01	8.9E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	3.4E+01	100% Plants	1.0E-01	2.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.4E+01	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.4E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.8E+02	100% Plants	1.0E-01	8.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	3.7E-01	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	4.8E+00	100% Plants	1.0E-01	8.1E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	m	100% Plants	1.0E-01	1.7E-03	3.8E-02	4.0E-03	1.0E+00
Alpha-Chlordane	Gambel's Quail	1.2E-02	m	100% Plants	1.0E-01	2.3E-03	3.8E-02	4.0E-03	1.0E+00
Dieldrin	Gambel's Quail	6.7E-03	m	100% Plants	1.0E-01	2.7E-03	3.8E-02	4.0E-03	1.0E+00
Gamma-Chlordane	Gambel's Quail	1.3E-02	m	100% Plants	1.0E-01	2.5E-03	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	4.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	7.7E+01	100% Plants	1.0E-01	8.5E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	1.7E+02	100% Plants	1.0E-01	1.3E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	5.3E+00	100% Insects	9.3E-02	7.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	8.1E-01	100% Insects	9.3E-02	2.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.4E+01	100% Insects	9.3E-02	7.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	m	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.0E+00
Zinc	Cactus Wren	1.8E+02	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	3.7E-01	100% Insects	9.3E-02	1.1E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	4.8E+00	100% Insects	9.3E-02	1.3E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	m	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.0E+00
Alpha-Chlordane	Cactus Wren	1.2E-02	m	100% Insects	9.3E-02	2.9E-01	3.9E-02	1.8E-01	1.0E+00
Dieldrin	Cactus Wren	6.7E-03	m	100% Insects	9.3E-02	9.8E-02	3.9E-02	1.8E-01	1.0E+00
Gamma-Chlordane	Cactus Wren	1.3E-02	m	100% Insects	9.3E-02	3.2E-01	3.9E-02	1.8E-01	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	7.7E+01	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	1.7E+02	100% Insects	9.3E-02	1.2E+03	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.3E+00	100% Insects	2.0E-02	7.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	8.1E-01	100% Insects	2.0E-02	2.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.4E+01	100% Insects	2.0E-02	7.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	m	100% Insects	2.0E-02	5.2E-01	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.8E+02	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.7E-01	100% Insects	2.0E-02	1.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.8E+00	100% Insects	2.0E-02	1.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	m	100% Insects	2.0E-02	1.3E-01	2.0E-01	4.1E-03	1.0E+00
Alpha-Chlordane	Desert Shrew	1.2E-02	m	100% Insects	2.0E-02	2.9E-01	2.0E-01	4.1E-03	1.0E+00
Dieldrin	Desert Shrew	6.7E-03	m	100% Insects	2.0E-02	9.8E-02	2.0E-01	4.1E-03	1.0E+00
Gamma-Chlordane	Desert Shrew	1.3E-02	m	100% Insects	2.0E-02	3.2E-01	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC11-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	7.6E-03	--	--	2.1E-02	2.9E-02	2.2E+00	3.6E+00	1E-02	8E-03
Chromium, hexavalent	Gambel's Quail	3.4E-03	--	--	3.2E-03	6.7E-03	2.5E+00	2.5E+01	3E-03	3E-04
Chromium, total	Gambel's Quail	9.2E-02	--	--	1.4E-01	2.3E-01	2.7E+00	1.6E+01	9E-02	1E-02
Copper	Gambel's Quail	2.1E-01	--	--	5.4E-02	2.6E-01	4.1E+00	1.2E+01	7E-02	2E-02
Lead	Gambel's Quail	6.0E-02	--	--	9.4E-02	1.5E-01	1.6E+00	3.3E+00	9E-02	5E-02
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	3.3E+00	--	--	7.2E-01	4.0E+00	6.6E+01	1.7E+02	6E-02	2E-02
Volatile Organic Compounds										
Methyl acetate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.5E-03	--	--	1.5E-03	8.0E-03	2.3E+01	2.3E+02	3E-04	3E-05
PAH High molecular weight	Gambel's Quail	3.1E-02	--	--	1.9E-02	5.0E-02	1.0E+01	1.0E+02	5E-03	5E-04
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	2.3E-01	2.3E+00	4E-04	4E-05
Alpha-Chlordane	Gambel's Quail	8.7E-05	--	--	4.8E-05	1.4E-04	2.1E+00	1.1E+01	6E-05	1E-05
Dieldrin	Gambel's Quail	1.1E-04	--	--	2.7E-05	1.3E-04	7.1E-02	3.8E+00	2E-03	3E-05
Gamma-Chlordane	Gambel's Quail	9.5E-05	--	--	5.2E-05	1.5E-04	2.1E+00	1.1E+01	7E-05	1E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.7E-04	--	--	1.8E-03	1.9E-03	9.0E-02	1.3E+00	2E-02	2E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.3E-02	--	--	3.1E-01	3.4E-01	1.4E+01	1.4E+02	2E-02	2E-03
TEQ Mammals	Gambel's Quail	5.0E-02	--	--	6.9E-01	7.4E-01	--	--	--	--
Inorganics										
Arsenic	Cactus Wren	--	1.4E-01	--	9.0E-02	2.3E-01	2.2E+00	3.6E+00	1E-01	7E-02
Chromium, hexavalent	Cactus Wren	--	4.5E-02	--	1.4E-02	5.9E-02	2.5E+00	2.5E+01	2E-02	2E-03
Chromium, total	Cactus Wren	--	1.9E+00	--	5.8E-01	2.5E+00	2.7E+00	1.6E+01	9E-01	2E-01
Copper	Cactus Wren	--	1.3E+00	--	2.3E-01	1.5E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.9E+00	--	4.0E-01	2.3E+00	1.6E+00	3.3E+00	1E+00	7E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	8.6E+01	--	3.1E+00	8.9E+01	6.6E+01	1.7E+02	1E+00	5E-01
Volatile Organic Compounds										
Methyl acetate	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.3E-03	2.1E-01	2.3E+01	2.3E+02	9E-03	9E-04
PAH High molecular weight	Cactus Wren	--	2.3E+00	--	8.2E-02	2.4E+00	1.0E+01	1.0E+02	2E-01	2E-02
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	2.3E-01	2.3E+00	1E-01	1E-02
Alpha-Chlordane	Cactus Wren	--	5.3E-02	--	2.0E-04	5.4E-02	2.1E+00	1.1E+01	3E-02	5E-03
Dieldrin	Cactus Wren	--	1.8E-02	--	1.1E-04	1.8E-02	7.1E-02	3.8E+00	3E-01	5E-03
Gamma-Chlordane	Cactus Wren	--	5.8E-02	--	2.2E-04	5.8E-02	2.1E+00	1.1E+01	3E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	2.5E-01	--	7.6E-03	2.6E-01	9.0E-02	1.3E+00	3E+00	2E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	8.6E+01	--	1.3E+00	8.8E+01	1.4E+01	1.4E+02	6E+00	6E-01
TEQ Mammals	Cactus Wren	--	2.2E+02	--	2.9E+00	2.3E+02	--	--	--	--
Inorganics										
Arsenic	Desert Shrew	--	1.6E-01	--	2.1E-02	1.8E-01	1.5E+00	2.4E+00	1E-01	7E-02
Chromium, hexavalent	Desert Shrew	--	5.0E-02	--	3.3E-03	5.4E-02	9.2E+00	3.8E+01	6E-03	1E-03
Chromium, total	Desert Shrew	--	2.1E+00	--	1.4E-01	2.2E+00	2.4E+00	9.6E+00	9E-01	2E-01
Copper	Desert Shrew	--	1.4E+00	--	5.5E-02	1.5E+00	9.4E+00	1.6E+01	2E-01	9E-02
Lead	Desert Shrew	--	2.1E+00	--	9.6E-02	2.2E+00	4.7E+00	8.9E+00	5E-01	2E-01
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	9.5E+01	--	7.3E-01	9.6E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Methyl acetate	Desert Shrew	--	--	--	--	0.0E+00	9.0E+01	3.6E+02	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.3E-01	6.6E+01	3.3E+02	3E-03	7E-04
PAH High molecular weight	Desert Shrew	--	2.5E+00	--	2.0E-02	2.6E+00	6.2E-01	3.1E+00	4E+00	8E-01
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	1.5E-01	7.4E-01	2E-01	4E-02
Alpha-Chlordane	Desert Shrew	--	5.9E-02	--	4.9E-05	5.9E-02	4.6E+00	9.2E+00	1E-02	6E-03
Dieldrin	Desert Shrew	--	2.0E-02	--	2.7E-05	2.0E-02	1.5E-02	3.0E-02	1E+00	7E-01
Gamma-Chlordane	Desert Shrew	--	6.4E-02	--	5.3E-05	6.4E-02	4.6E+00	9.2E+00	1E-02	7E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.8E-01	--	1.8E-03	2.8E-01	3.6E-01	1.3E+00	8E-01	2E-01

Table AOC11-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	7.7E+01	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.7E+02	100% Insects	2.0E-02	1.2E+03	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.3E+00	100% Plants	2.4E-02	2.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	2.2E+00	100% Plants	2.4E-02	8.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	5.9E+01	100% Plants	2.4E-02	2.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.4E+01	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.4E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03
Zinc	Merriam's Kangaroo Rat	1.8E+02	100% Plants	2.4E-02	8.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Merriam's Kangaroo Rat	1.7E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.7E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.8E+00	100% Plants	2.4E-02	8.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	m	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03
Alpha-Chlordane	Merriam's Kangaroo Rat	1.2E-02	m	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03
Dieldrin	Merriam's Kangaroo Rat	6.7E-03	m	100% Plants	2.4E-02	2.7E-03	3.4E-02	8.2E-02	2.0E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	1.3E-02	m	100% Plants	2.4E-02	2.5E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.4E-01	100% Plants	2.4E-02	4.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	1.5E+02	100% Plants	2.4E-02	8.5E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	2.3E+02	100% Plants	2.4E-02	1.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	9.6E+01	--	3.1E-01	9.6E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	2.5E+02	--	7.0E-01	2.5E+02	1.0E+00	1.0E+01	2E+02	2E+01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.6E-02	--	--	1.0E-02	2.7E-02	1.5E+00	2.3E+00	2E-02	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	7.3E-03	--	--	4.3E-03	1.2E-02	9.2E+00	3.8E+01	1E-03	3E-04
Chromium, total	Merriam's Kangaroo Rat	2.0E-01	--	--	1.2E-01	3.1E-01	2.4E+00	9.6E+00	1E-01	3E-02
Copper	Merriam's Kangaroo Rat	4.5E-01	--	--	2.7E-02	4.8E-01	9.0E+00	1.5E+01	5E-02	3E-02
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.7E-02	1.7E-01	4.7E+00	8.9E+00	4E-02	2E-02
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	7.1E+00	--	--	3.6E-01	7.4E+00	7.5E+01	3.0E+02	1E-01	2E-02
Volatile Organic Compounds										
Methyl acetate	Merriam's Kangaroo Rat	0.0E+00	--	--	3.4E-05	3.4E-05	9.0E+01	3.6E+02	4E-07	9E-08
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.3E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	4E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.7E-02	--	--	9.5E-03	7.6E-02	6.2E-01	3.1E+00	1E-01	2E-02
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	1.5E-01	7.4E-01	1E-03	2E-04
Alpha-Chlordane	Merriam's Kangaroo Rat	1.9E-04	--	--	2.4E-05	2.1E-04	4.6E+00	9.2E+00	5E-05	2E-05
Dieldrin	Merriam's Kangaroo Rat	2.3E-04	--	--	1.3E-05	2.4E-04	1.5E-02	3.0E-02	2E-02	8E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	2.0E-04	--	--	2.6E-05	2.3E-04	4.6E+00	9.2E+00	5E-05	2E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.7E-04	--	--	8.8E-04	1.2E-03	3.6E-01	1.3E+00	3E-03	1E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	7.0E-02	--	--	3.0E-01	3.7E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	1.1E-01	--	--	4.6E-01	5.6E-01	1.0E+00	1.0E+01	6E-01	6E-02

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.3E+00	100% Plants	1.0E-01	2.0E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.4E+01	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.4E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.8E+02	100% Plants	1.0E-01	8.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	4.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	5.3E+00	100% Insects	9.3E-02	7.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.4E+01	100% Insects	9.3E-02	7.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.8E+02	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.3E+00	100% Insects	2.0E-02	7.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.4E+01	100% Insects	2.0E-02	7.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.8E+02	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.7E-01	100% Insects	2.0E-02	1.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.8E+00	100% Insects	2.0E-02	1.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.3E+00	100% Plants	2.4E-02	2.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.4E+01	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.4E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.8E+02	100% Plants	2.4E-02	8.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.7E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.8E+00	100% Plants	2.4E-02	8.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.4E-01	100% Plants	2.4E-02	4.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	7.6E-03	--	--	2.1E-02	2.9E-02	5.5E+00	2.2E+01	5E-03	1E-03
Copper	Gambel's Quail	2.1E-01	--	--	5.4E-02	2.6E-01	2.3E+00	5.2E+01	1E-01	5E-03
Lead	Gambel's Quail	6.0E-02	--	--	9.4E-02	1.5E-01	1.4E-02	8.8E+00	1E+01	2E-02
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	3.3E+00	--	--	7.2E-01	4.0E+00	1.7E+01	1.7E+02	2E-01	2E-02
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	9.0E-03	6.0E-01	1E-02	2E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.7E-04	--	--	1.8E-03	1.9E-03	9.0E-02	1.3E+00	2E-02	2E-03
Inorganics										
Arsenic	Cactus Wren	--	1.4E-01	--	9.0E-02	2.3E-01	5.5E+00	2.2E+01	4E-02	1E-02
Copper	Cactus Wren	--	1.3E+00	--	2.3E-01	1.5E+00	2.3E+00	5.2E+01	7E-01	3E-02
Lead	Cactus Wren	--	1.9E+00	--	4.0E-01	2.3E+00	1.4E-02	8.8E+00	2E+02	3E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	8.6E+01	--	3.1E+00	8.9E+01	1.7E+01	1.7E+02	5E+00	5E-01
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	9.0E-03	6.0E-01	3E+00	4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	2.5E-01	--	7.6E-03	2.6E-01	9.0E-02	1.3E+00	3E+00	2E-01
Inorganics										
Arsenic	Desert Shrew	--	1.6E-01	--	2.1E-02	1.8E-01	3.2E-01	4.7E+00	6E-01	4E-02
Copper	Desert Shrew	--	1.4E+00	--	5.5E-02	1.5E+00	2.7E+00	6.3E+02	6E-01	2E-03
Lead	Desert Shrew	--	2.1E+00	--	9.6E-02	2.2E+00	1.0E+00	2.4E+02	2E+00	9E-03
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	9.5E+01	--	7.3E-01	9.6E+01	9.6E+00	4.1E+02	1E+01	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.3E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	2.5E+00	--	2.0E-02	2.6E+00	1.3E+00	3.3E+01	2E+00	8E-02
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	8.0E-01	1.6E+01	3E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.8E-01	--	1.8E-03	2.8E-01	3.6E-01	1.3E+00	8E-01	2E-01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.6E-02	--	--	1.0E-02	2.7E-02	3.2E-01	4.7E+00	8E-02	6E-03
Copper	Merriam's Kangaroo Rat	4.5E-01	--	--	2.7E-02	4.8E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.7E-02	1.7E-01	1.0E+00	2.4E+02	2E-01	7E-04
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	7.1E+00	--	--	3.6E-01	7.4E+00	9.6E+00	4.1E+02	8E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.3E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.7E-02	--	--	9.5E-03	7.6E-02	1.3E+00	3.3E+01	6E-02	2E-03
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	8.0E-01	1.6E+01	2E-04	1E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.7E-04	--	--	8.8E-04	1.2E-03	3.6E-01	1.3E+00	3E-03	1E-03

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.3E+00	100% Plants	1.0E-01	2.0E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Chromium, hexavalent	Gambel's Quail	8.1E-01	100% Plants	1.0E-01	8.9E-02	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Chromium, total	Gambel's Quail	3.4E+01	100% Plants	1.0E-01	2.4E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Copper	Gambel's Quail	1.4E+01	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Lead	Gambel's Quail	2.4E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Mercury	Gambel's Quail	1.8E-01 m	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Zinc	Gambel's Quail	1.8E+02	100% Plants	1.0E-01	8.6E+01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Volatile Organic Compounds									
Methyl acetate	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	3.7E-01	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
PAH High molecular weight	Gambel's Quail	4.8E+00	100% Plants	1.0E-01	8.1E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03 m	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Alpha-Chlordane	Gambel's Quail	1.2E-02 m	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Dieldrin	Gambel's Quail	6.7E-03 m	100% Plants	1.0E-01	2.7E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Gamma-Chlordane	Gambel's Quail	1.3E-02 m	100% Plants	1.0E-01	2.5E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	4.4E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	7.7E+01	100% Plants	1.0E-01	8.5E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
TEQ Mammals	Gambel's Quail	1.7E+02	100% Plants	1.0E-01	1.3E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Inorganics									
Arsenic	Cactus Wren	5.3E+00	100% Insects	9.3E-02	7.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	8.1E-01	100% Insects	9.3E-02	2.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.4E+01	100% Insects	9.3E-02	7.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01 m	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.8E+02	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	3.7E-01	100% Insects	9.3E-02	1.1E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	4.8E+00	100% Insects	9.3E-02	1.3E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03 m	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Alpha-Chlordane	Cactus Wren	1.2E-02 m	100% Insects	9.3E-02	2.9E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dieldrin	Cactus Wren	6.7E-03 m	100% Insects	9.3E-02	9.8E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Gamma-Chlordane	Cactus Wren	1.3E-02 m	100% Insects	9.3E-02	3.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	7.7E+01	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	1.7E+02	100% Insects	9.3E-02	1.2E+03	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.3E+00	100% Insects	2.0E-02	7.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	8.1E-01	100% Insects	2.0E-02	2.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.4E+01	100% Insects	2.0E-02	7.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01 m	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.8E+02	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.7E-01	100% Insects	2.0E-02	1.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.8E+00	100% Insects	2.0E-02	1.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03 m	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Alpha-Chlordane	Desert Shrew	1.2E-02 m	100% Insects	2.0E-02	2.9E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dieldrin	Desert Shrew	6.7E-03 m	100% Insects	2.0E-02	9.8E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Gamma-Chlordane	Desert Shrew	1.3E-02 m	100% Insects	2.0E-02	3.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC11-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	7.6E-03	--	--	2.1E-02	4.7E-03	2.2E+00	3.6E+00	2E-03	1E-03
Chromium, hexavalent	Gambel's Quail	3.4E-03	--	--	3.2E-03	1.1E-03	2.5E+00	2.5E+01	4E-04	4E-05
Chromium, total	Gambel's Quail	9.2E-02	--	--	1.4E-01	3.7E-02	2.7E+00	1.6E+01	1E-02	2E-03
Copper	Gambel's Quail	2.1E-01	--	--	5.4E-02	4.3E-02	4.1E+00	1.2E+01	1E-02	4E-03
Lead	Gambel's Quail	6.0E-02	--	--	9.4E-02	2.5E-02	1.6E+00	3.3E+00	2E-02	8E-03
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	1.2E-03	3.9E-02	1.8E-01	3E-02	7E-03
Zinc	Gambel's Quail	3.3E+00	--	--	7.2E-01	6.6E-01	6.6E+01	1.7E+02	1E-02	4E-03
Volatile Organic Compounds										
Methyl acetate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.5E-03	--	--	1.5E-03	1.3E-03	2.3E+01	2.3E+02	6E-05	6E-06
PAH High molecular weight	Gambel's Quail	3.1E-02	--	--	1.9E-02	8.2E-03	1.0E+01	1.0E+02	8E-04	8E-05
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	1.5E-05	2.3E-01	2.3E+00	7E-05	7E-06
Alpha-Chlordane	Gambel's Quail	8.7E-05	--	--	4.8E-05	2.2E-05	2.1E+00	1.1E+01	1E-05	2E-06
Dieldrin	Gambel's Quail	1.1E-04	--	--	2.7E-05	2.2E-05	7.1E-02	3.8E+00	3E-04	6E-06
Gamma-Chlordane	Gambel's Quail	9.5E-05	--	--	5.2E-05	2.4E-05	2.1E+00	1.1E+01	1E-05	2E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.7E-04	--	--	1.8E-03	3.2E-04	9.0E-02	1.3E+00	4E-03	2E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.3E-02	--	--	3.1E-01	5.6E-02	1.4E+01	1.4E+02	4E-03	4E-04
TEQ Mammals	Gambel's Quail	5.0E-02	--	--	6.9E-01	1.2E-01	--	--	--	--
Inorganics										
Arsenic	Cactus Wren	--	1.4E-01	--	9.0E-02	2.3E-01	2.2E+00	3.6E+00	1E-01	7E-02
Chromium, hexavalent	Cactus Wren	--	4.5E-02	--	1.4E-02	5.9E-02	2.5E+00	2.5E+01	2E-02	2E-03
Chromium, total	Cactus Wren	--	1.9E+00	--	5.8E-01	2.5E+00	2.7E+00	1.6E+01	9E-01	2E-01
Copper	Cactus Wren	--	1.3E+00	--	2.3E-01	1.5E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.9E+00	--	4.0E-01	2.3E+00	1.6E+00	3.3E+00	1E+00	7E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	8.6E+01	--	3.1E+00	8.9E+01	6.6E+01	1.7E+02	1E+00	5E-01
Volatile Organic Compounds										
Methyl acetate	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.3E-03	2.1E-01	2.3E+01	2.3E+02	9E-03	9E-04
PAH High molecular weight	Cactus Wren	--	2.3E+00	--	8.2E-02	2.4E+00	1.0E+01	1.0E+02	2E-01	2E-02
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	2.3E-01	2.3E+00	1E-01	1E-02
Alpha-Chlordane	Cactus Wren	--	5.3E-02	--	2.0E-04	5.4E-02	2.1E+00	1.1E+01	3E-02	5E-03
Dieldrin	Cactus Wren	--	1.8E-02	--	1.1E-04	1.8E-02	7.1E-02	3.8E+00	3E-01	5E-03
Gamma-Chlordane	Cactus Wren	--	5.8E-02	--	2.2E-04	5.8E-02	2.1E+00	1.1E+01	3E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	2.5E-01	--	7.6E-03	2.6E-01	9.0E-02	1.3E+00	3E+00	2E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	8.6E+01	--	1.3E+00	8.8E+01	1.4E+01	1.4E+02	6E+00	6E-01
TEQ Mammals	Cactus Wren	--	2.2E+02	--	2.9E+00	2.3E+02	--	--	--	--
Inorganics										
Arsenic	Desert Shrew	--	1.6E-01	--	2.1E-02	1.8E-01	1.5E+00	2.4E+00	1E-01	7E-02
Chromium, hexavalent	Desert Shrew	--	5.0E-02	--	3.3E-03	5.4E-02	9.2E+00	3.8E+01	6E-03	1E-03
Chromium, total	Desert Shrew	--	2.1E+00	--	1.4E-01	2.2E+00	2.4E+00	9.6E+00	9E-01	2E-01
Copper	Desert Shrew	--	1.4E+00	--	5.5E-02	1.5E+00	9.4E+00	1.6E+01	2E-01	9E-02
Lead	Desert Shrew	--	2.1E+00	--	9.6E-02	2.2E+00	4.7E+00	8.9E+00	5E-01	2E-01
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	9.5E+01	--	7.3E-01	9.6E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Methyl acetate	Desert Shrew	--	--	--	--	0.0E+00	9.0E+01	3.6E+02	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.3E-01	6.6E+01	3.3E+02	3E-03	7E-04
PAH High molecular weight	Desert Shrew	--	2.5E+00	--	2.0E-02	2.6E+00	6.2E-01	3.1E+00	4E+00	8E-01
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	1.5E-01	7.4E-01	2E-01	4E-02
Alpha-Chlordane	Desert Shrew	--	5.9E-02	--	4.9E-05	5.9E-02	4.6E+00	9.2E+00	1E-02	6E-03
Dieldrin	Desert Shrew	--	2.0E-02	--	2.7E-05	2.0E-02	1.5E-02	3.0E-02	1E+00	7E-01
Gamma-Chlordane	Desert Shrew	--	6.4E-02	--	5.3E-05	6.4E-02	4.6E+00	9.2E+00	1E-02	7E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.8E-01	--	1.8E-03	2.8E-01	3.6E-01	1.3E+00	8E-01	2E-01

Table AOC11-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	7.7E+01	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.7E+02	100% Insects	2.0E-02	1.2E+03	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.3E+00	100% Plants	2.4E-02	2.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	2.2E+00	100% Plants	2.4E-02	8.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	5.9E+01	100% Plants	2.4E-02	2.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.4E+01	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.4E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03
Zinc	Merriam's Kangaroo Rat	1.8E+02	100% Plants	2.4E-02	8.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Merriam's Kangaroo Rat	1.7E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.7E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.8E+00	100% Plants	2.4E-02	8.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	m	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03
Alpha-Chlordane	Merriam's Kangaroo Rat	1.2E-02	m	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03
Dieldrin	Merriam's Kangaroo Rat	6.7E-03	m	100% Plants	2.4E-02	2.7E-03	3.4E-02	8.2E-02	2.0E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	1.3E-02	m	100% Plants	2.4E-02	2.5E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.4E-01	100% Plants	2.4E-02	4.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	1.5E+02	100% Plants	2.4E-02	8.5E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	2.3E+02	100% Plants	2.4E-02	1.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	9.6E+01	--	3.1E-01	9.6E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	2.5E+02	--	7.0E-01	2.5E+02	1.0E+00	1.0E+01	2E+02	2E+01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.6E-02	--	--	1.0E-02	2.7E-02	1.5E+00	2.3E+00	2E-02	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	7.3E-03	--	--	4.3E-03	1.2E-02	9.2E+00	3.8E+01	1E-03	3E-04
Chromium, total	Merriam's Kangaroo Rat	2.0E-01	--	--	1.2E-01	3.1E-01	2.4E+00	9.6E+00	1E-01	3E-02
Copper	Merriam's Kangaroo Rat	4.5E-01	--	--	2.7E-02	4.8E-01	9.0E+00	1.5E+01	5E-02	3E-02
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.7E-02	1.7E-01	4.7E+00	8.9E+00	4E-02	2E-02
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	7.1E+00	--	--	3.6E-01	7.4E+00	7.5E+01	3.0E+02	1E-01	2E-02
Volatile Organic Compounds										
Methyl acetate	Merriam's Kangaroo Rat	0.0E+00	--	--	3.4E-05	3.4E-05	9.0E+01	3.6E+02	4E-07	9E-08
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.3E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	4E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.7E-02	--	--	9.5E-03	7.6E-02	6.2E-01	3.1E+00	1E-01	2E-02
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	1.5E-01	7.4E-01	1E-03	2E-04
Alpha-Chlordane	Merriam's Kangaroo Rat	1.9E-04	--	--	2.4E-05	2.1E-04	4.6E+00	9.2E+00	5E-05	2E-05
Dieldrin	Merriam's Kangaroo Rat	2.3E-04	--	--	1.3E-05	2.4E-04	1.5E-02	3.0E-02	2E-02	8E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	2.0E-04	--	--	2.6E-05	2.3E-04	4.6E+00	9.2E+00	5E-05	2E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.7E-04	--	--	8.8E-04	1.2E-03	3.6E-01	1.3E+00	3E-03	1E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	7.0E-02	--	--	3.0E-01	3.7E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	1.1E-01	--	--	4.6E-01	5.6E-01	1.0E+00	1.0E+01	6E-01	6E-02

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.3E+00	100% Plants	1.0E-01	2.0E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Copper	Gambel's Quail	1.4E+01	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Lead	Gambel's Quail	2.4E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Mercury	Gambel's Quail	1.8E-01m	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Zinc	Gambel's Quail	1.8E+02	100% Plants	1.0E-01	8.6E+01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03m	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	4.4E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Inorganics									
Arsenic	Cactus Wren	5.3E+00	100% Insects	9.3E-02	7.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.4E+01	100% Insects	9.3E-02	7.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.4E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01m	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.8E+02	100% Insects	9.3E-02	4.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03m	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.3E+00	100% Insects	2.0E-02	7.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.4E+01	100% Insects	2.0E-02	7.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.4E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01m	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.8E+02	100% Insects	2.0E-02	4.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.7E-01	100% Insects	2.0E-02	1.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.8E+00	100% Insects	2.0E-02	1.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03m	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.3E+00	100% Plants	2.4E-02	2.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.4E+01	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.4E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01m	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.8E+02	100% Plants	2.4E-02	8.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.7E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.8E+00	100% Plants	2.4E-02	8.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03m	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.4E-01	100% Plants	2.4E-02	4.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	7.6E-03	--	--	2.1E-02	4.7E-03	5.5E+00	2.2E+01	9E-04	2E-04
Copper	Gambel's Quail	2.1E-01	--	--	5.4E-02	4.3E-02	2.3E+00	5.2E+01	2E-02	8E-04
Lead	Gambel's Quail	6.0E-02	--	--	9.4E-02	2.5E-02	1.4E-02	8.8E+00	2E+00	3E-03
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	1.2E-03	3.9E-02	1.8E-01	3E-02	7E-03
Zinc	Gambel's Quail	3.3E+00	--	--	7.2E-01	6.6E-01	1.7E+01	1.7E+02	4E-02	4E-03
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	1.5E-05	9.0E-03	6.0E-01	2E-03	2E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.7E-04	--	--	1.8E-03	3.2E-04	9.0E-02	1.3E+00	4E-03	2E-04
Inorganics										
Arsenic	Cactus Wren	--	1.4E-01	--	9.0E-02	2.3E-01	5.5E+00	2.2E+01	4E-02	1E-02
Copper	Cactus Wren	--	1.3E+00	--	2.3E-01	1.5E+00	2.3E+00	5.2E+01	7E-01	3E-02
Lead	Cactus Wren	--	1.9E+00	--	4.0E-01	2.3E+00	1.4E-02	8.8E+00	2E+02	3E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	8.6E+01	--	3.1E+00	8.9E+01	1.7E+01	1.7E+02	5E+00	5E-01
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	9.0E-03	6.0E-01	3E+00	4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	2.5E-01	--	7.6E-03	2.6E-01	9.0E-02	1.3E+00	3E+00	2E-01
Inorganics										
Arsenic	Desert Shrew	--	1.6E-01	--	2.1E-02	1.8E-01	3.2E-01	4.7E+00	6E-01	4E-02
Copper	Desert Shrew	--	1.4E+00	--	5.5E-02	1.5E+00	2.7E+00	6.3E+02	6E-01	2E-03
Lead	Desert Shrew	--	2.1E+00	--	9.6E-02	2.2E+00	1.0E+00	2.4E+02	2E+00	9E-03
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	9.5E+01	--	7.3E-01	9.6E+01	9.6E+00	4.1E+02	1E+01	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.3E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	2.5E+00	--	2.0E-02	2.6E+00	1.3E+00	3.3E+01	2E+00	8E-02
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	8.0E-01	1.6E+01	3E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.8E-01	--	1.8E-03	2.8E-01	3.6E-01	1.3E+00	8E-01	2E-01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.6E-02	--	--	1.0E-02	2.7E-02	3.2E-01	4.7E+00	8E-02	6E-03
Copper	Merriam's Kangaroo Rat	4.5E-01	--	--	2.7E-02	4.8E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.7E-02	1.7E-01	1.0E+00	2.4E+02	2E-01	7E-04
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	7.1E+00	--	--	3.6E-01	7.4E+00	9.6E+00	4.1E+02	8E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.3E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.7E-02	--	--	9.5E-03	7.6E-02	1.3E+00	3.3E+01	6E-02	2E-03
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	8.0E-01	1.6E+01	2E-04	1E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.7E-04	--	--	8.8E-04	1.2E-03	3.6E-01	1.3E+00	3E-03	1E-03

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.6

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 11

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Arsenic	5.92E+00	18	3E-01	5.73E+00	60	1E-01
Chromium, hexavalent	2.05E+00	1	2E+00	1.88E+00	0.4	5E+00
Chromium, total	5.17E+01	--	No SL	5.01E+01	57	9E-01
Copper	1.33E+01	70	2E-01	1.25E+01	80	2E-01
Lead	3.82E+01	120	3E-01	3.82E+01	1700	2E-02
Mercury	2.63E-01	0.3	9E-01	1.80E-01	0.1	2E+00
Zinc	1.12E+02	160	7E-01	1.12E+02	120	9E-01
Volatile Organic Compounds						
Methyl acetate	1.70E-02	--	No SL	--	--	No SL
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	1.15E-01	10	1E-02	1.15E-01	29	4E-03
PAH High molecular weight	1.55E+00	1.2	1E+00	1.55E+00	18	9E-02
Pesticides						
4,4-DDE	6.10E-03	0.9	7E-03	6.10E-03	0.01	6E-01
Alpha-Chlordane	1.20E-02	0.224	5E-02	1.20E-02	0.0043	3E+00
Dieldrin	6.70E-03	1	7E-03	6.70E-03	0.05	1E-01
Gamma-Chlordane	1.30E-02	0.224	6E-02	1.30E-02	0.0043	3E+00
Polychlorinated Biphenyls						
Total PCBs	2.31E-01	40	6E-03	2.31E-01	1	2E-01
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.00E+00	--	No SL	1.00E+00	8800	1E-04

Notes:

	HQ greater than or equal to 1
	HQ greater than or equal to 10
	HQ greater than or equal to 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 mg/kg = milligrams per kilogram
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC11-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.7E+00	100% Plants	1.0E-01	2.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	1.9E+00	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	5.0E+01	100% Plants	1.0E-01	2.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.3E+01	100% Plants	1.0E-01	5.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	2.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	1.2E-01	100% Plants	1.0E-01	1.0E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	1.5E+00	100% Plants	1.0E-01	2.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	m	100% Plants	1.0E-01	1.7E-03	3.8E-02	4.0E-03	1.0E+00
Alpha-Chlordane	Gambel's Quail	1.2E-02	m	100% Plants	1.0E-01	2.3E-03	3.8E-02	4.0E-03	1.0E+00
Dieldrin	Gambel's Quail	6.7E-03	m	100% Plants	1.0E-01	2.7E-03	3.8E-02	4.0E-03	1.0E+00
Gamma-Chlordane	Gambel's Quail	1.3E-02	m	100% Plants	1.0E-01	2.5E-03	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.3E-01	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	4.4E+01	100% Plants	1.0E-01	5.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	7.3E+01	100% Plants	1.0E-01	7.3E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	5.7E+00	100% Insects	9.3E-02	8.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	1.9E+00	100% Insects	9.3E-02	5.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	5.0E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.3E+01	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	m	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.0E+00
Zinc	Cactus Wren	1.1E+02	100% Insects	9.3E-02	4.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	1.2E-01	100% Insects	9.3E-02	3.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	1.5E+00	100% Insects	9.3E-02	4.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	m	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.0E+00
Alpha-Chlordane	Cactus Wren	1.2E-02	m	100% Insects	9.3E-02	2.9E-01	3.9E-02	1.8E-01	1.0E+00
Dieldrin	Cactus Wren	6.7E-03	m	100% Insects	9.3E-02	9.8E-02	3.9E-02	1.8E-01	1.0E+00
Gamma-Chlordane	Cactus Wren	1.3E-02	m	100% Insects	9.3E-02	3.2E-01	3.9E-02	1.8E-01	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.3E-01	100% Insects	9.3E-02	5.6E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	4.4E+01	100% Insects	9.3E-02	2.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	7.3E+01	100% Insects	9.3E-02	4.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.7E+00	100% Insects	2.0E-02	8.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	1.9E+00	100% Insects	2.0E-02	5.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	5.0E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	m	100% Insects	2.0E-02	5.2E-01	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+02	100% Insects	2.0E-02	4.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.2E-01	100% Insects	2.0E-02	3.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.5E+00	100% Insects	2.0E-02	4.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	m	100% Insects	2.0E-02	1.3E-01	2.0E-01	4.1E-03	1.0E+00
Alpha-Chlordane	Desert Shrew	1.2E-02	m	100% Insects	2.0E-02	2.9E-01	2.0E-01	4.1E-03	1.0E+00
Dieldrin	Desert Shrew	6.7E-03	m	100% Insects	2.0E-02	9.8E-02	2.0E-01	4.1E-03	1.0E+00
Gamma-Chlordane	Desert Shrew	1.3E-02	m	100% Insects	2.0E-02	3.2E-01	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.3E-01	100% Insects	2.0E-02	5.6E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC11-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	8.5E-03	--	--	2.3E-02	3.1E-02	2.2E+00	3.6E+00	1E-02	9E-03
Chromium, hexavalent	Gambel's Quail	3.2E-03	--	--	7.5E-03	1.1E-02	2.5E+00	2.5E+01	4E-03	4E-04
Chromium, total	Gambel's Quail	8.1E-02	--	--	2.0E-01	2.8E-01	2.7E+00	1.6E+01	1E-01	2E-02
Copper	Gambel's Quail	2.1E-01	--	--	5.0E-02	2.6E-01	4.1E+00	1.2E+01	6E-02	2E-02
Lead	Gambel's Quail	7.8E-02	--	--	1.5E-01	2.3E-01	1.6E+00	3.3E+00	1E-01	7E-02
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	2.5E+00	--	--	4.5E-01	3.0E+00	6.6E+01	1.7E+02	5E-02	2E-02
Volatile Organic Compounds										
Methyl acetate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-03	--	--	4.6E-04	4.3E-03	2.3E+01	2.3E+02	2E-04	2E-05
PAH High molecular weight	Gambel's Quail	1.1E-02	--	--	6.2E-03	1.7E-02	1.0E+01	1.0E+02	2E-03	2E-04
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	2.3E-01	2.3E+00	4E-04	4E-05
Alpha-Chlordane	Gambel's Quail	8.7E-05	--	--	4.8E-05	1.4E-04	2.1E+00	1.1E+01	6E-05	1E-05
Dieldrin	Gambel's Quail	1.1E-04	--	--	2.7E-05	1.3E-04	7.1E-02	3.8E+00	2E-03	3E-05
Gamma-Chlordane	Gambel's Quail	9.5E-05	--	--	5.2E-05	1.5E-04	2.1E+00	1.1E+01	7E-05	1E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	8.9E-05	--	--	9.2E-04	1.0E-03	9.0E-02	1.3E+00	1E-02	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	2.0E-02	--	--	1.8E-01	2.0E-01	1.4E+01	1.4E+02	1E-02	1E-03
TEQ Mammals	Gambel's Quail	2.8E-02	--	--	2.9E-01	3.2E-01	--	--	--	--
Inorganics										
Arsenic	Cactus Wren	--	1.5E-01	--	9.8E-02	2.5E-01	2.2E+00	3.6E+00	1E-01	7E-02
Chromium, hexavalent	Cactus Wren	--	1.1E-01	--	3.2E-02	1.4E-01	2.5E+00	2.5E+01	5E-02	5E-03
Chromium, total	Cactus Wren	--	2.8E+00	--	8.5E-01	3.7E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.2E+00	--	2.1E-01	1.4E+00	4.1E+00	1.2E+01	3E-01	1E-01
Lead	Cactus Wren	--	2.8E+00	--	6.5E-01	3.4E+00	1.6E+00	3.3E+00	2E+00	1E+00
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	7.4E+01	--	1.9E+00	7.6E+01	6.6E+01	1.7E+02	1E+00	4E-01
Volatile Organic Compounds										
Methyl acetate	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	6.4E-02	--	2.0E-03	6.6E-02	2.3E+01	2.3E+02	3E-03	3E-04
PAH High molecular weight	Cactus Wren	--	7.4E-01	--	2.6E-02	7.6E-01	1.0E+01	1.0E+02	8E-02	8E-03
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	2.3E-01	2.3E+00	1E-01	1E-02
Alpha-Chlordane	Cactus Wren	--	5.3E-02	--	2.0E-04	5.4E-02	2.1E+00	1.1E+01	3E-02	5E-03
Dieldrin	Cactus Wren	--	1.8E-02	--	1.1E-04	1.8E-02	7.1E-02	3.8E+00	3E-01	5E-03
Gamma-Chlordane	Cactus Wren	--	5.8E-02	--	2.2E-04	5.8E-02	2.1E+00	1.1E+01	3E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.0E-01	--	3.9E-03	1.1E-01	9.0E-02	1.3E+00	1E+00	8E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	4.4E+01	--	7.5E-01	4.5E+01	1.4E+01	1.4E+02	3E+00	3E-01
TEQ Mammals	Cactus Wren	--	8.1E+01	--	1.2E+00	8.2E+01	--	--	--	--
Inorganics										
Arsenic	Desert Shrew	--	1.7E-01	--	2.3E-02	1.9E-01	1.5E+00	2.4E+00	1E-01	8E-02
Chromium, hexavalent	Desert Shrew	--	1.2E-01	--	7.6E-03	1.2E-01	9.2E+00	3.8E+01	1E-02	3E-03
Chromium, total	Desert Shrew	--	3.1E+00	--	2.0E-01	3.3E+00	2.4E+00	9.6E+00	1E+00	3E-01
Copper	Desert Shrew	--	1.3E+00	--	5.1E-02	1.4E+00	9.4E+00	1.6E+01	1E-01	9E-02
Lead	Desert Shrew	--	3.1E+00	--	1.6E-01	3.2E+00	4.7E+00	8.9E+00	7E-01	4E-01
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	8.2E+01	--	4.5E-01	8.2E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Methyl acetate	Desert Shrew	--	--	--	--	0.0E+00	9.0E+01	3.6E+02	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	7.1E-02	--	4.7E-04	7.1E-02	6.6E+01	3.3E+02	1E-03	2E-04
PAH High molecular weight	Desert Shrew	--	8.2E-01	--	6.3E-03	8.2E-01	6.2E-01	3.1E+00	1E+00	3E-01
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	1.5E-01	7.4E-01	2E-01	4E-02
Alpha-Chlordane	Desert Shrew	--	5.9E-02	--	4.9E-05	5.9E-02	4.6E+00	9.2E+00	1E-02	6E-03
Dieldrin	Desert Shrew	--	2.0E-02	--	2.7E-05	2.0E-02	1.5E-02	3.0E-02	1E+00	7E-01
Gamma-Chlordane	Desert Shrew	--	6.4E-02	--	5.3E-05	6.4E-02	4.6E+00	9.2E+00	1E-02	7E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.1E-01	--	9.4E-04	1.1E-01	3.6E-01	1.3E+00	3E-01	9E-02

Table AOC11-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	4.4E+01	100% Insects	2.0E-02	2.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	7.3E+01	100% Insects	2.0E-02	4.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.9E+00	100% Plants	2.4E-02	2.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	2.1E+00	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	5.2E+01	100% Plants	2.4E-02	2.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.3E+01	100% Plants	2.4E-02	5.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	2.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03
Zinc	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Merriam's Kangaroo Rat	1.7E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.5E+00	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	m	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03
Alpha-Chlordane	Merriam's Kangaroo Rat	1.2E-02	m	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03
Dieldrin	Merriam's Kangaroo Rat	6.7E-03	m	100% Plants	2.4E-02	2.7E-03	3.4E-02	8.2E-02	2.0E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	1.3E-02	m	100% Plants	2.4E-02	2.5E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.3E-01	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	9.4E+01	100% Plants	2.4E-02	5.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.9E+01	--	1.8E-01	4.9E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	9.0E+01	--	3.0E-01	9.0E+01	1.0E+00	1.0E+01	9E+01	9E+00
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.8E-02	--	--	1.2E-02	3.0E-02	1.5E+00	2.3E+00	2E-02	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	6.9E-03	--	--	4.0E-03	1.1E-02	9.2E+00	3.8E+01	1E-03	3E-04
Chromium, total	Merriam's Kangaroo Rat	1.7E-01	--	--	1.0E-01	2.8E-01	2.4E+00	9.6E+00	1E-01	3E-02
Copper	Merriam's Kangaroo Rat	4.4E-01	--	--	2.6E-02	4.7E-01	9.0E+00	1.5E+01	5E-02	3E-02
Lead	Merriam's Kangaroo Rat	1.7E-01	--	--	7.5E-02	2.4E-01	4.7E+00	8.9E+00	5E-02	3E-02
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	5.4E+00	--	--	2.2E-01	5.6E+00	7.5E+01	3.0E+02	7E-02	2E-02
Volatile Organic Compounds										
Methyl acetate	Merriam's Kangaroo Rat	0.0E+00	--	--	3.4E-05	3.4E-05	9.0E+01	3.6E+02	4E-07	9E-08
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	8.2E-03	--	--	2.3E-04	8.4E-03	6.6E+01	3.3E+02	1E-04	3E-05
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-02	--	--	3.1E-03	2.6E-02	6.2E-01	3.1E+00	4E-02	8E-03
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	1.5E-01	7.4E-01	1E-03	2E-04
Alpha-Chlordane	Merriam's Kangaroo Rat	1.9E-04	--	--	2.4E-05	2.1E-04	4.6E+00	9.2E+00	5E-05	2E-05
Dieldrin	Merriam's Kangaroo Rat	2.3E-04	--	--	1.3E-05	2.4E-04	1.5E-02	3.0E-02	2E-02	8E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	2.0E-04	--	--	2.6E-05	2.3E-04	4.6E+00	9.2E+00	5E-05	2E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.9E-04	--	--	4.6E-04	6.5E-04	3.6E-01	1.3E+00	2E-03	5E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	4.3E-02	--	--	1.8E-01	2.3E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	6.0E-02	--	--	2.6E-01	3.2E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.7E+00	100% Plants	1.0E-01	2.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.3E+01	100% Plants	1.0E-01	5.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	2.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.3E-01	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	5.7E+00	100% Insects	9.3E-02	8.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.3E+01	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.1E+02	100% Insects	9.3E-02	4.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.3E-01	100% Insects	9.3E-02	5.6E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.7E+00	100% Insects	2.0E-02	8.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+02	100% Insects	2.0E-02	4.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.2E-01	100% Insects	2.0E-02	3.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.5E+00	100% Insects	2.0E-02	4.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.3E-01	100% Insects	2.0E-02	5.6E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.9E+00	100% Plants	2.4E-02	2.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.3E+01	100% Plants	2.4E-02	5.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	2.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.5E+00	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.3E-01	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	8.5E-03	--	--	2.3E-02	3.1E-02	5.5E+00	2.2E+01	6E-03	1E-03
Copper	Gambel's Quail	2.1E-01	--	--	5.0E-02	2.6E-01	2.3E+00	5.2E+01	1E-01	5E-03
Lead	Gambel's Quail	7.8E-02	--	--	1.5E-01	2.3E-01	1.4E-02	8.8E+00	2E+01	3E-02
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	2.5E+00	--	--	4.5E-01	3.0E+00	1.7E+01	1.7E+02	2E-01	2E-02
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	9.0E-03	6.0E-01	1E-02	2E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	8.9E-05	--	--	9.2E-04	1.0E-03	9.0E-02	1.3E+00	1E-02	8E-04
Inorganics										
Arsenic	Cactus Wren	--	1.5E-01	--	9.8E-02	2.5E-01	5.5E+00	2.2E+01	5E-02	1E-02
Copper	Cactus Wren	--	1.2E+00	--	2.1E-01	1.4E+00	2.3E+00	5.2E+01	6E-01	3E-02
Lead	Cactus Wren	--	2.8E+00	--	6.5E-01	3.4E+00	1.4E-02	8.8E+00	2E+02	4E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	7.4E+01	--	1.9E+00	7.6E+01	1.7E+01	1.7E+02	4E+00	4E-01
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	9.0E-03	6.0E-01	3E+00	4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.0E-01	--	3.9E-03	1.1E-01	9.0E-02	1.3E+00	1E+00	8E-02
Inorganics										
Arsenic	Desert Shrew	--	1.7E-01	--	2.3E-02	1.9E-01	3.2E-01	4.7E+00	6E-01	4E-02
Copper	Desert Shrew	--	1.3E+00	--	5.1E-02	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	3.1E+00	--	1.6E-01	3.2E+00	1.0E+00	2.4E+02	3E+00	1E-02
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	8.2E+01	--	4.5E-01	8.2E+01	9.6E+00	4.1E+02	9E+00	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	7.1E-02	--	4.7E-04	7.1E-02	5.0E+01	1.5E+02	1E-03	5E-04
PAH High molecular weight	Desert Shrew	--	8.2E-01	--	6.3E-03	8.2E-01	1.3E+00	3.3E+01	6E-01	3E-02
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	8.0E-01	1.6E+01	3E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.1E-01	--	9.4E-04	1.1E-01	3.6E-01	1.3E+00	3E-01	9E-02
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.8E-02	--	--	1.2E-02	3.0E-02	3.2E-01	4.7E+00	9E-02	6E-03
Copper	Merriam's Kangaroo Rat	4.4E-01	--	--	2.6E-02	4.7E-01	2.7E+00	6.3E+02	2E-01	7E-04
Lead	Merriam's Kangaroo Rat	1.7E-01	--	--	7.5E-02	2.4E-01	1.0E+00	2.4E+02	2E-01	1E-03
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	5.4E+00	--	--	2.2E-01	5.6E+00	9.6E+00	4.1E+02	6E-01	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	8.2E-03	--	--	2.3E-04	8.4E-03	5.0E+01	1.5E+02	2E-04	6E-05
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-02	--	--	3.1E-03	2.6E-02	1.3E+00	3.3E+01	2E-02	8E-04
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	8.0E-01	1.6E+01	2E-04	1E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.9E-04	--	--	4.6E-04	6.5E-04	3.6E-01	1.3E+00	2E-03	5E-04

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.7E+00	100% Plants	1.0E-01	2.2E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Chromium, hexavalent	Gambel's Quail	1.9E+00	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Chromium, total	Gambel's Quail	5.0E+01	100% Plants	1.0E-01	2.1E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Copper	Gambel's Quail	1.3E+01	100% Plants	1.0E-01	5.4E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Lead	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	2.0E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Zinc	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Volatile Organic Compounds									
Methyl acetate	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	1.2E-01	100% Plants	1.0E-01	1.0E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
PAH High molecular weight	Gambel's Quail	1.5E+00	100% Plants	1.0E-01	2.8E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	m	100% Plants	1.0E-01	1.7E-03	3.8E-02	4.0E-03	1.6E-01
Alpha-Chlordane	Gambel's Quail	1.2E-02	m	100% Plants	1.0E-01	2.3E-03	3.8E-02	4.0E-03	1.6E-01
Dieldrin	Gambel's Quail	6.7E-03	m	100% Plants	1.0E-01	2.7E-03	3.8E-02	4.0E-03	1.6E-01
Gamma-Chlordane	Gambel's Quail	1.3E-02	m	100% Plants	1.0E-01	2.5E-03	3.8E-02	4.0E-03	1.6E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.3E-01	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	4.4E+01	100% Plants	1.0E-01	5.2E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
TEQ Mammals	Gambel's Quail	7.3E+01	100% Plants	1.0E-01	7.3E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Inorganics									
Arsenic	Cactus Wren	5.7E+00	100% Insects	9.3E-02	8.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	1.9E+00	100% Insects	9.3E-02	5.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	5.0E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.3E+01	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	m	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.0E+00
Zinc	Cactus Wren	1.1E+02	100% Insects	9.3E-02	4.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	1.2E-01	100% Insects	9.3E-02	3.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	1.5E+00	100% Insects	9.3E-02	4.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	m	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.0E+00
Alpha-Chlordane	Cactus Wren	1.2E-02	m	100% Insects	9.3E-02	2.9E-01	3.9E-02	1.8E-01	1.0E+00
Dieldrin	Cactus Wren	6.7E-03	m	100% Insects	9.3E-02	9.8E-02	3.9E-02	1.8E-01	1.0E+00
Gamma-Chlordane	Cactus Wren	1.3E-02	m	100% Insects	9.3E-02	3.2E-01	3.9E-02	1.8E-01	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.3E-01	100% Insects	9.3E-02	5.6E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	4.4E+01	100% Insects	9.3E-02	2.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	7.3E+01	100% Insects	9.3E-02	4.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.7E+00	100% Insects	2.0E-02	8.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	1.9E+00	100% Insects	2.0E-02	5.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	5.0E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	m	100% Insects	2.0E-02	5.2E-01	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+02	100% Insects	2.0E-02	4.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.2E-01	100% Insects	2.0E-02	3.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.5E+00	100% Insects	2.0E-02	4.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	m	100% Insects	2.0E-02	1.3E-01	2.0E-01	4.1E-03	1.0E+00
Alpha-Chlordane	Desert Shrew	1.2E-02	m	100% Insects	2.0E-02	2.9E-01	2.0E-01	4.1E-03	1.0E+00
Dieldrin	Desert Shrew	6.7E-03	m	100% Insects	2.0E-02	9.8E-02	2.0E-01	4.1E-03	1.0E+00
Gamma-Chlordane	Desert Shrew	1.3E-02	m	100% Insects	2.0E-02	3.2E-01	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.3E-01	100% Insects	2.0E-02	5.6E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC11-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	8.5E-03	--	--	2.3E-02	5.1E-03	2.2E+00	3.6E+00	2E-03	1E-03
Chromium, hexavalent	Gambel's Quail	3.2E-03	--	--	7.5E-03	1.8E-03	2.5E+00	2.5E+01	7E-04	7E-05
Chromium, total	Gambel's Quail	8.1E-02	--	--	2.0E-01	4.6E-02	2.7E+00	1.6E+01	2E-02	3E-03
Copper	Gambel's Quail	2.1E-01	--	--	5.0E-02	4.2E-02	4.1E+00	1.2E+01	1E-02	3E-03
Lead	Gambel's Quail	7.8E-02	--	--	1.5E-01	3.8E-02	1.6E+00	3.3E+00	2E-02	1E-02
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	1.2E-03	3.9E-02	1.8E-01	3E-02	7E-03
Zinc	Gambel's Quail	2.5E+00	--	--	4.5E-01	4.9E-01	6.6E+01	1.7E+02	7E-03	3E-03
Volatile Organic Compounds										
Methyl acetate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-03	--	--	4.6E-04	7.0E-04	2.3E+01	2.3E+02	3E-05	3E-06
PAH High molecular weight	Gambel's Quail	1.1E-02	--	--	6.2E-03	2.7E-03	1.0E+01	1.0E+02	3E-04	3E-05
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	1.5E-05	2.3E-01	2.3E+00	7E-05	7E-06
Alpha-Chlordane	Gambel's Quail	8.7E-05	--	--	4.8E-05	2.2E-05	2.1E+00	1.1E+01	1E-05	2E-06
Dieldrin	Gambel's Quail	1.1E-04	--	--	2.7E-05	2.2E-05	7.1E-02	3.8E+00	3E-04	6E-06
Gamma-Chlordane	Gambel's Quail	9.5E-05	--	--	5.2E-05	2.4E-05	2.1E+00	1.1E+01	1E-05	2E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	8.9E-05	--	--	9.2E-04	1.7E-04	9.0E-02	1.3E+00	2E-03	1E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	2.0E-02	--	--	1.8E-01	3.2E-02	1.4E+01	1.4E+02	2E-03	2E-04
TEQ Mammals	Gambel's Quail	2.8E-02	--	--	2.9E-01	5.2E-02	--	--	--	--
Inorganics										
Arsenic	Cactus Wren	--	1.5E-01	--	9.8E-02	2.5E-01	2.2E+00	3.6E+00	1E-01	7E-02
Chromium, hexavalent	Cactus Wren	--	1.1E-01	--	3.2E-02	1.4E-01	2.5E+00	2.5E+01	5E-02	5E-03
Chromium, total	Cactus Wren	--	2.8E+00	--	8.5E-01	3.7E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.2E+00	--	2.1E-01	1.4E+00	4.1E+00	1.2E+01	3E-01	1E-01
Lead	Cactus Wren	--	2.8E+00	--	6.5E-01	3.4E+00	1.6E+00	3.3E+00	2E+00	1E+00
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	7.4E+01	--	1.9E+00	7.6E+01	6.6E+01	1.7E+02	1E+00	4E-01
Volatile Organic Compounds										
Methyl acetate	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	6.4E-02	--	2.0E-03	6.6E-02	2.3E+01	2.3E+02	3E-03	3E-04
PAH High molecular weight	Cactus Wren	--	7.4E-01	--	2.6E-02	7.6E-01	1.0E+01	1.0E+02	8E-02	8E-03
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	2.3E-01	2.3E+00	1E-01	1E-02
Alpha-Chlordane	Cactus Wren	--	5.3E-02	--	2.0E-04	5.4E-02	2.1E+00	1.1E+01	3E-02	5E-03
Dieldrin	Cactus Wren	--	1.8E-02	--	1.1E-04	1.8E-02	7.1E-02	3.8E+00	3E-01	5E-03
Gamma-Chlordane	Cactus Wren	--	5.8E-02	--	2.2E-04	5.8E-02	2.1E+00	1.1E+01	3E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.0E-01	--	3.9E-03	1.1E-01	9.0E-02	1.3E+00	1E+00	8E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	4.4E+01	--	7.5E-01	4.5E+01	1.4E+01	1.4E+02	3E+00	3E-01
TEQ Mammals	Cactus Wren	--	8.1E+01	--	1.2E+00	8.2E+01	--	--	--	--
Inorganics										
Arsenic	Desert Shrew	--	1.7E-01	--	2.3E-02	1.9E-01	1.5E+00	2.4E+00	1E-01	8E-02
Chromium, hexavalent	Desert Shrew	--	1.2E-01	--	7.6E-03	1.2E-01	9.2E+00	3.8E+01	1E-02	3E-03
Chromium, total	Desert Shrew	--	3.1E+00	--	2.0E-01	3.3E+00	2.4E+00	9.6E+00	1E+00	3E-01
Copper	Desert Shrew	--	1.3E+00	--	5.1E-02	1.4E+00	9.4E+00	1.6E+01	1E-01	9E-02
Lead	Desert Shrew	--	3.1E+00	--	1.6E-01	3.2E+00	4.7E+00	8.9E+00	7E-01	4E-01
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	8.2E+01	--	4.5E-01	8.2E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Methyl acetate	Desert Shrew	--	--	--	--	0.0E+00	9.0E+01	3.6E+02	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	7.1E-02	--	4.7E-04	7.1E-02	6.6E+01	3.3E+02	1E-03	2E-04
PAH High molecular weight	Desert Shrew	--	8.2E-01	--	6.3E-03	8.2E-01	6.2E-01	3.1E+00	1E+00	3E-01
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	1.5E-01	7.4E-01	2E-01	4E-02
Alpha-Chlordane	Desert Shrew	--	5.9E-02	--	4.9E-05	5.9E-02	4.6E+00	9.2E+00	1E-02	6E-03
Dieldrin	Desert Shrew	--	2.0E-02	--	2.7E-05	2.0E-02	1.5E-02	3.0E-02	1E+00	7E-01
Gamma-Chlordane	Desert Shrew	--	6.4E-02	--	5.3E-05	6.4E-02	4.6E+00	9.2E+00	1E-02	7E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.1E-01	--	9.4E-04	1.1E-01	3.6E-01	1.3E+00	3E-01	9E-02

Table AOC11-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	4.4E+01	100% Insects	2.0E-02	2.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	7.3E+01	100% Insects	2.0E-02	4.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.9E+00	100% Plants	2.4E-02	2.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	2.1E+00	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	5.2E+01	100% Plants	2.4E-02	2.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.3E+01	100% Plants	2.4E-02	5.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	2.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03
Zinc	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Merriam's Kangaroo Rat	1.7E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.5E+00	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	m	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03
Alpha-Chlordane	Merriam's Kangaroo Rat	1.2E-02	m	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03
Dieldrin	Merriam's Kangaroo Rat	6.7E-03	m	100% Plants	2.4E-02	2.7E-03	3.4E-02	8.2E-02	2.0E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	1.3E-02	m	100% Plants	2.4E-02	2.5E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.3E-01	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	9.4E+01	100% Plants	2.4E-02	5.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.9E+01	--	1.8E-01	4.9E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	9.0E+01	--	3.0E-01	9.0E+01	1.0E+00	1.0E+01	9E+01	9E+00
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.8E-02	--	--	1.2E-02	3.0E-02	1.5E+00	2.3E+00	2E-02	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	6.9E-03	--	--	4.0E-03	1.1E-02	9.2E+00	3.8E+01	1E-03	3E-04
Chromium, total	Merriam's Kangaroo Rat	1.7E-01	--	--	1.0E-01	2.8E-01	2.4E+00	9.6E+00	1E-01	3E-02
Copper	Merriam's Kangaroo Rat	4.4E-01	--	--	2.6E-02	4.7E-01	9.0E+00	1.5E+01	5E-02	3E-02
Lead	Merriam's Kangaroo Rat	1.7E-01	--	--	7.5E-02	2.4E-01	4.7E+00	8.9E+00	5E-02	3E-02
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	5.4E+00	--	--	2.2E-01	5.6E+00	7.5E+01	3.0E+02	7E-02	2E-02
Volatile Organic Compounds										
Methyl acetate	Merriam's Kangaroo Rat	0.0E+00	--	--	3.4E-05	3.4E-05	9.0E+01	3.6E+02	4E-07	9E-08
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	8.2E-03	--	--	2.3E-04	8.4E-03	6.6E+01	3.3E+02	1E-04	3E-05
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-02	--	--	3.1E-03	2.6E-02	6.2E-01	3.1E+00	4E-02	8E-03
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	1.5E-01	7.4E-01	1E-03	2E-04
Alpha-Chlordane	Merriam's Kangaroo Rat	1.9E-04	--	--	2.4E-05	2.1E-04	4.6E+00	9.2E+00	5E-05	2E-05
Dieldrin	Merriam's Kangaroo Rat	2.3E-04	--	--	1.3E-05	2.4E-04	1.5E-02	3.0E-02	2E-02	8E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	2.0E-04	--	--	2.6E-05	2.3E-04	4.6E+00	9.2E+00	5E-05	2E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.9E-04	--	--	4.6E-04	6.5E-04	3.6E-01	1.3E+00	2E-03	5E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	4.3E-02	--	--	1.8E-01	2.3E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	6.0E-02	--	--	2.6E-01	3.2E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC ^a (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	5.7E+00	100% Plants	1.0E-01	2.2E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Copper	Gambel's Quail	1.3E+01	100% Plants	1.0E-01	5.4E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Lead	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	2.0E+00	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Zinc	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.3E-01	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.6E-01
Inorganics									
Arsenic	Cactus Wren	5.7E+00	100% Insects	9.3E-02	8.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.3E+01	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.1E+02	100% Insects	9.3E-02	4.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.3E-01	100% Insects	9.3E-02	5.6E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	5.7E+00	100% Insects	2.0E-02	8.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+02	100% Insects	2.0E-02	4.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.2E-01	100% Insects	2.0E-02	3.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.5E+00	100% Insects	2.0E-02	4.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.3E-01	100% Insects	2.0E-02	5.6E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	5.9E+00	100% Plants	2.4E-02	2.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.3E+01	100% Plants	2.4E-02	5.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	2.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.5E+00	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.3E-01	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose ^b (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless) ^c	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	8.5E-03	--	--	2.3E-02	5.1E-03	5.5E+00	2.2E+01	9E-04	2E-04
Copper	Gambel's Quail	2.1E-01	--	--	5.0E-02	4.2E-02	2.3E+00	5.2E+01	2E-02	8E-04
Lead	Gambel's Quail	7.8E-02	--	--	1.5E-01	3.8E-02	1.4E-02	8.8E+00	3E+00	4E-03
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	1.2E-03	3.9E-02	1.8E-01	3E-02	7E-03
Zinc	Gambel's Quail	2.5E+00	--	--	4.5E-01	4.9E-01	1.7E+01	1.7E+02	3E-02	3E-03
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	1.5E-05	9.0E-03	6.0E-01	2E-03	2E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	8.9E-05	--	--	9.2E-04	1.7E-04	9.0E-02	1.3E+00	2E-03	1E-04
Inorganics										
Arsenic	Cactus Wren	--	1.5E-01	--	9.8E-02	2.5E-01	5.5E+00	2.2E+01	5E-02	1E-02
Copper	Cactus Wren	--	1.2E+00	--	2.1E-01	1.4E+00	2.3E+00	5.2E+01	6E-01	3E-02
Lead	Cactus Wren	--	2.8E+00	--	6.5E-01	3.4E+00	1.4E-02	8.8E+00	2E+02	4E-01
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	7.4E+01	--	1.9E+00	7.6E+01	1.7E+01	1.7E+02	4E+00	4E-01
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	9.0E-03	6.0E-01	3E+00	4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.0E-01	--	3.9E-03	1.1E-01	9.0E-02	1.3E+00	1E+00	8E-02
Inorganics										
Arsenic	Desert Shrew	--	1.7E-01	--	2.3E-02	1.9E-01	3.2E-01	4.7E+00	6E-01	4E-02
Copper	Desert Shrew	--	1.3E+00	--	5.1E-02	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	3.1E+00	--	1.6E-01	3.2E+00	1.0E+00	2.4E+02	3E+00	1E-02
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	8.2E+01	--	4.5E-01	8.2E+01	9.6E+00	4.1E+02	9E+00	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	7.1E-02	--	4.7E-04	7.1E-02	5.0E+01	1.5E+02	1E-03	5E-04
PAH High molecular weight	Desert Shrew	--	8.2E-01	--	6.3E-03	8.2E-01	1.3E+00	3.3E+01	6E-01	3E-02
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	8.0E-01	1.6E+01	3E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.1E-01	--	9.4E-04	1.1E-01	3.6E-01	1.3E+00	3E-01	9E-02
Inorganics										
Arsenic	Merriam's Kangaroo Rat	1.8E-02	--	--	1.2E-02	3.0E-02	3.2E-01	4.7E+00	9E-02	6E-03
Copper	Merriam's Kangaroo Rat	4.4E-01	--	--	2.6E-02	4.7E-01	2.7E+00	6.3E+02	2E-01	7E-04
Lead	Merriam's Kangaroo Rat	1.7E-01	--	--	7.5E-02	2.4E-01	1.0E+00	2.4E+02	2E-01	1E-03
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	5.4E+00	--	--	2.2E-01	5.6E+00	9.6E+00	4.1E+02	6E-01	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	8.2E-03	--	--	2.3E-04	8.4E-03	5.0E+01	1.5E+02	2E-04	6E-05
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-02	--	--	3.1E-03	2.6E-02	1.3E+00	3.3E+01	2E-02	8E-04
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	8.0E-01	1.6E+01	2E-04	1E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.9E-04	--	--	4.6E-04	6.5E-04	3.6E-01	1.3E+00	2E-03	5E-04

See Notes and Abbreviations following Table AOC11-C.10.

Table AOC11-C Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment PG&E Topock Compressor Station Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

ATTACHMENT D

Dose and Risk Calculations for Ecological Receptors at AOC 11 Using
Maximum Depth-Weighted EPCs



Attachment AOC11-D**Dose and Risk Calculations for Ecological Receptors at AOC11 Using Maximum EPCs**

Table AOC11-D.1	Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 11
Table AOC11-D.2	Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 11
Table AOC11-D.3 Table AOC11-D.4	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 11
Table AOC11-D.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 11
Table AOC11-D Table Notes	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 11 Notes for Terrestrial Wildlife Risk Calculations

Table AOC11-D.1

Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics									
Arsenic	mg/kg	9.50E+00	8.93E+00	9.77E+00	3.56E-01	3.35E-01	3.67E-01	1.18E+00	4.96E-02
Chromium, hexavalent	mg/kg	1.60E+01	1.60E+01	1.60E+01	6.56E-01	6.56E-01	6.56E-01	4.90E+00	1.78E+00
Chromium, total	mg/kg	3.20E+02	3.20E+02	3.20E+02	1.31E+01	1.31E+01	1.31E+01	9.79E+01	1.60E+01
Copper	mg/kg	3.10E+01	2.73E+01	3.02E+01	7.55E+00	7.18E+00	7.47E+00	1.60E+01	1.27E+01
Lead	mg/kg	2.20E+02	1.57E+02	1.50E+02	5.46E+00	4.52E+00	4.41E+00	6.25E+01	1.17E+01
Mercury	mg/kg	1.80E-01	1.80E-01	2.63E-01	1.45E-01	1.45E-01	1.79E-01	5.19E-01	3.46E-02
Zinc	mg/kg	1.10E+03	7.47E+02	3.95E+02	2.34E+02	1.89E+02	1.33E+02	8.51E+02	1.29E+02
Volatile Organic Compounds									
Methyl acetate	mg/kg	--	1.70E-02	1.70E-02	--	0.00E+00	0.00E+00	--	--
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	mg/kg	1.38E+00	9.20E-01	4.60E-01	3.09E-01	2.57E-01	1.88E-01	4.20E+00	0.00E+00
PAH High molecular weight	mg/kg	1.82E+01	1.21E+01	6.07E+00	2.84E+00	1.93E+00	1.01E+00	4.73E+01	0.00E+00
Pesticides									
4,4-DDE	mg/kg	6.10E-03	6.10E-03	6.10E-03	1.75E-03	1.75E-03	1.75E-03	1.34E-01	1.05E+01
Alpha-Chlordane	mg/kg	1.20E-02	1.20E-02	1.20E-02	2.28E-03	2.28E-03	2.28E-03	2.92E-01	3.50E-01
Dieldrin	mg/kg	6.70E-03	6.70E-03	6.70E-03	2.75E-03	2.75E-03	2.75E-03	9.85E-02	1.18E-01
Gamma-Chlordane	mg/kg	1.30E-02	1.30E-02	1.30E-02	2.47E-03	2.47E-03	2.47E-03	3.16E-01	3.79E-01
Polychlorinated Biphenyls									
Total PCBs	mg/kg	1.93E+00	1.93E+00	1.03E+00	1.93E-02	1.93E-02	1.03E-02	1.00E+01	2.51E-01
Dioxins									
TEQ Avian	ng/kg	2.80E+02	2.80E+02	3.69E+02	1.57E+00	1.57E+00	2.07E+00	2.16E+03	2.80E+02
TEQ Mammals	ng/kg	5.20E+02	5.20E+02	5.20E+02	2.91E+00	2.91E+00	2.91E+00	4.49E+03	5.52E+02
2,3,7,8-TCDD	ng/kg	1.00E+00	6.93E-01	3.76E-01	--	--	--	--	--

Notes:

a. Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

b. Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).**Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC11-D.2

Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																		
Arsenic	5E-01	2E-01	2E-02	1E-02	2E-01	1E-01	2E-01	1E-01	3E-02	2E-02	9E-03	2E-03	7E-02	2E-02	9E-01	6E-02	2E-01	1E-02
Chromium, hexavalent	2E+01	4E+01	4E-02	4E-03	5E-01	5E-02	1E-01	3E-02	9E-03	2E-03	--	--	--	--	--	--	--	--
Chromium, total	No SL	6E+00	7E-01	1E-01	9E+00	2E+00	9E+00	2E+00	7E-01	2E-01	--	--	--	--	--	--	--	--
Copper	4E-01	4E-01	1E-01	3E-02	9E-01	3E-01	4E-01	2E-01	8E-02	5E-02	2E-01	8E-03	2E+00	7E-02	1E+00	5E-03	3E-01	1E-03
Lead	2E+00	1E-01	7E-01	3E-01	9E+00	5E+00	3E+00	2E+00	2E-01	1E-01	8E+01	1E-01	1E+03	2E+00	1E+01	6E-02	9E-01	4E-03
Mercury	9E-01	2E+00	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03	2E-01	4E-02	3E+00	5E-01	4E-01	3E-02	6E-02	4E-03
Zinc	7E+00	9E+00	2E-01	8E-02	3E+00	1E+00	2E+00	6E-01	3E-01	7E-02	8E-01	8E-02	1E+01	1E+00	2E+01	4E-01	2E+00	5E-02
Volatile Organic Compounds																		
Methyl acetate	No SL	No SL	--	--	--	--	--	--	4E-07	9E-08	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	1E-01	5E-02	8E-04	8E-05	3E-02	3E-03	1E-02	3E-03	4E-04	9E-05	--	--	--	--	2E-02	6E-03	6E-04	2E-04
PAH High molecular weight	2E+01	1E+00	2E-02	2E-03	9E-01	9E-02	2E+01	3E+00	4E-01	9E-02	--	--	--	--	7E+00	3E-01	2E-01	8E-03
Pesticides																		
4,4-DDE	7E-03	6E-01	4E-04	4E-05	1E-01	1E-02	2E-01	4E-02	1E-03	2E-04	1E-02	2E-04	3E+00	4E-02	3E-02	2E-03	2E-04	1E-05
Alpha-Chlordane	5E-02	3E+00	6E-05	1E-05	3E-02	5E-03	1E-02	6E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Dieldrin	7E-03	1E-01	2E-03	3E-05	3E-01	5E-03	1E+00	7E-01	2E-02	8E-03	--	--	--	--	--	--	--	--
Gamma-Chlordane	6E-02	3E+00	7E-05	1E-05	3E-02	5E-03	1E-02	7E-03	5E-05	2E-05	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	5E-02	2E+00	9E-02	7E-03	2E+01	1E+00	6E+00	2E+00	1E-02	4E-03	9E-02	7E-03	2E+01	1E+00	6E+00	2E+00	1E-02	4E-03
Dioxins																		
2,3,7,8-TCDD	No SL	1E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	9E-02	9E-03	3E+01	3E+00	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	9E+02	9E+01	1E+00	1E-01	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
COPEC = constituent of potential ecological concern

BTAG = Biological Technical Assistance Group
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PCB = polychlorinated biphenyl
PAH = polycyclic aromatic hydrocarbon
SUF = site use factor
TRV = toxicity reference value

Table AOC11-D.3

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Arsenic	9.77E+00	18	5E-01	9.50E+00	60	2E-01
Chromium, hexavalent	1.60E+01	1	2E+01	1.60E+01	0.4	4E+01
Chromium, total	3.20E+02	--	No SL	3.20E+02	57	6E+00
Copper	3.10E+01	70	4E-01	3.10E+01	80	4E-01
Lead	2.20E+02	120	2E+00	2.20E+02	1700	1E-01
Mercury	2.63E-01	0.3	9E-01	1.80E-01	0.1	2E+00
Zinc	1.10E+03	160	7E+00	1.10E+03	120	9E+00
Volatile Organic Compounds						
Methyl acetate	1.70E-02	--	No SL	--	--	No SL
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	1.38E+00	10	1E-01	1.38E+00	29	5E-02
PAH High molecular weight	1.82E+01	1.2	2E+01	1.82E+01	18	1E+00
Pesticides						
4,4-DDE	6.10E-03	0.9	7E-03	6.10E-03	0.01	6E-01
Alpha-Chlordane	1.20E-02	0.224	5E-02	1.20E-02	0.0043	3E+00
Dieldrin	6.70E-03	1	7E-03	6.70E-03	0.05	1E-01
Gamma-Chlordane	1.30E-02	0.224	6E-02	1.30E-02	0.0043	3E+00
Polychlorinated Biphenyls						
Total PCBs	1.93E+00	40	5E-02	1.93E+00	1	2E+00
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.00E+00	--	No SL	1.00E+00	8800	1E-04

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
no SL = no screening level available
NOAEL = no-observed adverse effect level
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl

Table AOC11-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	9.5E+00	100% Plants	1.0E-01	3.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	6.6E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	3.2E+02	100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	3.1E+01	100% Plants	1.0E-01	7.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.2E+02	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.1E+03	100% Plants	1.0E-01	2.3E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	1.4E+00	100% Plants	1.0E-01	3.1E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	1.8E+01	100% Plants	1.0E-01	2.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Alpha-Chlordane	Gambel's Quail	1.2E-02	100% Plants	1.0E-01	2.3E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dieldrin	Gambel's Quail	6.7E-03	100% Plants	1.0E-01	2.7E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Gamma-Chlordane	Gambel's Quail	1.3E-02	100% Plants	1.0E-01	2.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	1.9E+00	100% Plants	1.0E-01	1.9E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	2.8E+02	100% Plants	1.0E-01	2.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	5.2E+02	100% Plants	1.0E-01	2.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	9.5E+00	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	1.6E+01	100% Insects	9.3E-02	4.9E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.2E+02	100% Insects	9.3E-02	9.8E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	3.1E+01	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.2E+02	100% Insects	9.3E-02	6.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.1E+03	100% Insects	9.3E-02	8.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	1.4E+00	100% Insects	9.3E-02	4.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	1.8E+01	100% Insects	9.3E-02	4.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Alpha-Chlordane	Cactus Wren	1.2E-02	100% Insects	9.3E-02	2.9E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dieldrin	Cactus Wren	6.7E-03	100% Insects	9.3E-02	9.8E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Gamma-Chlordane	Cactus Wren	1.3E-02	100% Insects	9.3E-02	3.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	1.9E+00	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	2.8E+02	100% Insects	9.3E-02	2.2E+03	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	5.2E+02	100% Insects	9.3E-02	4.5E+03	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	9.5E+00	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	1.6E+01	100% Insects	2.0E-02	4.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.2E+02	100% Insects	2.0E-02	9.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	3.1E+01	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.2E+02	100% Insects	2.0E-02	6.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+03	100% Insects	2.0E-02	8.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.4E+00	100% Insects	2.0E-02	4.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.8E+01	100% Insects	2.0E-02	4.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Alpha-Chlordane	Desert Shrew	1.2E-02	100% Insects	2.0E-02	2.9E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dieldrin	Desert Shrew	6.7E-03	100% Insects	2.0E-02	9.8E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Gamma-Chlordane	Desert Shrew	1.3E-02	100% Insects	2.0E-02	3.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	1.9E+00	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC11-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	1.4E-02	--	--	3.8E-02	5.2E-02	2.2E+00	3.6E+00	2E-02	1E-02
Chromium, hexavalent	Gambel's Quail	2.5E-02	--	--	6.4E-02	8.9E-02	2.5E+00	2.5E+01	4E-02	4E-03
Chromium, total	Gambel's Quail	5.0E-01	--	--	1.3E+00	1.8E+00	2.7E+00	1.6E+01	7E-01	1E-01
Copper	Gambel's Quail	2.9E-01	--	--	1.2E-01	4.1E-01	4.1E+00	1.2E+01	1E-01	3E-02
Lead	Gambel's Quail	2.1E-01	--	--	8.8E-01	1.1E+00	1.6E+00	3.3E+00	7E-01	3E-01
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	9.0E+00	--	--	4.4E+00	1.3E+01	6.6E+01	1.7E+02	2E-01	8E-02
Volatile Organic Compounds										
Methyl acetate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	1.2E-02	--	--	5.5E-03	1.7E-02	2.3E+01	2.3E+02	8E-04	8E-05
PAH High molecular weight	Gambel's Quail	1.1E-01	--	--	7.3E-02	1.8E-01	1.0E+01	1.0E+02	2E-02	2E-03
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	2.3E-01	2.3E+00	4E-04	4E-05
Alpha-Chlordane	Gambel's Quail	8.7E-05	--	--	4.8E-05	1.4E-04	2.1E+00	1.1E+01	6E-05	1E-05
Dieldrin	Gambel's Quail	1.1E-04	--	--	2.7E-05	1.3E-04	7.1E-02	3.8E+00	2E-03	3E-05
Gamma-Chlordane	Gambel's Quail	9.5E-05	--	--	5.2E-05	1.5E-04	2.1E+00	1.1E+01	7E-05	1E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	7.4E-04	--	--	7.7E-03	8.4E-03	9.0E-02	1.3E+00	9E-02	7E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	7.9E-02	--	--	1.1E+00	1.2E+00	1.4E+01	1.4E+02	9E-02	9E-03
TEQ Mammals	Gambel's Quail	1.1E-01	--	--	2.1E+00	2.2E+00	--	--	--	--
Inorganics										
Arsenic	Cactus Wren	--	2.2E-01	--	1.6E-01	3.8E-01	2.2E+00	3.6E+00	2E-01	1E-01
Chromium, hexavalent	Cactus Wren	--	9.0E-01	--	2.7E-01	1.2E+00	2.5E+00	2.5E+01	5E-01	5E-02
Chromium, total	Cactus Wren	--	1.8E+01	--	5.5E+00	2.3E+01	2.7E+00	1.6E+01	9E+00	2E+00
Copper	Cactus Wren	--	2.9E+00	--	5.3E-01	3.5E+00	4.1E+00	1.2E+01	9E-01	3E-01
Lead	Cactus Wren	--	1.1E+01	--	3.8E+00	1.5E+01	1.6E+00	3.3E+00	9E+00	5E+00
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	1.6E+02	--	1.9E+01	1.7E+02	6.6E+01	1.7E+02	3E+00	1E+00
Volatile Organic Compounds										
Methyl acetate	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	7.7E-01	--	2.4E-02	7.9E-01	2.3E+01	2.3E+02	3E-02	3E-03
PAH High molecular weight	Cactus Wren	--	8.7E+00	--	3.1E-01	9.0E+00	1.0E+01	1.0E+02	9E-01	9E-02
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	2.3E-01	2.3E+00	1E-01	1E-02
Alpha-Chlordane	Cactus Wren	--	5.3E-02	--	2.0E-04	5.4E-02	2.1E+00	1.1E+01	3E-02	5E-03
Dieldrin	Cactus Wren	--	1.8E-02	--	1.1E-04	1.8E-02	7.1E-02	3.8E+00	3E-01	5E-03
Gamma-Chlordane	Cactus Wren	--	5.8E-02	--	2.2E-04	5.8E-02	2.1E+00	1.1E+01	3E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.8E+00	--	3.3E-02	1.9E+00	9.0E-02	1.3E+00	2E+01	1E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	4.0E+02	--	4.8E+00	4.0E+02	1.4E+01	1.4E+02	3E+01	3E+00
TEQ Mammals	Cactus Wren	--	8.2E+02	--	8.9E+00	8.3E+02	--	--	--	--
Inorganics										
Arsenic	Desert Shrew	--	2.4E-01	--	3.9E-02	2.8E-01	1.5E+00	2.4E+00	2E-01	1E-01
Chromium, hexavalent	Desert Shrew	--	9.9E-01	--	6.5E-02	1.1E+00	9.2E+00	3.8E+01	1E-01	3E-02
Chromium, total	Desert Shrew	--	2.0E+01	--	1.3E+00	2.1E+01	2.4E+00	9.6E+00	9E+00	2E+00
Copper	Desert Shrew	--	3.2E+00	--	1.3E-01	3.4E+00	9.4E+00	1.6E+01	4E-01	2E-01
Lead	Desert Shrew	--	1.3E+01	--	8.9E-01	1.4E+01	4.7E+00	8.9E+00	3E+00	2E+00
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.7E+02	--	4.5E+00	1.8E+02	7.5E+01	3.0E+02	2E+00	6E-01
Volatile Organic Compounds										
Methyl acetate	Desert Shrew	--	--	--	--	0.0E+00	9.0E+01	3.6E+02	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	8.5E-01	--	5.6E-03	8.6E-01	6.6E+01	3.3E+02	1E-02	3E-03
PAH High molecular weight	Desert Shrew	--	9.6E+00	--	7.4E-02	9.7E+00	6.2E-01	3.1E+00	2E+01	3E+00
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	1.5E-01	7.4E-01	2E-01	4E-02
Alpha-Chlordane	Desert Shrew	--	5.9E-02	--	4.9E-05	5.9E-02	4.6E+00	9.2E+00	1E-02	6E-03
Dieldrin	Desert Shrew	--	2.0E-02	--	2.7E-05	2.0E-02	1.5E-02	3.0E-02	1E+00	7E-01
Gamma-Chlordane	Desert Shrew	--	6.4E-02	--	5.3E-05	6.4E-02	4.6E+00	9.2E+00	1E-02	7E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.0E+00	--	7.8E-03	2.0E+00	3.6E-01	1.3E+00	6E+00	2E+00

Table AOC11-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	2.8E+02	100% Insects	2.0E-02	2.2E+03	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	5.2E+02	100% Insects	2.0E-02	4.5E+03	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	9.8E+00	100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	6.6E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	3.2E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	3.1E+01	100% Plants	2.4E-02	7.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.2E+02	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.1E+03	100% Plants	2.4E-02	2.3E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Methyl acetate	Merriam's Kangaroo Rat	1.7E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E+00	100% Plants	2.4E-02	3.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.8E+01	100% Plants	2.4E-02	2.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Alpha-Chlordane	Merriam's Kangaroo Rat	1.2E-02	100% Plants	2.4E-02	2.3E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dieldrin	Merriam's Kangaroo Rat	6.7E-03	100% Plants	2.4E-02	2.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Gamma-Chlordane	Merriam's Kangaroo Rat	1.3E-02	100% Plants	2.4E-02	2.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	1.9E+00	100% Plants	2.4E-02	1.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	3.7E+02	100% Plants	2.4E-02	2.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	5.2E+02	100% Plants	2.4E-02	2.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.4E+02	--	1.1E+00	4.4E+02	--	--	--	--
TEQ Mammals	Desert Shrew	--	9.1E+02	--	2.1E+00	9.1E+02	1.0E+00	1.0E+01	9E+02	9E+01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	3.0E-02	--	--	1.9E-02	4.9E-02	1.5E+00	2.3E+00	3E-02	2E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	5.4E-02	--	--	3.2E-02	8.6E-02	9.2E+00	3.8E+01	9E-03	2E-03
Chromium, total	Merriam's Kangaroo Rat	1.1E+00	--	--	6.3E-01	1.7E+00	2.4E+00	9.6E+00	7E-01	2E-01
Copper	Merriam's Kangaroo Rat	6.2E-01	--	--	6.1E-02	6.8E-01	9.0E+00	1.5E+01	8E-02	5E-02
Lead	Merriam's Kangaroo Rat	4.5E-01	--	--	4.3E-01	8.8E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	1.9E+01	--	--	2.2E+00	2.1E+01	7.5E+01	3.0E+02	3E-01	7E-02
Volatile Organic Compounds										
Methyl acetate	Merriam's Kangaroo Rat	0.0E+00	--	--	3.4E-05	3.4E-05	9.0E+01	3.6E+02	4E-07	9E-08
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	2.5E-02	--	--	2.7E-03	2.8E-02	6.6E+01	3.3E+02	4E-04	9E-05
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-01	--	--	3.6E-02	2.7E-01	6.2E-01	3.1E+00	4E-01	9E-02
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	1.5E-01	7.4E-01	1E-03	2E-04
Alpha-Chlordane	Merriam's Kangaroo Rat	1.9E-04	--	--	2.4E-05	2.1E-04	4.6E+00	9.2E+00	5E-05	2E-05
Dieldrin	Merriam's Kangaroo Rat	2.3E-04	--	--	1.3E-05	2.4E-04	1.5E-02	3.0E-02	2E-02	8E-03
Gamma-Chlordane	Merriam's Kangaroo Rat	2.0E-04	--	--	2.6E-05	2.3E-04	4.6E+00	9.2E+00	5E-05	2E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.6E-03	--	--	3.8E-03	5.4E-03	3.6E-01	1.3E+00	1E-02	4E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.7E-01	--	--	7.3E-01	9.0E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	2.4E-01	--	--	1.0E+00	1.3E+00	1.0E+00	1.0E+01	1E+00	1E-01

See Notes and Abbreviations following Table AOC11-D.5.

Table AOC11-D.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Arsenic	Gambel's Quail	9.5E+00	100% Plants	1.0E-01	3.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	3.1E+01	100% Plants	1.0E-01	7.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.2E+02	100% Plants	1.0E-01	5.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.8E-01	100% Plants	1.0E-01	1.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.1E+03	100% Plants	1.0E-01	2.3E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDE	Gambel's Quail	6.1E-03	100% Plants	1.0E-01	1.7E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	1.9E+00	100% Plants	1.0E-01	1.9E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Arsenic	Cactus Wren	9.5E+00	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	3.1E+01	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.2E+02	100% Insects	9.3E-02	6.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.8E-01	100% Insects	9.3E-02	5.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.1E+03	100% Insects	9.3E-02	8.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDE	Cactus Wren	6.1E-03	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	1.9E+00	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Arsenic	Desert Shrew	9.5E+00	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	3.1E+01	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.2E+02	100% Insects	2.0E-02	6.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.8E-01	100% Insects	2.0E-02	5.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.1E+03	100% Insects	2.0E-02	8.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	1.4E+00	100% Insects	2.0E-02	4.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.8E+01	100% Insects	2.0E-02	4.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDE	Desert Shrew	6.1E-03	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	1.9E+00	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Arsenic	Merriam's Kangaroo Rat	9.8E+00	100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	3.1E+01	100% Plants	2.4E-02	7.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.2E+02	100% Plants	2.4E-02	5.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	2.6E-01	100% Plants	2.4E-02	1.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.1E+03	100% Plants	2.4E-02	2.3E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E+00	100% Plants	2.4E-02	3.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.8E+01	100% Plants	2.4E-02	2.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDE	Merriam's Kangaroo Rat	6.1E-03	100% Plants	2.4E-02	1.7E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	1.9E+00	100% Plants	2.4E-02	1.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC11-D.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 11

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	1.4E-02	--	--	3.8E-02	5.2E-02	5.5E+00	2.2E+01	9E-03	2E-03
Copper	Gambel's Quail	2.9E-01	--	--	1.2E-01	4.1E-01	2.3E+00	5.2E+01	2E-01	8E-03
Lead	Gambel's Quail	2.1E-01	--	--	8.8E-01	1.1E+00	1.4E-02	8.8E+00	8E+01	1E-01
Mercury	Gambel's Quail	6.8E-03	--	--	7.2E-04	7.6E-03	3.9E-02	1.8E-01	2E-01	4E-02
Zinc	Gambel's Quail	9.0E+00	--	--	4.4E+00	1.3E+01	1.7E+01	1.7E+02	8E-01	8E-02
Pesticides										
4,4-DDE	Gambel's Quail	6.7E-05	--	--	2.4E-05	9.1E-05	9.0E-03	6.0E-01	1E-02	2E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	7.4E-04	--	--	7.7E-03	8.4E-03	9.0E-02	1.3E+00	9E-02	7E-03
Inorganics										
Arsenic	Cactus Wren	--	2.2E-01	--	1.6E-01	3.8E-01	5.5E+00	2.2E+01	7E-02	2E-02
Copper	Cactus Wren	--	2.9E+00	--	5.3E-01	3.5E+00	2.3E+00	5.2E+01	2E+00	7E-02
Lead	Cactus Wren	--	1.1E+01	--	3.8E+00	1.5E+01	1.4E-02	8.8E+00	1E+03	2E+00
Mercury	Cactus Wren	--	9.5E-02	--	3.1E-03	9.8E-02	3.9E-02	1.8E-01	3E+00	5E-01
Zinc	Cactus Wren	--	1.6E+02	--	1.9E+01	1.7E+02	1.7E+01	1.7E+02	1E+01	1E+00
Pesticides										
4,4-DDE	Cactus Wren	--	2.4E-02	--	1.0E-04	2.5E-02	9.0E-03	6.0E-01	3E+00	4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.8E+00	--	3.3E-02	1.9E+00	9.0E-02	1.3E+00	2E+01	1E+00
Inorganics										
Arsenic	Desert Shrew	--	2.4E-01	--	3.9E-02	2.8E-01	3.2E-01	4.7E+00	9E-01	6E-02
Copper	Desert Shrew	--	3.2E+00	--	1.3E-01	3.4E+00	2.7E+00	6.3E+02	1E+00	5E-03
Lead	Desert Shrew	--	1.3E+01	--	8.9E-01	1.4E+01	1.0E+00	2.4E+02	1E+01	6E-02
Mercury	Desert Shrew	--	1.1E-01	--	7.3E-04	1.1E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.7E+02	--	4.5E+00	1.8E+02	9.6E+00	4.1E+02	2E+01	4E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	8.5E-01	--	5.6E-03	8.6E-01	5.0E+01	1.5E+02	2E-02	6E-03
PAH High molecular weight	Desert Shrew	--	9.6E+00	--	7.4E-02	9.7E+00	1.3E+00	3.3E+01	7E+00	3E-01
Pesticides										
4,4-DDE	Desert Shrew	--	2.7E-02	--	2.5E-05	2.7E-02	8.0E-01	1.6E+01	3E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.0E+00	--	7.8E-03	2.0E+00	3.6E-01	1.3E+00	6E+00	2E+00
Inorganics										
Arsenic	Merriam's Kangaroo Rat	3.0E-02	--	--	1.9E-02	4.9E-02	3.2E-01	4.7E+00	2E-01	1E-02
Copper	Merriam's Kangaroo Rat	6.2E-01	--	--	6.1E-02	6.8E-01	2.7E+00	6.3E+02	3E-01	1E-03
Lead	Merriam's Kangaroo Rat	4.5E-01	--	--	4.3E-01	8.8E-01	1.0E+00	2.4E+02	9E-01	4E-03
Mercury	Merriam's Kangaroo Rat	1.5E-02	--	--	5.2E-04	1.5E-02	2.5E-01	4.0E+00	6E-02	4E-03
Zinc	Merriam's Kangaroo Rat	1.9E+01	--	--	2.2E+00	2.1E+01	9.6E+00	4.1E+02	2E+00	5E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	2.5E-02	--	--	2.7E-03	2.8E-02	5.0E+01	1.5E+02	6E-04	2E-04
PAH High molecular weight	Merriam's Kangaroo Rat	2.3E-01	--	--	3.6E-02	2.7E-01	1.3E+00	3.3E+01	2E-01	8E-03
Pesticides										
4,4-DDE	Merriam's Kangaroo Rat	1.4E-04	--	--	1.2E-05	1.6E-04	8.0E-01	1.6E+01	2E-04	1E-05
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	1.6E-03	--	--	3.8E-03	5.4E-03	3.6E-01	1.3E+00	1E-02	4E-03

See Notes and Abbreviations following Table AOC11-D.5.

Table AOC11-D Table Notes
Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC^{\text{soil}} \times SIR) + (C^{\text{plants}} \times FIR \times F^{\text{plants}}) + (C^{\text{insects}} \times FIR \times F^{\text{insects}}) + (C^{\text{mammals}} \times FIR \times F^{\text{mammals}})] \times \text{SUF}$$

^c $HQ = \text{Total Dose} / \text{TRV}$

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC^{soil} = exposure point concentration in soil (mg/kg dw)

EPC^{plants} = exposure point concentration in plants (mg/kg dw)

EPC^{insects} = exposure point concentration in insects (mg/kg dw)

EPC^{mammals} = exposure point concentration in mammals (mg/kg dw)

F^{plants} = fraction of plants in diet

F^{insects} = fraction of insects in diet

F^{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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Appendix AOC12

Soil HHERA for AOC 12 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC12 SOIL HHERA FOR AOC 12 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes, creating a complex, angular form that extends from the bottom edge towards the top right corner.

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SOIL HHRA FOR AOC 12 EXPOSURE AREA

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FIGURE

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ATTACHMENTS

A	Dataset and Exposure Point Concentration Calculations for the AOC 12 HHERA
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- B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 12 Using Depth-Weighted EPCs
- C Dose and Risk Calculations for Ecological Receptors at AOC 12 Using Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
AOC	area of concern
Arcadis	Arcadis U.S., Inc.
B(a)PEQ	benzo(a)pyrene equivalent
bgs	below ground surface
BTAG	Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
CDI	chronic daily intake
CH2M HILL	CH2M
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
LMW	low molecular weight
LOAEL	lowest-observed adverse effects level
LOE	line of evidence
mg/kg	milligram per kilogram
mg/kg-bw/day	mg/kg body weight per day
NA	not applicable

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NOAEL	no-observed adverse effects level
OCS	outside the compressor station
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA Facility Investigation/Remedial Investigation
SUF	site use factor
SWMU	solid waste management unit
T&E	threatened and endangered
TCS	Topock Compressor Station
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	undesignated area
UCL	upper confidence limit
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WOE	weight-of-evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern 12 (AOC 12) potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 12 potential exposure area, shown on Figure AOC12-1.1, is approximately 0.32 acre and includes samples and sample locations shown in Table AOC12-1.1. Available soil data from the AOC 12 potential exposure area were used to conduct a quantitative forward HHERA as presented herein. A summary of the human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are presented in Sections 5 and 6, respectively, of the Soil Human Health and Ecological Risk Assessment Report for the TCS (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the AOC 12 potential exposure area and the HHERA methodologies are provided in the main report and the final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report, as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and the results of the HHERA risk characterization for soil in the AOC 12 potential exposure area. Tables and figures specific to the AOC 12 potential exposure area HHERA are also presented in this appendix.

1.1 Summary of Site Use

AOC 12, also referred to as the Fill Area, is located to the east of the TCS and consists of three subareas located near the Transwestern gas pipeline meter station (Transwestern Meter Station) east of TCS. These three subareas (identified as AOC 12a, AOC 12b, and AOC 12c; CH2M HILL [CH2M] 2013) were identified through employee interviews as locations that may contain buried debris. AOCs 12a and 12b are located on property owned by Havasu National Wildlife Refuge, and AOC 12c is located on both Havasu National Wildlife Refuge and Pacific Gas and Electric (PG&E) property.

AOC 12a was reportedly a disposal area for construction-related debris. A few small pieces of concrete are visible at the surface in the area identified as AOC 12a. The exact nature of the materials placed into this area and the date(s) of placement are unknown. Initially, AOC 12a was the only disposal area initially identified in AOC 12 (CH2M 2006).

Two potential disposal locations were subsequently identified from interviews with former employees, as described in the Soil Part A Phase 1 Work Plan (CH2M 2006). There is no visible debris at these two sites, which are adjacent to the northwestern corner (AOC 12b) and southwestern corner (AOC 12c) of the Transwestern Meter Station.

Location 12b reportedly was used to bury asbestos-containing material and two drums of unused unknown chemicals. Location 12c was apparently a small ravine (about 6 feet [ft] deep) that was reportedly used to bury asbestos-containing material (ACM) and possibly other debris. Geophysical surveys and trenching in the areas did not encounter drums or ACM. Soil samples collected from AOC 12 were analyzed for inorganics and

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organics and several chemicals were detected as described in detail in the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) Work Plan (CH2M 2013; Appendix A Subappendix C6). Asbestos was not detected or not present in any of the samples.

Chemicals present in fill material and buried waste and may have affected subsurface soil underneath the debris and laterally in the immediate vicinity of the debris. Subsurface soil would, therefore, be the primary source medium.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 12 potential exposure area HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 12 potential exposure area.

All soil sampling locations at the AOC 12 potential exposure area are presented on Figure AOC12-1.1 and in Table AOC12-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Draft RFI/RI Report Volume 3 (currently being prepared by Jacobs).

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. All available soil data for the AOC 12 potential exposure area are presented in Attachment AOC12-A.1. For the AOC 12 potential exposure area, soil data are available from 18 samples, of which soil data from 14 samples from 0 to 10 ft below ground surface (bgs) were considered for use in the HHERA. Because potential soil contact does not extend below 10 ft bgs, deeper soil data (i.e., greater than 10 ft bgs) from four samples collected at depths greater than 10 ft bgs were excluded from the HHERA, as noted in Table AOC12-1.1.

Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo(a)pyrene equivalent [B(a)PEQ], and polychlorinated biphenyls [PCBs]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 12 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 12 potential exposure area). Inorganics and HMW PAHs were above background levels in AOC 12 potential exposure area soil (0 to 10 ft bgs) and, therefore, are included as COPCs and/or COPECs in the baseline exposure depths evaluated in the HHERA. All other detected organic constituents in the AOC 12 potential exposure area soil in the baseline exposure depths are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios evaluated in the HHERA for the AOC 12 potential exposure area are summarized in Tables AOC12-2.1a through AOC12-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 12 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 12 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC12-A2. The summary statistics for these AOC 12 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP (Arcadis 2008, 2009, 2015). Per the RAWP, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to ecological receptors (i.e., hazard quotient [HQ] > 1 for any COPEC). For the AOC 12 potential exposure area, area-weighted EPCs were not deemed necessary for the HHRA or the ERA and, therefore, not calculated.

Soil summary statistics for constituents measured at the AOC 12¹ potential exposure area and detected at least once and depth-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the four exposure depths listed above for the AOC 12 potential exposure area are presented in Table AOC12-3.1. Due to the small dataset sizes for the surface, shallow, and subsurface I datasets in AOC 12 (i.e., insufficient data to calculate upper confidence limits [UCLs] on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations for these exposure depths intervals.

¹ The list of constituents shown in the main report Section 3 tables is based on analytes that were detected at least once at the site (including all potential exposure areas inside or outside the TCS).

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach; presents the COPC, EPC, risk and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 12 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the AOC 12 potential exposure area are presented in Attachment AOC12-B.

Risks/hazards estimated for an individual AOC/solid waste management unit (SWMU)/undesignated area (UA) potential exposure area like AOC 12 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks/hazards associated with a lifetime of contact with soil only in AOC 12 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the AOC 12 potential exposure area. The potential receptors and exposure pathways evaluated for the AOC 12 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and volatile organic compound (VOC) vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult campers, hikers, hunters, and off-highway vehicle [OHV] riders)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 12 potential exposure area were selected in accordance with the RAWP documents (Arcadis 2008, 2009, 2015) and as described in Section 3.4 of the main report. The COPC selection process using soil data encompassing all relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for the AOC 12 potential exposure area) are presented in Attachment AOC12-A. COPCs for the four exposure depths and one scenario (baseline) evaluated for the AOC 12 HHRA are summarized in Table AOC12-4.1 (details are presented in Tables AOC12-2.1a through AOC12-2.1d).

COPCs included one metal (zinc), PAHs, PCBs, and total petroleum hydrocarbon (TPH) as motor oil in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC12-A. Depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables AOC12-4.2a through AOC12-4.2h for the four exposure depths in the baseline scenario.

As described in detail in Section 3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Workers** – surface, shallow, subsurface I and subsurface II soil
- **Recreational Users (child and/or adult campers, hikers, hunters, and OHV riders)** – surface and shallow soil
- **Tribal Users** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values are presented in Tables AOC12-B.1a through AOC12-B.1g (carcinogenic effects) and Tables AOC12-B.2a through AOC12-B.2g (noncarcinogenic effects) in Attachment AOC12-B for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015).

Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to California Department of Toxic Substances Control (DTSC) guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the AOC 12 potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} . Note that risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (U.S. Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC12-4.3 summarizes cumulative ILCRs and HIs estimated using depth weighted EPCs for potential exposure to soil for each human receptor evaluated at the AOC 12 potential exposure area in the baseline scenario. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC12-B.3a through AOC12-B.3g) and noncancer hazard calculations (Tables AOC12-B.4a through AOC12-B.4g) are presented in Attachment AOC12-B.

Risk and hazard estimates for the AOC 12 potential exposure area are summarized in the tables and discussed below. Assuming that lifetime soil contact is limited to the AOC 12 potential exposure area, the estimated cumulative ILCRs and HIs for the short- and long-term maintenance workers, recreational users (campers, hikers, hunters, and OVH riders), and tribal users potentially exposed to COPCs in AOC 12 potential exposure area soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively.

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Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 12 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	1E-09	NA	0.002	NA
	Shallow	1E-09	NA	0.002	NA
	Subsurface I	7E-10	NA	0.001	NA
	Subsurface II	6E-10	NA	0.001	NA
Long-Term Maintenance Worker	Surface	2E-08	NA	0.001	NA
	Shallow	1E-08	NA	0.0008	NA
	Subsurface I	8E-09	NA	0.0006	NA
	Subsurface II	7E-09	NA	0.0005	NA

Notes:

NA = not applicable

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 12 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	3E-09	NA	0.0007	NA
	Shallow	2E-09	NA	0.0006	NA
Hiker	Surface	6E-09	NA	0.001	NA
	Shallow	5E-09	NA	0.001	NA
Hunter	Surface	1E-09	NA	0.00008	NA
	Shallow	9E-10	NA	0.00006	NA
OHV Rider	Surface	1E-08	NA	0.0008	NA
	Shallow	8E-09	NA	0.0006	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 12 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	2E-11	NA	0.0000004	NA
	Shallow	2E-11	NA	0.0000004	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

4.6.2 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 12 potential exposure area are discussed below.

Additional uncertainties for the AOC 12 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC12-3.1. As stated previously in Section 3, due to the small dataset sizes for the surface, shallow, and subsurface I soil datasets in the UA-2 potential exposure area (i.e., insufficient data to calculate UCLs on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs may not appropriately represent exposures and resulting risks/hazards for maintenance workers, recreational users, and tribe users evaluated in the AOC 12 potential exposure area HHRA.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach; presents the COPECs, EPCs, dose and risk tables for the AOC 12 ERA; and characterizes potential risk to ecological receptors exposed to COPECs in soil at the AOC 12 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the AOC 12 ERA based on risk calculations conducted using depth-weighted EPCs are presented in Attachment AOC12-C and described below.

Per the RAWP (Arcadis 2008) and DTSC guidance (1996), ecological risk calculations based on both the maximum concentration and the UCL for each COPEC are required. However, as the depth-weighted EPCs for the AOC 12 potential exposure area are based on the maximum depth-weighted concentrations for depth intervals evaluated in the ERA, separate risk calculations based on the maximum depth-weighted concentrations were not necessary.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil at the AOC 12 potential exposure area. These included plants, invertebrates, and potential small home-range receptors, as follows:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow, and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The potential small home range mammalian indicator receptors evaluated in this ERA for the AOC 12 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations exposed to surface, shallow and/or subsurface I soil (incidental and through biota uptake)
 - **Desert Shrew** – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The potential small home-range bird indicator receptors evaluated in this ERA for the AOC 12 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake)
 - **Gambel's Quail** – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Potential large home-range receptors (desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger potential exposure areas (combined AOCs/investigation areas) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with AOC 12 potential exposure area were estimated and characterized as part of the evaluation of all AOCs/investigation outside the compressor station (OCS) and all AOCs outside the compressor station excluding BCW and AOC4 (OCSxBCW+AOC4) potential exposure areas; please see Appendix OCS and Appendix OCSxBCW+AOC4.

5.1.1 Evaluation of Special-Status Species

The biological setting for the Topock site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Potential habitat exists for special-status² species at or near the site but none have been observed at the AOC 12 potential exposure area. The primary vegetation present at the AOC 12 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed threatened and endangered (T&E) plants or candidates for listing were found at the Topock site, including AOC 12 potential exposure area.

Several species of mammals and birds have been observed at or near the site (see Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E species or candidates for listing were observed at the AOC 12 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA where conservative parameters (e.g., small potential exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical receptors at the site within that group, use of no-effects based toxicity values, etc.) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 12 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 12 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC12-A1.

Because an ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario. Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate) are not typically evaluated in ERAs and were not selected as

² Special-status species include both state- and federal-listed fully protected T&E species, state/federal species of concern, and traditional culturally significant plants; however, protection at the no-observed adverse effects level (NOAEL) is warranted only for fully protected species.

COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC12-5.1.

COPECs included one metal (zinc), HMW PAHs, and PCBs. TPHs were also identified as COPECs; however, due to lack of appropriate toxicity values to evaluate TPH for potential ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs) were used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. For the AOC 12 potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC12-A2.

Per the RAWP (Arcadis 2008) and DTSC guidance (1996), risk calculations based on both the maximum detected concentration and the UCL for each COPEC are required. However, because the depth-weighted EPCs are based on the maximum depth-weighted concentrations for depth intervals evaluated in the ERA for the AOC 12 potential exposure area, separate risk calculations based on the maximum depth-weighted concentrations were not necessary.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4 of the main report. As described in Section 6.4 and shown on Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each receptor are presented in Table AOC12-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota from 0 to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating exposures and risks to these potential receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota from 0 to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table AOC12-5.3 for the baseline scenario and the representative soil and/or biota EPCs identified for the baseline risk calculations are bolded in this table.

Per the RAWP (Arcadis 2008) and DTSC guidance (1996), risk calculations based on both the maximum depth-weighted concentration and the UCL for each COPEC are required. As mentioned earlier in this section,

depth-weighted EPCs are based on the maximum depth-weighted concentrations for depth intervals evaluated in the ERA for the AOC 12 potential exposure area, and separate risk calculations based on the maximum depth-weighted concentrations were not necessary.

5.4 Estimation of Exposure Concentration or Dose

Exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (e.g., in units of milligrams per kilogram [mg/kg]). Exposures for wildlife (mammals and birds) are quantified as doses (e.g., in units of mg/kg body weight per day [mg/kg-bw/day]). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the AOC 12 potential exposure area for the baseline scenario and are presented in Table AOC12-5.3.

For wildlife, doses were calculated using the exposure parameters and equations presented in Section 6-4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the AOC 12 potential exposure area, as presented in Table AOC12-5.3 using depth-weighted EPCs. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC12-C.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to potential ecological receptors potentially exposed to COPECs in soil and biota tissue at the AOC 12 potential exposure area. For plants and soil invertebrates, screening values are discussed in Section 6.5 and presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the NOAEL-based TRVs and lowest-observed adverse effects level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop USEPA Ecological Soil Screening Levels (EcoSSLs; USEPA 2008). Other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-TRVs³ based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009) were also used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in the main report Tables 6-7 through 6-10.

³ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily lowest observed adverse effect. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

Appropriate screening values and TRVs are not available for TPHs; therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the AOC 12 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimates (i.e., HQs) involved integrating exposure profiles with the exposure-effects information. For each receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are discussed below for interpreting the risk results and identifying potential unacceptable risk to potential ecological receptors. Uncertainties specific to AOC 12 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.7 of the main report.

For plants and soil invertebrates, HQs were calculated in soil by comparing the depth-weighted EPCs for each COPEC with respective screening values and these HQs were compared to the target HQ of 1. Following USEPA (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach using multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to plants and invertebrates.
- COPECs with HQs greater than 1 indicate that unacceptable risk to plants and invertebrates is possible. However, exceedances of the screening values (which are conservative and are generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection, site use history, and confidence in the screening values was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: (1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); (2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOEs to support a conclusion of no unacceptable risk); or (3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs previously identified in RAWP documents (Arcadis 2008, 2009, 2015). HQs based on LOAEL-based TRVs selected in the RAWP are referred to as "LOAEL-based HQs." HQs based on NOAEL-based TRVs selected in the RAWP are referred to as "NOAEL-based HQs." Additionally, NOAEL and LOAEL HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The NOAEL-based BTAG TRVs are considered very conservative, resulting in a wide range of risks to wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main

report. Results associated with the selected TRVs are recommended for risk management decisions at the AOC 12 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of potential wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1 but a LOAEL-based HQ less than or equal to 1 pose no unacceptable risks to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study and the nature and magnitude of the effects, if any, that may occur at exposures between these values is unknown. In such cases, a WOE approach, including multiple LOEs, were used in reducing uncertainty for characterizing potential risk to individual wildlife receptors.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of potential wildlife receptors. However, these LOAEL-based HQs greater than 1 are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach was used in reducing uncertainty for characterizing potential risk to wildlife populations at the AOC 12 potential exposure area, as described in the above bullet.
- NOAEL-based HQs greater than 1 is considered one LOE in assessing potential risk to sensitive species, if present in this potential exposure area. Evaluation of T&E species for the AOC 12 potential exposure area is presented in Section 5.1.1 of this appendix.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE: (1) unacceptable risk to wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs); (2) unacceptable risk to wildlife is unlikely, (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or (3) unacceptable risk to wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOEs in reaching the WOE conclusions. For the AOC 12 potential exposure area, evaluations were completed for the following scenarios and discussed in this section:

- Baseline scenario using depth-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables AOC12-5.4a through AOC12-5.4b. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community/population-level risk was predicted using the most refined exposure and effects assumptions (i.e., site-specific site use factor [SUF], depth-weighted EPCs, and selected TRVs).

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) estimated for the baseline scenario using depth-weighted EPCs are summarized in this section. As mentioned earlier in Section 5.4, ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. Detailed risk calculations for plants and

soil invertebrates (Table AOC12-C.1) and detailed dose and risk calculations for wildlife (Tables AOC12-C.2 through AOC12-C.4) are presented in Attachment AOC12-C. COPECs at the AOC 12 potential exposure area include one metal (zinc), HMW PAHs, TPHs, and PCBs (Table AOC12-5.1). Potential risk to receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table AOC12-5.4a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 12 potential exposure area using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. HQs for all COPECs are less than 1 for plants, indicating *de minimis risk* to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). HQs for all COPECs are less than 1 for soil invertebrates, indicating *de minimis risk* to soil invertebrates from exposure to these COPECs.

Based on the risk results and discussion above, unacceptable risk to plant and invertebrate communities from exposure to COPECs at the AOC 12 potential exposure area is not expected.

5.6.1.2 Small Mammals

For the AOC 12 potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and an SUF equal to 1
- Using the BTAG TRVs and an SUF equal to 1
- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Table AOC12-5.4a summarizes HQs estimated for mammals at the AOC 12 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Merriam's Kangaroo Rat (granivorous small mammal):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. NOAEL- and LOAEL-based HQs for COPECs in soil are less than or equal to 1, indicating *de minimis risk* to individuals and populations of granivorous small mammals.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not analyzed in any samples, but NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous mammals from exposure to TPH is expected.

- **Desert Shrew (invertivorous small mammal):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. NOAEL- and LOAEL-based HQs for COPECs in soil are less than or equal to 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not analyzed in any samples, but NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to invertivorous mammals from exposure to TPH is expected.

No unacceptable risks to small mammals are expected for the baseline scenario. No further evaluation of COPECs using selected TRVs and site-specific SUFs for small mammals was required in this scenario.

Risks Evaluated Using the BTAG TRVs

Table AOC12-5.4a also summarizes HQs estimated for small mammals at the AOC 12 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Merriam's Kangaroo Rat (granivorous small mammal):** The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- **Desert Shrew (invertivorous small mammal):** The NOAEL-based HQ for zinc is greater than 1 and the LOAEL-based HQ is less than 1 for zinc, indicating no unacceptable risk to populations of invertivorous small mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

Summarized below are all HQ estimates for small mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	6E-02	2E-02	5E-01	1E-02	1E+00	2E-01	8E+00	2E-01

Note:

Bold indicates HQs > 1.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table AOC12-5.4b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the AOC 12 potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUF was estimated as 1 for these potential receptors (i.e., their home range is less than or equal to the size of the potential exposure area). Therefore,

the risk results using selected TRVs and BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of small mammals exposed to COPECs in soil at the AOC 12 potential exposure area using selected TRVs⁴, depth-weighted EPCs, and a site- and species-specific SUF (SUF equal to 1), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammals), the NOAEL-based and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of granivorous small mammals for all COPECs.
- For desert shrew (invertivorous small mammals), the NOAEL-based and LOAEL-based HQs are less than 1, indicating de minimis risk to individuals and populations of invertivorous small mammals for all COPECs.

No unacceptable risk to individuals and populations of small mammals at the AOC 12 potential exposure area is expected. Therefore, no further evaluation of these potential receptors at the AOC 12 potential exposure area is required.

Potential Risk Drivers for Small Mammals at the AOC 12 Exposure Area in the Baseline Scenario

No risk-driving COPECs based on small mammals were identified at the AOC 12 potential exposure area as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted using HQs calculated from exposure and effects assumptions in this scenario (i.e., SUF of 1, depth-weighted EPCs, and selected TRVs) and additional supporting LOEs.

No COPECs with NOAEL-based HQs greater than 1 using the exposure and effects assumptions in this scenario (i.e., SUF of 1, depth-weighted EPCs, and selected TRVs) were identified at the AOC 12 potential exposure area, supporting the conclusions that unacceptable risk to individual potential receptors from exposure to these COPECs is not expected.

Birds

For the AOC 12 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and an SUF equal to 1
- Using the BTAG TRVs and an SUF equal to 1
- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

⁴ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

5.6.1.2.4 Risks Evaluated Using an SUF Equal to 1

Table AOC12-5.4a summarizes HQs estimated for birds at the AOC 12 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Gambel's Quail (granivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soil (0 to 6 ft bgs) through its diet. The NOAEL- and LOAEL-based HQs for COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not analyzed in any samples, but the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous birds from exposure to TPH is expected.
- **Cactus Wren (insectivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs for COPECs in soil are less than or equal to 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not analyzed in any samples, but the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to insectivorous birds from exposure to TPH is expected.

Risks Evaluated Using the BTAG TRVs

Table AOC12-5.4a also summarizes HQs estimated for birds at the AOC 12 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Gambel's Quail (granivorous bird):** The NOAEL- and LOAEL-based HQs for COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds.
- **Cactus Wren (insectivorous bird):** The NOAEL-based HQ for zinc is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds from the remaining COPECs.

Summarized below are all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	4E-02	1E-02	1E-01	1E-02	1E+00	4E-01	4E+00	4E-01

Note:

Bold indicates HQs > 1

5.6.1.2.5 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using Selected TRVs

Table AOC12-5.4b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Gambel's Quail (granivorous bird):** The site-specific SUF for this receptor is 0.009, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds at the AOC 12 potential exposure area.
- **Cactus Wren (insectivorous bird):** The site-specific SUF for this receptor is 0.07, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds at the AOC 12 potential exposure area.

Risks Evaluated Using the BTAG TRVs

Table AOC4-5.4b also summarizes HQs estimated for birds at the AOC 12 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Gambel's Quail (granivorous bird):** The site-specific SUF for this receptor is 0.009, which further reduced the NOAEL- and LOAEL-based HQs, indicating *de minimis* risk to individuals and populations of granivorous birds from this COPEC when accounting for site use at the AOC 12 potential exposure area.
- **Cactus Wren (insectivorous bird):** The site-specific SUF for this receptor is 0.07, which reduced the NOAEL- and LOAEL-based HQs for zinc to less than 1, indicating no unacceptable risk to individuals or populations of insectivorous birds from this COPEC when accounting for site use at the AOC 12 potential exposure area.

For the COPECs with NOAEL-based HQs greater than 1 using an SUF of 1 (using the selected TRV or BTAG TRV), HQ estimates using the species- and site-specific SUF for birds are summarized below.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.009)				Cactus Wren HQs (SUF = 0.07)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	3E-04	1E-04	1E-03	1E-04	7E-02	3E-02	3E-01	3E-02

Note:

Bold indicates HQs > 1.

5.6.1.2.6 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 12 potential exposure area using selected TRVs⁵, depth-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- For Gambel's quail (granivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs.
- For the cactus wren (insectivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs.

No unacceptable risk to individuals and populations of birds at the AOC 12 potential exposure area is expected. Therefore, no further evaluation of these potential receptors at the AOC 12 potential exposure area is required.

Potential Risk Drivers for Birds at the AOC 12 Exposure Area in the Baseline Scenario

No risk-driving COPECs based on birds were identified at the AOC 12 potential exposure area as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted using HQs calculated from the exposure and effects assumptions in this scenario (i.e., site-specific SUF, depth-weighted EPCs, and selected TRVs) and additional supporting LOEs.

No COPECs with NOAEL-based HQs greater than 1 using the exposure and effects assumptions in this scenario (i.e., site-specific SUF, depth-weighted EPCs, and selected TRVs) were identified at the AOC 12 potential exposure area, supporting the conclusions that unacceptable risk to individual potential receptors from exposure to these COPECs is not expected.

⁵ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for potential human receptors were estimated for the AOC 12 potential exposure area, as presented above in Section 4. For potential ecological receptors, potential risks were estimated as presented in Section 5. Uncertainties related to the HHRA and ERA at the site are discussed in detail in Sections 5.6 and 6.7 of the main report, and uncertainties specific to the AOC 12 potential exposure area are discussed herein. For the AOC 12 potential exposure area, a HHRA and ERA was conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline, i.e., no scouring) was evaluated, and risks were estimated for various receptors using depth-weighted EPCs. Risks based on depth-weighted EPCs did not suggest potential risk to ecological receptors (i.e., HQs were less than or equal to 1 for all COPECs); therefore, risks based on area-weighted EPCs were not necessary.

At the AOC 12 potential exposure area, COPCs/COPECs identified for the HHRA include one metal (zinc), HMW PAHs, PAHs, PCBs, and TPH as motor oil. A summary of the results and conclusions regarding estimated risk associated with potential exposure to these COPCs/COPECs in soil at the AOC 12 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

The conclusions reached after completing the HHRA and ERA for the AOC 12 potential exposure area are presented below.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 12 potential exposure area using depth-weighted EPCs under the baseline scenario were estimated. Assuming lifetime soil contact is limited to the AOC 12 potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussion below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 12 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-wt	Depth-wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1
Long-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 12 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-wt	Depth-wt
Camper	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Hiker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Hunter	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
OHV Rider	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1

Note:

wt = weighted

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including: Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User.
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – All potential receptors evaluated including: Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User.

Potential exposures that are above *de minimis* levels of HI > 1 and within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None.
- **HI > 3** – None.
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – None.
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – None.
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Exposures above the risk management range of 1×10^{-6} and 1×10^{-4}

- **ILCR > 1×10^{-4}** – None.

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the AOC 12 potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil using depth-weighted EPCs for all potential receptors, that is the short- and long-term maintenance workers and the recreational and tribal users are below the *de minimis* levels of 1×10^{-6} and 1, respectively.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like the AOC 12 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks/hazards associated with a lifetime of contact with soil only in the AOC 12 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 12 potential exposure area, one metal (zinc), HMW PAHs, TPHs, and PCBs were identified as COPECs. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted EPCs. Evaluation of area-weighted EPCs was not necessary based on the results of the depth-weighted EPC evaluation. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and invertebrates).
- COPECs with HQs greater than 1 could indicate potential risk to ecological communities. A WOE approach was used to characterize potential risk to plants and invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risks to wildlife populations; however, potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual receptors.

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- COPECs with LOAEL-based HQs greater than 1 have potential for unacceptable risk to populations of potential wildlife receptors.

The risk estimates (i.e., HQs) represent a single LOE in the risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties, was used to characterize risk to wildlife populations at the AOC 12 potential exposure area.

The HQs for all the COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are summarized in Table AOC12-6.1. Area-weighted EPCs were not evaluated for this potential exposure area based on the risk estimates using depth-weighted EPCs. The depth-weighted EPCs are based on the maximum depth-weighted concentration due to small samples sizes for this potential exposure area.

Based on the ecological risk characterization for the AOC 12 potential exposure area using depth-weighted EPCs, selected TRVs, and site- and species-specific SUFs, the following conclusions were made.

- Potential risks to all ecological receptors are expected to be *de minimis* from exposure to all COPECs including TPH (based on PAH results) in soil at the AOC 12 potential exposure area. These COPECs were detected at concentrations less than screening values for plants and soil invertebrates and all NOAEL-based HQs for small mammals and birds were equal to or less than 1 based on depth-weighted EPCs, site-specific SUF, and selected TRVs. The various LOEs considered in the WOE assessment and risk conclusions are presented in Table AOC12-6.2.
- No T&E plants or small home range wildlife receptors have been observed in the AOC 12 potential exposure area.

6.2.1 Potential Risk Drivers for the AOC 12 Exposure Area

As presented in Table AOC12-6.2 and summarized in the table below, no potential risk drivers were identified for the AOC 12 potential exposure area based on unacceptable community/population-level risk (i.e., HQ greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds) predicted using the exposure and effects assumptions evaluated in this ERA (i.e., site-specific SUF, depth-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk.

Scenario	Potential Receptors and Risk Drivers at AOC 12 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's Kangaroo Rat)	Invertivorous Mammals (Desert Shrew)	Granivorous Birds (Gambel's Quail)	Insectivorous Birds (Cactus Wren)
Baseline	None	None	None	None	None	None

7 REFERENCES

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TABLES



Table AOC12-1.1
Samples and Sampling Locations Included in the AOC 12 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC12a-T1a-7001	09/22/08	AOC12a-T1a	0	0.5	0.5	0-0.5	--
AOC12a-T1a-7002	09/22/08	AOC12a-T1a	2	3	3	0-3	--
AOC12a-T1b-7003	09/22/08	AOC12a-T1a	7	8	8	0-10	--
AOC12a-T1c-7004	09/22/08	AOC12a-T1c	7	8	8	0-10	--
AOC12a-T2a-7005	09/22/08	AOC12a-T2a	6	7	7	0-10	--
AOC12a-T2b-7006	09/22/08	AOC12a-T2b	7	8	8	0-10	--
AOC12b-T1a-7009	09/20/08	AOC12b-T1a	2	3	3	0-3	--
AOC12b-T1b-7010	09/20/08	AOC12b-T1b	2	3	3	0-3	--
AOC12c-T1a-7014	09/20/08	AOC12c-T1a	10	11	11	NE	Excluded from HHERA (> 10 ft bgs)
AOC12c-T1b-7015	09/20/08	AOC12c-T1a	0	0.5	0.5	0-0.5	--
AOC12c-T1b-7016	09/20/08	AOC12c-T1a	2	3	3	0-3	--
AOC12c-T1c-7017	09/20/08	AOC12c-T1b	10	11	11	NE	Excluded from HHERA (> 10 ft bgs)
AOC12c-T1c-7023	09/22/08	AOC12c-T1b	3	4	4	0-6	--
AOC12c-T2a-7018	09/20/08	AOC12c-T2a	7	8	8	0-10	--
AOC12c-T2b-7019	09/20/08	AOC12c-T2b	7	8	8	0-10	--
AOC12c-T2c-7020	09/20/08	AOC12c-T1b	2	3	3	0-3	--
AOC12c-T2d-7021	09/20/08	AOC12c-T1c	10	11	11	NE	Excluded from HHERA (> 10 ft bgs)
AOC12c-T2d-7022	09/20/08	AOC12c-T1c	10	11	11	NE	Excluded from HHERA (> 10 ft bgs)

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

HHERA = human health and ecological risk assessment

NE = not evaluated in the HHERA

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	4,500 - 12,000	mg/kg	No	Within Background
Antimony	0 / 2	ND	mg/kg	No	Not Detected
Arsenic	2 / 2	3.6 - 5.4	mg/kg	No	Within Background
Barium	2 / 2	79 - 110	mg/kg	No	Within Background
Beryllium	0 / 2	ND	mg/kg	No	Not Detected
Cadmium	0 / 2	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	10,000 - 31,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 2	ND	mg/kg	No	Not Detected
Chromium, total	2 / 2	13 - 28	mg/kg	No	Within Background
Cobalt	2 / 2	3.4 - 8.4	mg/kg	No	Within Background
Copper	2 / 2	5.6 - 13	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	9,900 - 23,000	mg/kg	No	Within Background
Lead	2 / 2	7.1 - 8.3	mg/kg	No	Within Background
Magnesium ^b	2 / 2	3,000 - 8,300	mg/kg	No	Within Background
Manganese ^b	2 / 2	130 - 290	mg/kg	No	Within Background
Mercury (inorganic)	0 / 2	ND	mg/kg	No	Not Detected
Molybdenum	0 / 2	ND	mg/kg	No	Not Detected
Nickel	2 / 2	6.9 - 18	mg/kg	No	Within Background
Potassium ^b	2 / 2	1,300 - 2,700	mg/kg	No	Within Background
Selenium	0 / 2	ND	mg/kg	No	Not Detected
Silver	0 / 2	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 340	mg/kg	No	Within Background
Thallium	0 / 2	ND	mg/kg	No	Not Detected
Vanadium	2 / 2	19 - 38	mg/kg	No	Within Background
Zinc	2 / 2	26 - 77	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,4-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 2	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 2	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 2	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 2	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 2	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 2	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 2	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 2	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 2	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 2	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 2	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 2	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 2	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 2	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Chlorophenyl phenyl ether	0 / 2	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 2	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 2	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 2	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 2	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 2	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 2	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 2	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 2	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 2	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 2	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 2	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 2	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 2	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 2	ND	ug/kg	No	Not Detected
Phenol	0 / 2	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	2 / 2	5.7 - 154	ug/kg	Yes	Detected (ERA Only)
PAH Low molecular weight	2 / 2	0 - 9.4	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 2	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 2	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 2	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Anthracene	0 / 2	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	1 / 2	7.3	ug/kg	No	Within Background
Benzo (a) pyrene ^c	1 / 2	13	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	1 / 2	14	ug/kg	No	Within Background
Benzo (ghi) perylene	1 / 2	12	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	1 / 2	20	ug/kg	No	Within Background
Chrysene ^c	1 / 2	20	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 2	ND	ug/kg	No	Not Detected
Fluoranthene	2 / 2	5.7 - 29	ug/kg	Yes	Detected
Fluorene	0 / 2	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	1 / 2	11	ug/kg	No	Within Background
Naphthalene	0 / 2	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 2	9.4	ug/kg	Yes	Detected
Pyrene	1 / 2	28	ug/kg	Yes	Detected
B(a)P Equivalent ^d	1 / 2	19	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 2	31	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	0 / 2	ND	mg/kg	No	Not Detected
TPH as motor oil	0 / 2	ND	mg/kg	No	Not Detected

Table AOC12-2.1a

Chemicals Included in the Risk Assessment: AOC 12 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	4,500 - 12,000	mg/kg	No	Within Background
Antimony	0 / 7	ND	mg/kg	No	Not Detected
Arsenic	7 / 7	3.6 - 5.8	mg/kg	No	Within Background
Barium	7 / 7	14 - 150	mg/kg	No	Within Background
Beryllium	0 / 7	ND	mg/kg	No	Not Detected
Cadmium	0 / 7	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	10,000 - 31,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 7	ND	mg/kg	No	Not Detected
Chromium, total	7 / 7	4.9 - 28	mg/kg	No	Within Background
Cobalt	7 / 7	1.6 - 14	mg/kg	No	Within Background
Copper	6 / 7	5.6 - 18	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	9,900 - 23,000	mg/kg	No	Within Background
Lead	7 / 7	2.4 - 8.3	mg/kg	No	Within Background
Magnesium ^b	2 / 2	3,000 - 8,300	mg/kg	No	Within Background
Manganese ^b	2 / 2	130 - 290	mg/kg	No	Within Background
Mercury (inorganic)	0 / 7	ND	mg/kg	No	Not Detected
Molybdenum	0 / 7	ND	mg/kg	No	Not Detected
Nickel	7 / 7	2.7 - 20	mg/kg	No	Within Background
Potassium ^b	2 / 2	1,300 - 2,700	mg/kg	No	Within Background
Selenium	1 / 7	2.5	mg/kg	No	Within Background
Silver	0 / 7	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 340	mg/kg	No	Within Background
Thallium	0 / 7	ND	mg/kg	No	Not Detected
Vanadium	7 / 7	13 - 42	mg/kg	No	Within Background
Zinc	7 / 7	9.0 - 77	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 7	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 7	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 5	ND	ug/kg	No	Not Detected
Acetone	0 / 4	ND	ug/kg	No	Not Detected
Acrolein	0 / 5	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 5	ND	ug/kg	No	Not Detected
Benzene	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 7	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 7	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromobenzene	0 / 5	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 5	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 5	ND	ug/kg	No	Not Detected
Bromoform	0 / 5	ND	ug/kg	No	Not Detected
Bromomethane	0 / 5	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 5	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 5	ND	ug/kg	No	Not Detected
Chloro methane	0 / 5	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
Chloroethane	0 / 5	ND	ug/kg	No	Not Detected
Chloroform	0 / 5	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 5	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 5	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 5	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 7	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 7	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 5	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 5	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 7	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 5	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
p-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Styrene	0 / 5	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 5	ND	ug/kg	No	Not Detected
Toluene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 5	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 5	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 5	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 5	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 7	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 7	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 7	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 7	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 7	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 7	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 7	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 7	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 7	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 7	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 7	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 7	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 7	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 7	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 7	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Chloro-3-methylphenol	0 / 7	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 7	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 7	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 7	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 7	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 7	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 7	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 7	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 7	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 7	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 7	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 7	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 7	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 7	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 7	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 7	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 7	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 7	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 7	ND	ug/kg	No	Not Detected
Phenol	0 / 7	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	7 / 7	0 - 154	ug/kg	Yes	Detected (ERA Only)
PAH Low molecular weight	7 / 7	0 - 9.4	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 7	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 7	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Acenaphthene	0 / 7	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 7	ND	ug/kg	No	Not Detected
Anthracene	0 / 7	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	2 / 7	7.3 - 8.1	ug/kg	No	Within Background
Benzo (a) pyrene ^c	2 / 7	11 - 13	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	2 / 7	9.9 - 14	ug/kg	No	Within Background
Benzo (ghi) perylene	2 / 7	10 - 12	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	2 / 7	14 - 20	ug/kg	No	Within Background
Chrysene ^c	2 / 7	13 - 20	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 7	ND	ug/kg	No	Not Detected
Fluoranthene	4 / 7	5.7 - 29	ug/kg	Yes	Detected
Fluorene	0 / 7	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	2 / 7	9.3 - 11	ug/kg	No	Within Background
Naphthalene	0 / 7	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 7	9.4	ug/kg	Yes	Detected
Pyrene	2 / 7	16 - 28	ug/kg	Yes	Detected
B(a)P Equivalent ^d	2 / 7	16 - 19	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 7	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 3	31	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	0 / 7	ND	mg/kg	No	Not Detected
TPH as gasoline	0 / 5	ND	mg/kg	No	Not Detected
TPH as motor oil	0 / 7	ND	mg/kg	No	Not Detected

Table AOC12-2.1b

Chemicals Included in the Risk Assessment: AOC 12 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	4,500 - 12,000	mg/kg	No	Within Background
Antimony	0 / 8	ND	mg/kg	No	Not Detected
Arsenic	8 / 8	3.6 - 6.5	mg/kg	No	Within Background
Barium	8 / 8	14 - 160	mg/kg	No	Within Background
Beryllium	0 / 8	ND	mg/kg	No	Not Detected
Cadmium	0 / 8	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	10,000 - 31,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 8	ND	mg/kg	No	Not Detected
Chromium, total	8 / 8	4.9 - 28	mg/kg	No	Within Background
Cobalt	8 / 8	1.6 - 14	mg/kg	No	Within Background
Copper	7 / 8	5.6 - 18	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	9,900 - 23,000	mg/kg	No	Within Background
Lead	8 / 8	2.4 - 8.3	mg/kg	No	Within Background
Magnesium ^b	2 / 2	3,000 - 8,300	mg/kg	No	Within Background
Manganese ^b	2 / 2	130 - 290	mg/kg	No	Within Background
Mercury (inorganic)	0 / 8	ND	mg/kg	No	Not Detected
Molybdenum	0 / 8	ND	mg/kg	No	Not Detected
Nickel	8 / 8	2.7 - 20	mg/kg	No	Within Background
Potassium ^b	2 / 2	1,300 - 2,700	mg/kg	No	Within Background
Selenium	1 / 8	2.5	mg/kg	No	Within Background
Silver	0 / 8	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 340	mg/kg	No	Within Background
Thallium	0 / 8	ND	mg/kg	No	Not Detected
Vanadium	8 / 8	13 - 42	mg/kg	No	Within Background
Zinc	8 / 8	9.0 - 77	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 6	ND	ug/kg	No	Not Detected
Acetone	0 / 5	ND	ug/kg	No	Not Detected
Acrolein	0 / 6	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 6	ND	ug/kg	No	Not Detected
Benzene	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 8	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 8	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromobenzene	0 / 6	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromoform	0 / 6	ND	ug/kg	No	Not Detected
Bromomethane	0 / 6	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 6	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 6	ND	ug/kg	No	Not Detected
Chloro methane	0 / 6	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Chloroethane	0 / 6	ND	ug/kg	No	Not Detected
Chloroform	0 / 6	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 6	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 6	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 8	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 8	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 6	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 6	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 8	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 6	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
p-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Styrene	0 / 6	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 6	ND	ug/kg	No	Not Detected
Toluene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 6	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 6	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 6	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 6	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 8	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 8	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 8	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 8	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 8	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 8	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 8	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 8	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 8	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 8	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 8	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 8	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 8	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Chloro-3-methylphenol	0 / 8	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 8	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 8	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 8	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 8	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 8	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 8	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 8	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 8	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 8	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 8	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 8	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 8	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 8	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 8	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 8	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 8	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 8	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 8	ND	ug/kg	No	Not Detected
Phenol		ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	8 / 8	0 - 407	ug/kg	Yes	Detected (ERA Only)
PAH Low molecular weight	8 / 8	0 - 14	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 8	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 8	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Acenaphthene	0 / 8	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 8	ND	ug/kg	No	Not Detected
Anthracene	0 / 8	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	3 / 8	7.3 - 30	ug/kg	No	Within Background
Benzo (a) pyrene ^c	3 / 8	11 - 39	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	3 / 8	9.9 - 45	ug/kg	No	Within Background
Benzo (ghi) perylene	3 / 8	10 - 35	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	3 / 8	14 - 45	ug/kg	No	Within Background
Chrysene ^c	3 / 8	13 - 49	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	1 / 8	11	ug/kg	No	Within Background
Fluoranthene	5 / 8	5.7 - 61	ug/kg	Yes	Detected
Fluorene	0 / 8	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	3 / 8	9.3 - 32	ug/kg	No	Within Background
Naphthalene	0 / 8	ND	ug/kg	No	Not Detected
Phenanthrene	2 / 8	9.4 - 14	ug/kg	Yes	Detected
Pyrene	3 / 8	16 - 60	ug/kg	Yes	Detected
B(a)P Equivalent ^d	3 / 8	16 - 61	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 8	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 3	31	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	0 / 8	ND	mg/kg	No	Not Detected
TPH as gasoline	0 / 5	ND	mg/kg	No	Not Detected
TPH as motor oil	1 / 8	23	mg/kg	Yes	Detected

Table AOC12-2.1c

Chemicals Included in the Risk Assessment: AOC 12 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	2 / 2	4,500 - 12,000	mg/kg	No	Within Background
Antimony	0 / 14	ND	mg/kg	No	Not Detected
Arsenic	14 / 14	3.6 - 8.4	mg/kg	No	Within Background
Barium	14 / 14	14 - 240	mg/kg	No	Within Background
Beryllium	0 / 14	ND	mg/kg	No	Not Detected
Cadmium	0 / 14	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	10,000 - 31,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 14	ND	mg/kg	No	Not Detected
Chromium, total	14 / 14	4.9 - 28	mg/kg	No	Within Background
Cobalt	14 / 14	1.6 - 14	mg/kg	No	Within Background
Copper	13 / 14	5.6 - 18	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	9,900 - 23,000	mg/kg	No	Within Background
Lead	14 / 14	2.4 - 8.3	mg/kg	No	Within Background
Magnesium ^b	2 / 2	3,000 - 8,300	mg/kg	No	Within Background
Manganese ^b	2 / 2	130 - 290	mg/kg	No	Within Background
Mercury (inorganic)	0 / 14	ND	mg/kg	No	Not Detected
Molybdenum	1 / 14	1.0	mg/kg	No	Within Background
Nickel	14 / 14	2.7 - 20	mg/kg	No	Within Background
Potassium ^b	2 / 2	1,300 - 2,700	mg/kg	No	Within Background
Selenium	1 / 14	2.5	mg/kg	No	Within Background
Silver	0 / 14	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 340	mg/kg	No	Within Background
Thallium	0 / 14	ND	mg/kg	No	Not Detected
Vanadium	14 / 14	13 - 42	mg/kg	No	Within Background
Zinc	14 / 14	9.0 - 77	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 12	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 12	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 12	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
1,1,2-Trichloroethane	0 / 12	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 12	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 12	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 12	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 12	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 12	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 12	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 12	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 12	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 12	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 12	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 12	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 12	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 12	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 12	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 12	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 12	ND	ug/kg	No	Not Detected
Acetone	0 / 8	ND	ug/kg	No	Not Detected
Acrolein	0 / 12	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 12	ND	ug/kg	No	Not Detected
Benzene	0 / 12	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 14	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 14	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Bromobenzene	0 / 12	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 12	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 12	ND	ug/kg	No	Not Detected
Bromoform	0 / 12	ND	ug/kg	No	Not Detected
Bromomethane	0 / 12	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 12	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 12	ND	ug/kg	No	Not Detected
Chloro methane	0 / 12	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 12	ND	ug/kg	No	Not Detected
Chloroethane	0 / 12	ND	ug/kg	No	Not Detected
Chloroform	0 / 12	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 12	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 12	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 12	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 12	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 12	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 12	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 14	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 14	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 12	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 12	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 12	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 12	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 12	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 12	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 14	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 12	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
p-Chlorotoluene	0 / 12	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 12	ND	ug/kg	No	Not Detected
Styrene	0 / 12	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 12	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 12	ND	ug/kg	No	Not Detected
Toluene	0 / 12	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 12	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 12	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 12	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 12	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 12	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 12	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 14	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 14	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 14	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 14	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 14	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 14	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 14	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 14	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
4-Chloro-3-methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 14	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 14	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 14	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 14	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 14	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 14	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 14	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 14	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 14	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 14	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 14	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 14	ND	ug/kg	No	Not Detected
Phenol	0 / 14	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 14	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 14	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 14	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 14	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
Anthracene	0 / 14	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	3 / 14	7.3 - 30	ug/kg	No	Within Background
Benzo (a) pyrene ^c	3 / 14	11 - 39	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	3 / 14	9.9 - 45	ug/kg	No	Within Background
Benzo (ghi) perylene	3 / 14	10 - 35	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	3 / 14	14 - 45	ug/kg	No	Within Background
Chrysene ^c	3 / 14	13 - 49	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	1 / 14	11	ug/kg	No	Within Background
Fluoranthene	5 / 14	5.7 - 61	ug/kg	Yes	Detected
Fluorene	0 / 14	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	3 / 14	9.3 - 32	ug/kg	No	Within Background
Naphthalene	0 / 14	ND	ug/kg	No	Not Detected
Phenanthrene	2 / 14	9.4 - 14	ug/kg	Yes	Detected
Pyrene	3 / 14	16 - 60	ug/kg	Yes	Detected
B(a)P Equivalent ^d	3 / 14	16 - 61	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment a	Basis for selection as COPC in Risk Assessment
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 14	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 3	31	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	0 / 14	ND	mg/kg	No	Not Detected
TPH as gasoline	0 / 11	ND	mg/kg	No	Not Detected
TPH as motor oil	1 / 14	23	mg/kg	Yes	Detected

Table AOC12-2.1d

Chemicals Included in the Risk Assessment: AOC 12 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-0.5	2 / 2	100	4500	12000	NA	NA	8250	8250	8250	28125000	5303	--	--	--	
Antimony	mg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Arsenic	mg/kg	0-0.5	2 / 2	100	3.6	5.4	NA	NA	4.5	4.5	4.5	1.62	1.273	--	--	--	
Barium	mg/kg	0-0.5	2 / 2	100	79	110	NA	NA	94.5	94.5	94.5	480.5	21.92	--	--	--	
Beryllium	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Cadmium	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Chromium, hexavalent	mg/kg	0-0.5	0 / 2	0	NA	NA	0.205	0.21	NA	NA	NA	NA	NA	--	--	--	
Chromium, total	mg/kg	0-0.5	2 / 2	100	13	28	NA	NA	20.5	20.5	20.5	112.5	10.61	--	--	--	
Cobalt	mg/kg	0-0.5	2 / 2	100	3.4	8.4	NA	NA	5.9	5.9	5.9	12.5	3.536	--	--	--	
Copper	mg/kg	0-0.5	2 / 2	100	5.6	13	NA	NA	9.3	9.3	9.3	27.38	5.233	--	--	--	
Cyanide	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	
Iron	mg/kg	0-0.5	2 / 2	100	9900	23000	NA	NA	16450	16450	16450	85805000	9263	--	--	--	
Lead	mg/kg	0-0.5	2 / 2	100	7.1	8.3	NA	NA	7.7	7.7	7.7	0.72	0.849	--	--	--	
Manganese	mg/kg	0-0.5	2 / 2	100	130	290	NA	NA	210	210	210	12800	113.1	--	--	--	
Mercury	mg/kg	0-0.5	0 / 2	0	NA	NA	0.049	0.05	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-0.5	2 / 2	100	6.9	18	NA	NA	12.45	12.45	12.45	61.61	7.849	--	--	--	
Selenium	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Silver	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-0.5	0 / 2	0	NA	NA	1	2	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-0.5	2 / 2	100	19	38	NA	NA	28.5	28.5	28.5	180.5	13.44	--	--	--	
Zinc	mg/kg	0-0.5	2 / 2	100	26	77	NA	NA	51.5	51.5	51.5	1301	36.06	X	77	Max Detect	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-0.5	0 / 2	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-0.5	0 / 2	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-0.5	1 / 2	50	9.4	9.4	0	0	9.4	4.7	9.4	NA	NA	--	--	--	
PAH high molecular weight	µg/kg	0-0.5	2 / 2	100	5.7	154	NA	NA	79.85	79.85	79.85	10996	104.9	X	154	Max Detect	
1-Methyl naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
Benzo (a) anthracene	µg/kg	0-0.5	1 / 2	50	7.3	7.3	2.55	2.55	7.3	4.925	7.3	NA	NA	X	7.3	Max Detect	
Benzo (a) pyrene	µg/kg	0-0.5	1 / 2	50	13	13	2.55	2.55	13	7.775	13	NA	NA	X	13	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-0.5	1 / 2	50	14	14	2.55	2.55	14	8.275	14	NA	NA	X	14	Max Detect	
Benzo (ghi) perylene	µg/kg	0-0.5	1 / 2	50	12	12	2.55	2.55	12	7.275	12	NA	NA	X	12	Max Detect	
Benzo (k) fluoranthene	µg/kg	0-0.5	1 / 2	50	20	20	2.55	2.55	20	11.28	20	NA	NA	X	20	Max Detect	
Chrysene	µg/kg	0-0.5	1 / 2	50	20	20	2.55	2.55	20	11.28	20	NA	NA	X	20	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Fluoranthene	µg/kg	0-0.5	2 / 2	100	5.7	29	NA	NA	17.35	17.35	17.35	271.4	16.48	X	29	Max Detect	
Fluorene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	1 / 2	50	11	11	2.55	2.55	11	6.775	11	NA	NA	X	11	Max Detect	
Naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.55	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-0.5	1 / 2	50	9.4	9.4	2.55	2.55	9.4	5.975	9.4	NA	NA	X	9.4	Max Detect	
Pyrene	µg/kg	0-0.5	1 / 2	50	28	28	2.55	2.55	28	15.28	28	NA	NA	X	28	Max Detect	
B(a)P equivalent	µg/kg	0-0.5	2 / 2	100	5.9	19	NA	NA	12.45	12.45	12.45	85.81	9.263	--	--	--	
Pesticides																	
4,4-DDE	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
4,4-DDT	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Alpha-Chlordane	µg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Dieldrin	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Gamma-Chlordane	µg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-0.5	1 / 2	50	31	31	8.5	8.5	31	19.75	31	NA	NA	X	31	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-0.5	0 / 2	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-0.5	0 / 2	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
Soil Depth Interval: 0-3 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-3	2 / 2	100	4500	12000	NA	NA	8250	8250	8250	28125000	5303	--	--	--	
Antimony	mg/kg	0-3	0 / 5	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	
Arsenic	mg/kg	0-3	5 / 5	100	3.63	5.8	NA	NA	4.932	4.932	5.1	0.642	0.801	--	--	--	
Barium	mg/kg	0-3	5 / 5	100	57.3	140	NA	NA	97.86	97.86	88	1109	33.3	--	--	--	
Beryllium	mg/kg	0-3	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Cadmium	mg/kg	0-3	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Chromium, hexavalent	mg/kg	0-3	0 / 5	0	NA	NA	0.205	0.215	NA	NA	NA	NA	NA	--	--	--	
Chromium, total	mg/kg	0-3	5 / 5	100	10.3	27	NA	NA	22.46	22.46	26	48.46	6.961	--	--	--	
Cobalt	mg/kg	0-3	5 / 5	100	2.8	14	NA	NA	8.7	8.7	8.7	15.95	3.994	--	--	--	
Copper	mg/kg	0-3	5 / 5	100	4.07	18	NA	NA	12.27	12.27	13	25.9	5.089	--	--	--	
Cyanide	mg/kg	0-3	0 / 2	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	COPC/ COPEC?	Depth-Weighted UCL	Depth-Weighted UCL Basis	
Iron	mg/kg	0-3	2 / 2	100	9900	23000	NA	NA	16450	16450	16450	85805000	9263	--	--	--	
Lead	mg/kg	0-3	5 / 5	100	4.5	6.33	NA	NA	5.5	5.5	5.7	0.603	0.777	--	--	--	
Manganese	mg/kg	0-3	2 / 2	100	130	290	NA	NA	210	210	210	12800	113.1	--	--	--	
Mercury	mg/kg	0-3	0 / 5	0	NA	NA	0.0493	0.05	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-3	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-3	5 / 5	100	5.5	20	NA	NA	16.5	16.5	19	38.5	6.205	--	--	--	
Selenium	mg/kg	0-3	1 / 5	20	2.5	2.5	0.5	0.5	2.5	0.9	2.5	NA	NA	--	--	--	
Silver	mg/kg	0-3	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-3	0 / 5	0	NA	NA	1	2.1	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-3	5 / 5	100	17	42	NA	NA	34.86	34.86	38.3	105.2	10.26	--	--	--	
Zinc	mg/kg	0-3	5 / 5	100	20.3	68.3	NA	NA	50.52	50.52	57	332.4	18.23	X	68.3	Max Detect	
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Acetone	µg/kg	0-3	0 / 4	0	NA	NA	20.5	32.5	NA	NA	NA	NA	NA	--	--	--	
Bromomethane	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Chloro methane	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Chloroform	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Ethyl- benzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Isopropylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Methyl acetate	µg/kg	0-3	0 / 2	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Methyl ethyl ketone	µg/kg	0-3	0 / 5	0	NA	NA	20.5	32.5	NA	NA	NA	NA	NA	--	--	--	
Methylene chloride	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
N-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Toluene	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, m,p-	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, o-	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylenes, total	µg/kg	0-3	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-3	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-3	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-3	1 / 5	20	6.27	6.27	0	0	6.27	1.254	6.27	NA	NA	--	--	--	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
PAH high molecular weight	µg/kg	0-3	4 / 5	80	3.8	107	0	0	55.08	44.06	54.75	3327	57.68	X	107	Max Detect	
1-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Benzo (a) anthracene	µg/kg	0-3	2 / 5	40	5.7	8.1	2.57	2.6	6.9	4.302	6.9	2.88	1.697	X	8.1	Max Detect	
Benzo (a) pyrene	µg/kg	0-3	2 / 5	40	9.5	11	2.57	2.6	10.25	5.642	10.25	1.125	1.061	X	11	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-3	2 / 5	40	9.9	10.2	2.57	2.6	10.05	5.562	10.05	0.045	0.212	X	10.2	Max Detect	
Benzo (ghi) perylene	µg/kg	0-3	2 / 5	40	8.83	10	2.57	2.6	9.415	5.308	9.415	0.684	0.827	X	10	Max Detect	
Benzo (k) fluoranthene	µg/kg	0-3	2 / 5	40	14	14.2	2.57	2.6	14.1	7.182	14.1	0.02	0.141	X	14.2	Max Detect	
Chrysene	µg/kg	0-3	2 / 5	40	13	14.2	2.57	2.6	13.6	6.982	13.6	0.72	0.849	X	14.2	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Fluoranthene	µg/kg	0-3	4 / 5	80	4.67	20.2	2.6	2.6	11.84	9.994	11.25	55.71	7.464	X	20.2	Max Detect	
Fluorene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	2 / 5	40	8.17	9.3	2.57	2.6	8.735	5.036	8.735	0.638	0.799	X	9.3	Max Detect	
Naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.35	2.6	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-3	1 / 5	20	7.1	7.1	2.57	2.6	7.1	3.476	7.1	NA	NA	X	7.1	Max Detect	
Pyrene	µg/kg	0-3	2 / 5	40	16	19.5	2.57	2.6	17.75	8.642	17.75	6.125	2.475	X	19.5	Max Detect	
B(a)P equivalent	µg/kg	0-3	4 / 5	80	5.93	16	6	6	10.63	9.692	10.3	29.37	5.42	--	--	--	
Pesticides																	
4,4-DDE	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
4,4-DDT	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Alpha-Chlordane	µg/kg	0-3	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Dieldrin	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Gamma-Chlordane	µg/kg	0-3	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-3	1 / 2	50	23.5	23.5	8.5	8.5	23.5	16	23.5	NA	NA	X	23.5	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-3	0 / 5	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
TPH as gasoline	mg/kg	0-3	0 / 5	0	NA	NA	0.5	80	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-3	0 / 5	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
Soil Depth Interval: 0-6 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-6	2 / 2	100	4500	12000	NA	NA	8250	8250	8250	28125000	5303	--	--	--	
Antimony	mg/kg	0-6	0 / 5	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	
Arsenic	mg/kg	0-6	5 / 5	100	3.67	5.8	NA	NA	5.048	5.048	5.07	0.763	0.874	--	--	--	
Barium	mg/kg	0-6	5 / 5	100	35.7	150	NA	NA	98.34	98.34	88	2124	46.08	--	--	--	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	COPC/ COPEC?	Depth-Weighted UCL	Depth-Weighted UCL Basis	
Beryllium	mg/kg	0-6	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Cadmium	mg/kg	0-6	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Chromium, hexavalent	mg/kg	0-6	0 / 5	0	NA	NA	0.203	0.213	NA	NA	NA	NA	NA	--	--	--	
Chromium, total	mg/kg	0-6	5 / 5	100	7.6	26	NA	NA	22.12	22.12	26	66.07	8.128	--	--	--	
Cobalt	mg/kg	0-6	5 / 5	100	2.2	14	NA	NA	8.74	8.74	9	17.82	4.221	--	--	--	
Copper	mg/kg	0-6	5 / 5	100	2.53	18	NA	NA	11.75	11.75	12.5	32.42	5.694	--	--	--	
Cyanide	mg/kg	0-6	0 / 2	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	
Iron	mg/kg	0-6	2 / 2	100	9900	23000	NA	NA	16450	16450	16450	85805000	9263	--	--	--	
Lead	mg/kg	0-6	5 / 5	100	4.37	6.05	NA	NA	4.97	4.97	4.9	0.439	0.663	--	--	--	
Manganese	mg/kg	0-6	2 / 2	100	130	290	NA	NA	210	210	210	12800	113.1	--	--	--	
Mercury	mg/kg	0-6	0 / 5	0	NA	NA	0.0497	0.0525	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-6	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-6	5 / 5	100	4.1	20	NA	NA	16.22	16.22	19	46.59	6.826	--	--	--	
Selenium	mg/kg	0-6	1 / 5	20	2.5	2.5	0.5	0.5	2.5	0.9	2.5	NA	NA	--	--	--	
Silver	mg/kg	0-6	0 / 5	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-6	0 / 5	0	NA	NA	1	2.1	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-6	5 / 5	100	15	42	NA	NA	34.94	34.94	38.7	126.9	11.27	--	--	--	
Zinc	mg/kg	0-6	5 / 5	100	14.7	59.7	NA	NA	48.48	48.48	57	362.7	19.04	X	59.7	Max Detect	
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Acetone	µg/kg	0-6	0 / 5	0	NA	NA	20.5	32.5	NA	NA	NA	NA	NA	--	--	--	
Bromomethane	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Chloro methane	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Chloroform	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Ethyl- benzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Isopropylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Methyl acetate	µg/kg	0-6	0 / 2	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Methyl ethyl ketone	µg/kg	0-6	0 / 5	0	NA	NA	20.5	32.5	NA	NA	NA	NA	NA	--	--	--	
Methylene chloride	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
N-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
N-Propylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
sec-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Toluene	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, m,p-	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, o-	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Xylenes, total	µg/kg	0-6	0 / 5	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--	
Semi-Volatile Organic Compounds																	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
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Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
4-Methylphenol	µg/kg	0-6	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-6	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-6	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-6	0 / 5	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-6	2 / 5	40	3.13	7	0	0	5.065	2.026	5.065	7.488	2.737	--	--	--	
PAH high molecular weight	µg/kg	0-6	4 / 5	80	1.9	257	0	0	79.18	63.34	28.9	14551	120.6	X	257	Max Detect	
1-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Benzo (a) anthracene	µg/kg	0-6	2 / 5	40	4.1	19.1	2.58	2.6	11.6	6.188	11.6	112.5	10.61	X	19.1	Max Detect	
Benzo (a) pyrene	µg/kg	0-6	2 / 5	40	6	25	2.58	2.6	15.5	7.748	15.5	180.5	13.44	X	25	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-6	2 / 5	40	6.33	27.5	2.58	2.6	16.92	8.314	16.92	224.1	14.97	X	27.5	Max Detect	
Benzo (ghi) perylene	µg/kg	0-6	2 / 5	40	5.67	22.5	2.58	2.6	14.09	7.182	14.09	141.6	11.9	X	22.5	Max Detect	
Benzo (k) fluoranthene	µg/kg	0-6	2 / 5	40	8.33	29.5	2.58	2.6	18.92	9.114	18.92	224.1	14.97	X	29.5	Max Detect	
Chrysene	µg/kg	0-6	2 / 5	40	8.33	31	2.58	2.6	19.67	9.414	19.67	257	16.03	X	31	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-6	1 / 5	20	6.8	6.8	2.5	2.6	6.8	3.36	6.8	NA	NA	X	6.8	Max Detect	
Fluoranthene	µg/kg	0-6	4 / 5	80	3.63	38.5	2.6	2.6	14.98	12.51	8.9	255.8	15.99	X	38.5	Max Detect	
Fluorene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	2 / 5	40	5.33	20.7	2.58	2.6	13.02	6.754	13.02	118.1	10.87	X	20.7	Max Detect	
Naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.2	2.6	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-6	2 / 5	40	4.8	8.3	2.58	2.6	6.55	4.168	6.55	6.125	2.475	X	8.3	Max Detect	
Pyrene	µg/kg	0-6	2 / 5	40	11	38	2.58	2.6	24.5	11.35	24.5	364.5	19.09	X	38	Max Detect	
B(a)P equivalent	µg/kg	0-6	4 / 5	80	5.97	38.5	6	6	15.17	13.33	8.1	245.9	15.68	--	--	--	
Pesticides																	
4,4-DDE	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
4,4-DDT	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Alpha-Chlordane	µg/kg	0-6	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Dieldrin	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Gamma-Chlordane	µg/kg	0-6	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-6	1 / 2	50	16	16	8.5	8.5	16	12.25	16	NA	NA	X	16	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-6	0 / 5	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
TPH as gasoline	mg/kg	0-6	0 / 5	0	NA	NA	0.5	80	NA	NA	NA	NA	NA	--	--	--	

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

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Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
TPH as motor oil	mg/kg	0-6	1 / 5	20	13.8	13.8	5	5	13.8	6.76	13.8	NA	NA	X	13.8	Max Detect
Soil Depth Interval: 0-10 ft bgs																
Inorganic Compounds																
Aluminum	mg/kg	0-10	2 / 2	100	4500	12000	NA	NA	8250	8250	8250	28125000	5303	--	--	--
Antimony	mg/kg	0-10	0 / 10	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-10	10 / 10	100	4.2	8.4	NA	NA	5.315	5.315	4.9	1.505	1.227	--	--	--
Barium	mg/kg	0-10	10 / 10	100	25	154	NA	NA	90.38	90.38	86	1458	38.18	--	--	--
Beryllium	mg/kg	0-10	0 / 10	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-10	0 / 10	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-10	0 / 10	0	NA	NA	0.204	0.212	NA	NA	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-10	10 / 10	100	11.7	26	NA	NA	20.01	20.01	20	32.32	5.685	--	--	--
Cobalt	mg/kg	0-10	10 / 10	100	3.82	14	NA	NA	8.054	8.054	7.35	7.135	2.671	--	--	--
Copper	mg/kg	0-10	10 / 10	100	5.22	18	NA	NA	10.63	10.63	10	12.66	3.558	--	--	--
Cyanide	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--
Iron	mg/kg	0-10	2 / 2	100	9900	23000	NA	NA	16450	16450	16450	85805000	9263	--	--	--
Lead	mg/kg	0-10	10 / 10	100	3.1	6.19	NA	NA	4.201	4.201	3.95	0.808	0.899	--	--	--
Manganese	mg/kg	0-10	2 / 2	100	130	290	NA	NA	210	210	210	12800	113.1	--	--	--
Mercury	mg/kg	0-10	0 / 10	0	NA	NA	0.0498	0.055	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-10	1 / 10	10	1	1	0.5	1.05	1	0.6	1	NA	NA	--	--	--
Nickel	mg/kg	0-10	10 / 10	100	7.83	20	NA	NA	15.18	15.18	16	18.45	4.296	--	--	--
Selenium	mg/kg	0-10	1 / 10	10	2.5	2.5	0.5	0.55	2.5	0.7	2.5	NA	NA	--	--	--
Silver	mg/kg	0-10	0 / 10	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-10	0 / 10	0	NA	NA	1	2.1	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-10	10 / 10	100	19.9	42	NA	NA	34.35	34.35	35	44.63	6.681	--	--	--
Zinc	mg/kg	0-10	10 / 10	100	25	58	NA	NA	47.08	47.08	47.5	106.5	10.32	X	53.1	95% Student's-t UCL
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-10	0 / 7	0	NA	NA	20.7	32.5	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Ethyl- benzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Methyl acetate	µg/kg	0-10	0 / 2	0	NA	NA	2.05	3.25	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-10	0 / 10	0	NA	NA	20.7	32.5	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
N-Propylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Toluene	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Xylene, m,p-	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Xylene, o-	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Xylenes, total	µg/kg	0-10	0 / 10	0	NA	NA	2.07	3.25	NA	NA	NA	NA	NA	--	--	--
Semi-Volatile Organic Compounds																
4-Methylphenol	µg/kg	0-10	0 / 10	0	NA	NA	167	175	NA	NA	NA	NA	NA	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 10	0	NA	NA	167	175	NA	NA	NA	NA	NA	--	--	--
Butylbenzylphthalate	µg/kg	0-10	0 / 10	0	NA	NA	167	175	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 10	0	NA	NA	167	175	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-10	0 / 10	0	NA	NA	167	175	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH low molecular weight	µg/kg	0-10	2 / 10	20	1.88	9.8	0	0	5.84	1.168	5.84	31.36	5.6	--	--	--
PAH high molecular weight	µg/kg	0-10	4 / 10	40	1.14	317	0	0	88.86	35.54	18.65	23299	152.6	X	317	Max Detect
1-Methyl naphthalene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-10	2 / 10	20	3.48	23.4	2.55	2.7	13.44	4.728	13.44	198.4	14.09	X	23.4	Max Detect
Benzo (a) pyrene	µg/kg	0-10	2 / 10	20	4.62	30.6	2.55	2.7	17.61	5.562	17.61	337.5	18.37	X	30.6	Max Detect
Benzo (b) fluoranthene	µg/kg	0-10	2 / 10	20	4.82	34.5	2.55	2.7	19.66	5.972	19.66	440.5	20.99	X	34.5	Max Detect
Benzo (ghi) perylene	µg/kg	0-10	2 / 10	20	4.42	27.5	2.55	2.7	15.96	5.232	15.96	266.3	16.32	X	27.5	Max Detect
Benzo (k) fluoranthene	µg/kg	0-10	2 / 10	20	6.02	35.7	2.55	2.7	20.86	6.212	20.86	440.5	20.99	X	35.7	Max Detect
Chrysene	µg/kg	0-10	2 / 10	20	6.02	38.2	2.55	2.7	22.11	6.462	22.11	517.8	22.75	X	38.2	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-10	1 / 10	10	8.48	8.48	2.52	2.7	8.48	3.116	8.48	NA	NA	X	8.48	Max Detect
Fluoranthene	µg/kg	0-10	4 / 10	40	3.22	47.5	2.55	2.7	16.26	8.034	7.16	437.5	20.92	X	15.2	95% Hall's Bootstrap
Fluorene	µg/kg	0-10	0 / 10	0	NA	NA	2.52	2.7	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	2 / 10	20	4.22	25.2	2.55	2.7	14.71	4.982	14.71	220.1	14.84	X	25.2	Max Detect
Naphthalene	µg/kg	0-10	0 / 10	0	NA	NA	2.16	2.7	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-10	2 / 10	20	3.9	10.6	2.55	2.7	7.25	3.49	7.25	22.45	4.738	X	10.6	Max Detect
Pyrene	µg/kg	0-10	2 / 10	20	7.62	46.8	2.55	2.7	27.21	7.482	27.21	767.5	27.7	X	46.8	Max Detect
B(a)P equivalent	µg/kg	0-10	4 / 10	40	5.98	47.5	5.9	6.2	16.99	10.35	7.235	415.2	20.38	--	--	--
Pesticides																
4,4-DDE	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
4,4-DDT	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Alpha-Chlordane	µg/kg	0-10	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--

Table AOC12-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 12 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
Dieldrin	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Gamma-Chlordane	µg/kg	0-10	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-10	1 / 2	50	13	13	8.5	8.5	13	10.75	13	NA	NA	X	13	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-10	0 / 10	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--	
TPH as gasoline	mg/kg	0-10	0 / 10	0	NA	NA	0.42	80	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-10	1 / 10	10	17.3	17.3	5	5	17.3	6.23	17.3	NA	NA	X	17.3	Max Detect	

Notes:
^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:
"--" = not applicable
AOC = area of concern
B(a)P equivalent = benzo(a)pyrene equivalent
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
EPC = exposure point concentration
FOD = frequency of detection
ft bgs = feet below ground surface
KM = Kaplan-Meier
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
ng/kg = nanograms per kilogram
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls
PG&E = Pacific Gas and Electric Company
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = toxic equivalent
TPH = total petroleum hydrocarbons
UCL = upper confidence limit
X = COPC/COPEC in the exposure depth interval

Table AOC12-4.1

Summary of COPCs Evaluated in the HHRA for AOC 12: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Zinc	x	x	x	x
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	x	x	x	x
Fluoranthene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
Polychlorinated Biphenyls				
Total PCBs	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as motor oil	--	--	x	x

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 12 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Zinc	7.7E+01	5.3E+01	7.7E-05	NV	7.7E-05	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	1.2E-02	2.8E-02	1.2E-08	NV	1.2E-08	NV
Fluoranthene	2.9E-02	1.5E-02	2.9E-08	NV	2.9E-08	NV
Phenanthrene	9.4E-03	1.1E-02	9.4E-09	NV	9.4E-09	NV
Pyrene	2.8E-02	4.7E-02	2.8E-08	7.7E-08	2.8E-08	1.4E-08
Polychlorinated Biphenyls						
Total PCBs	3.1E-02	1.3E-02	3.1E-08	1.0E-07	3.1E-08	1.8E-08
Total Petroleum Hydrocarbons						
TPH as motor oil	ND	1.7E+01	NA	NV	NA	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 12 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Zinc	6.8E+01	5.3E+01	6.8E-05	NV	6.8E-05	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	1.0E-02	2.8E-02	1.0E-08	NV	1.0E-08	NV
Fluoranthene	2.0E-02	1.5E-02	2.0E-08	NV	2.0E-08	NV
Phenanthrene	7.1E-03	1.1E-02	7.1E-09	NV	7.1E-09	NV
Pyrene	2.0E-02	4.7E-02	2.0E-08	7.7E-08	2.0E-08	1.4E-08
Polychlorinated Biphenyls						
Total PCBs	2.4E-02	1.3E-02	2.4E-08	1.0E-07	2.4E-08	1.8E-08
Total Petroleum Hydrocarbons						
TPH as motor oil	ND	1.7E+01	NA	NV	NA	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 12 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Zinc	6.0E+01	5.3E+01	6.0E-05	NV	6.0E-05	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.3E-02	2.8E-02	2.3E-08	NV	2.3E-08	NV
Fluoranthene	3.9E-02	1.5E-02	3.9E-08	NV	3.9E-08	NV
Phenanthrene	8.3E-03	1.1E-02	8.3E-09	NV	8.3E-09	NV
Pyrene	3.8E-02	4.7E-02	3.8E-08	7.7E-08	3.8E-08	1.4E-08
Polychlorinated Biphenyls						
Total PCBs	1.6E-02	1.3E-02	1.6E-08	1.0E-07	1.6E-08	1.8E-08
Total Petroleum Hydrocarbons						
TPH as motor oil	1.4E+01	1.7E+01	1.4E-05	NV	1.4E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 12 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
		(mg/m ³) ^b	(mg/m ³) ^c	(mg/m ³) ^b	(mg/m ³) ^c
Inorganics					
Zinc	5.3E+01	5.3E-05	NV	5.3E-05	NV
Polycyclic Aromatic Hydrocarbons					
Benzo (ghi) perylene	2.8E-02	2.8E-08	NV	2.8E-08	NV
Fluoranthene	1.5E-02	1.5E-08	NV	1.5E-08	NV
Phenanthrene	1.1E-02	1.1E-08	NV	1.1E-08	NV
Pyrene	4.7E-02	4.7E-08	7.7E-08	4.7E-08	1.4E-08
Polychlorinated Biphenyls					
Total PCBs	1.3E-02	1.3E-08	1.0E-07	1.3E-08	1.8E-08
Total Petroleum Hydrocarbons					
TPH as motor oil	1.7E+01	1.7E-05	NV	1.7E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 12 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Zinc	7.7E+01	5.3E+01	5.7E-08	NV	5.7E-08	NV	5.7E-08	NV	9.1E-05	NV
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	1.2E-02	2.8E-02	8.8E-12	NV	8.8E-12	NV	8.8E-12	NV	1.4E-08	NV
Fluoranthene	2.9E-02	1.5E-02	2.1E-11	NV	2.1E-11	NV	2.1E-11	NV	3.4E-08	NV
Phenanthrene	9.4E-03	1.1E-02	6.9E-12	NV	6.9E-12	NV	6.9E-12	NV	1.1E-08	NV
Pyrene	2.8E-02	4.7E-02	2.1E-11	1.5E-08	2.1E-11	1.5E-08	2.1E-11	1.5E-08	3.3E-08	1.5E-08
Polychlorinated Biphenyls										
Total PCBs	3.1E-02	1.3E-02	2.3E-11	2.0E-08	2.3E-11	2.0E-08	2.3E-11	2.0E-08	3.7E-08	2.0E-08
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	1.7E+01	NA	NV	NA	NV	NA	NV	NA	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC12-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 12 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Zinc	6.8E+01	5.3E+01	5.0E-08	NV	5.0E-08	NV	5.0E-08	NV	8.1E-05	NV
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	1.0E-02	2.8E-02	7.4E-12	NV	7.4E-12	NV	7.4E-12	NV	1.2E-08	NV
Fluoranthene	2.0E-02	1.5E-02	1.5E-11	NV	1.5E-11	NV	1.5E-11	NV	2.4E-08	NV
Phenanthrene	7.1E-03	1.1E-02	5.2E-12	NV	5.2E-12	NV	5.2E-12	NV	8.4E-09	NV
Pyrene	2.0E-02	4.7E-02	1.4E-11	1.5E-08	1.4E-11	1.5E-08	1.4E-11	1.5E-08	2.3E-08	1.5E-08
Polychlorinated Biphenyls										
Total PCBs	2.4E-02	1.3E-02	1.7E-11	2.0E-08	1.7E-11	2.0E-08	1.7E-11	2.0E-08	2.8E-08	2.0E-08
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	1.7E+01	NA	NV	NA	NV	NA	NV	NA	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009)and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC12-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 12 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Zinc	7.7E+01	5.3E+01	5.7E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.2E-02	2.8E-02	8.8E-12	NV
Fluoranthene	2.9E-02	1.5E-02	2.1E-11	NV
Phenanthrene	9.4E-03	1.1E-02	6.9E-12	NV
Pyrene	2.8E-02	4.7E-02	2.1E-11	1.0E-08
Polychlorinated Biphenyls				
Total PCBs	3.1E-02	1.3E-02	2.3E-11	1.3E-08
Total Petroleum Hydrocarbons				
TPH as motor oil	ND	1.7E+01	NA	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 12 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Zinc	6.8E+01	5.3E+01	5.0E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.0E-02	2.8E-02	7.4E-12	NV
Fluoranthene	2.0E-02	1.5E-02	1.5E-11	NV
Phenanthrene	7.1E-03	1.1E-02	5.2E-12	NV
Pyrene	2.0E-02	4.7E-02	1.4E-11	1.0E-08
Polychlorinated Biphenyls				
Total PCBs	2.4E-02	1.3E-02	1.7E-11	1.3E-08
Total Petroleum Hydrocarbons				
TPH as motor oil	ND	1.7E+01	NA	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC12-4.3

Human Health Risk and Hazard Estimate Summary at AOC 12 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	1E-09	2E-03
	Shallow	1E-09	2E-03
	Subsurface I	7E-10	1E-03
	Subsurface II	6E-10	1E-03
Long-Term Maintenance Worker	Surface	2E-08	1E-03
	Shallow	1E-08	8E-04
	Subsurface I	8E-09	6E-04
	Subsurface II	7E-09	5E-04
Recreational User - Camper	Surface	3E-09	7E-04
	Shallow	2E-09	6E-04
Recreational User - Hiker	Surface	6E-09	1E-03
	Shallow	5E-09	1E-03
Recreational User - Hunter	Surface	1E-09	8E-05
	Shallow	9E-10	6E-05
Recreational User - OHV Rider	Surface	1E-08	8E-04
	Shallow	8E-09	6E-04
Tribal User	Surface	2E-11	4E-07
	Shallow	2E-11	4E-07

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC12-5.1
Summary of COPECs Evaluated in the ERA for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	0-6 ft bgs
Inorganics	
Zinc	X
Polycyclic Aromatic Hydrocarbons	
PAH High molecular weight	X
Polychlorinated Biphenyls	
Total PCBs	X
Total Petroleum Hydrocarbons	
TPH as motor oil	X

Notes:

^a COPECs selected over the entire soil depth interval potentially contacted by ecological receptors. COPECs based on background screening for metals, PAHs, and dioxins. All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC12 for details.

Abbreviations:

AOC = area of concern

COPEC = constituent of potential ecological concern

ERA = ecological risk assessment

ft bgs = feet below ground surface

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyl

TPH = total petroleum hydrocarbon

X = COPEC in that exposure depth interval

Table AOC12-5.2

Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs (modeled from soil EPCs)		
	All AOCs		All AOCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Notes:

- a. Exposure point concentrations for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and area weighted 95% UCL, as relevant for this AOC. See Section 5 of Appendix AOC12 for details.

Abbreviations:

95% UCL = 95 percent upper confidence limit
AOC = area of concern
BCW = bat cave wash
EPC = exposure point concentration
ft bgs = feet below ground surface
X = representative EPC for the pathway/receptor

Table AOC12-5.3
Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}							
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals			
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs			
Inorganics												
Zinc	mg/kg	7.70E+01	m	6.83E+01	m	5.97E+01	m	5.36E+01	5.02E+01	4.65E+01	3.56E+02	1.07E+02
Polycyclic Aromatic Hydrocarbons												
PAH High molecular weight	mg/kg	1.54E-01	m	1.07E-01	m	2.57E-01	m	3.10E-02	2.20E-02	5.03E-02	4.00E-01	0.00E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	3.10E-02	m	2.35E-02	m	1.60E-02	m	3.10E-04	2.35E-04	1.60E-04	3.62E-02	9.06E-04

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b EPCs equal to 0.0 indicate no bioaccumulation from soil.

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PCB = polychlorinated biphenyl

Table AOC12-5.4a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 12

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Zinc	5E-01	6E-01	4E-02	1E-02	1E+00	4E-01	1E+00	2E-01	6E-02	2E-02	1E-01	1E-02	4E+00	4E-01	8E+00	2E-01	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons																		
PAH High molecular weight	2E-01	9E-03	3E-04	3E-05	8E-03	8E-04	1E-01	3E-02	8E-03	2E-03	--	--	--	--	6E-02	2E-03	4E-03	1E-04
Polychlorinated Biphenyls																		
Total PCBs	8E-04	3E-02	2E-03	1E-04	8E-02	6E-03	2E-02	6E-03	2E-04	7E-05	2E-03	1E-04	8E-02	6E-03	2E-02	6E-03	2E-04	7E-05

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = HQs could not be estimated because COPEC not detected in soil interval, or uptake factor and/or toxicity reference value unavailable.
AOC = area of concern
BTAG = Biological Technical Assistance Group
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
ND = not detected in the applicable depth interval
NOAEL = no-observed adverse effect level
PCBs = polychlorinated biphenyls
PAH = polycyclic aromatic hydrocarbons
TRV = toxicity reference value

Table AOC12-5.4b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.009		SUF = 0.07		SUF = 1		SUF = 1		SUF = 0.009		SUF = 0.07		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Zinc	3E-04	1E-04	7E-02	3E-02	1E+00	2E-01	6E-02	2E-02	1E-03	1E-04	3E-01	3E-02	8E+00	2E-01	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons																
PAH High molecular weight	2E-06	2E-07	5E-04	5E-05	1E-01	3E-02	8E-03	2E-03	--	--	--	--	6E-02	2E-03	4E-03	1E-04
Polychlorinated Biphenyls																
Total PCBs	1E-05	9E-07	5E-03	4E-04	2E-02	6E-03	2E-04	7E-05	1E-05	9E-07	5E-03	4E-04	2E-02	6E-03	2E-04	7E-05

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = HQs could not be estimated because COPEC not detected in soil interval, or uptake factor and/or toxicity reference value unavailable.

AOC = area of concern

BTAG = Biological Technical Assistance Group

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

ND = not detected in the applicable depth interval

NOAEL = no-observed adverse effect level

PCBs = polychlorinated biphenyls

PAH = polycyclic aromatic hydrocarbons

TRV = toxicity reference value

Table AOC12-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs				Baseline HQs based on Selected TRVs											
	Plants		Soil Invertebrates		Gambel's Quail			Cactus Wren			Desert Shrew			Merriam's Kangaroo Rat		
	Depth-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a
					SUF = 0.01			SUF = 0.1			SUF = 1			SUF = 1		
					NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL	
Inorganics																
Zinc	5E-01	HQ ≤ 1	6E-01	HQ ≤ 1	3E-04	1E-04	HQ ≤ 1	7E-02	3E-02	HQ ≤ 1	1E+00	2E-01	HQ ≤ 1	6E-02	2E-02	HQ ≤ 1
Polycyclic Aromatic Hydrocarbons																
PAH High molecular weight	2E-01	HQ ≤ 1	9E-03	HQ ≤ 1	2E-06	2E-07	HQ ≤ 1	5E-04	5E-05	HQ ≤ 1	1E-01	3E-02	HQ ≤ 1	8E-03	2E-03	HQ ≤ 1
Polychlorinated Biphenyls																
Total PCBs	8E-04	HQ ≤ 1	3E-02	HQ ≤ 1	1E-05	9E-07	HQ ≤ 1	5E-03	4E-04	HQ ≤ 1	2E-02	6E-03	HQ ≤ 1	2E-04	7E-05	HQ ≤ 1

Notes:

a. WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using depth-weighted EPCs, and 2.) supporting LOE. Area-weighted EPCs not evaluated for this exposure area.

NOAEL HQ greater than 1

HQ or LOAEL HQ greater than 1

HQ or LOAEL HQ greater than 10

HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated

AOC = area of concern

HQ = hazard quotient

LOE = line of evidence

LOAEL = lowest observed adverse effect level

ND = not detected

NOAEL = no-observed adverse effect level

no SL = no screening level available

TEQ = toxic equivalent

WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table AOC12-6.2
Risk Conclusions and Lines of Evidence Summary for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Depth-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC12	Plants	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected	No	
	Soil Invertebrates	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected	No	
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Cactus Wren	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No

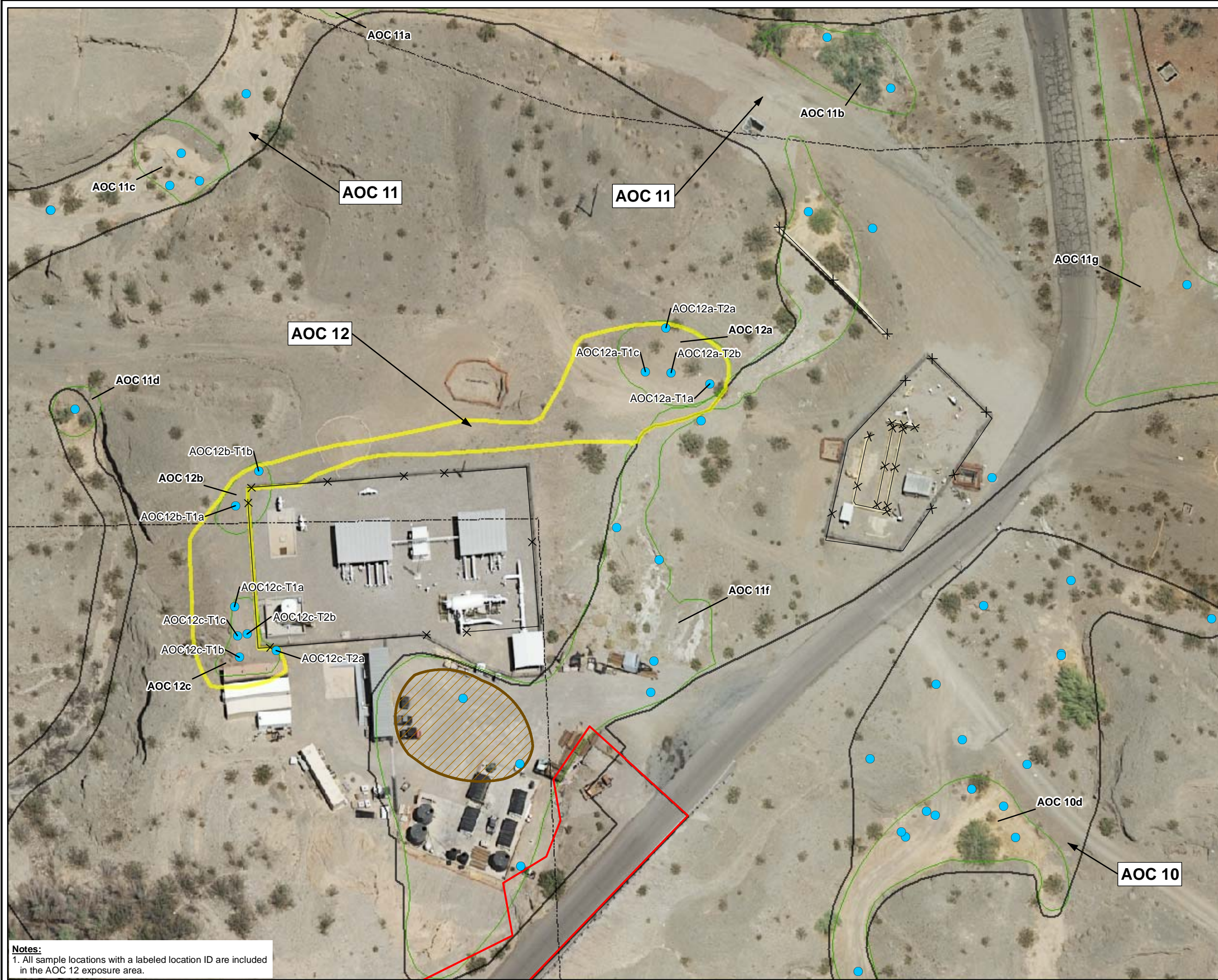
- Notes:**
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

- Abbreviations:**
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit
- LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

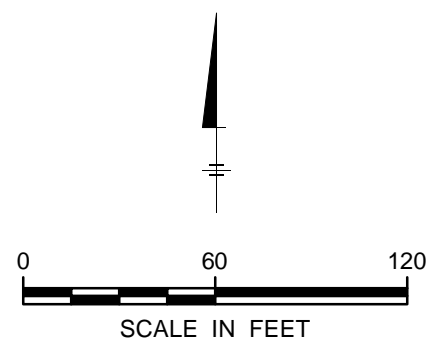
FIGURE





Legend:

- Soil Sampling Location
- Area of Concern
- ▨ Potential Burning Related Location
- AOC 12 Exposure Area
- Exposure Area
- Property Boundaries
- xxx Fencing
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- AOC 10 Label for Exposure Area
- AOC 10 Label for Area of Concern



DRAFT

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**SOIL SAMPLING LOCATIONS
AOC 12 EXPOSURE AREA**

FIGURE
AOC12-1.1

ARCADIS Design & Consultancy
for natural and
built assets

Notes:
1. All sample locations with a labeled location ID are included in the AOC 12 exposure area.

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the AOC
12 HHERA



Attachment AOC12-A**Dataset and Exposure Point Concentration Calculations for the AOC12 HHERA****Attachment AOC12-A1**

Table AOC12-A1 Dataset for AOC 12 HHERA

Attachment AOC12-A2 (provided separately as excel files)

Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-005
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-005_BaPTCDD update
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-03
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-03_BaPTCDD update
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-06
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-06_BaPTCDD update
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-10
Table AOC12-A2 Depth-Weighting Files: InputSamplesFor_AOC 12_Baseline 0-10_BaPTCDD update

Table AOC12-A2 ProUCL Inputs: AOC12_0-005_ForProUCL
Table AOC12-A2 ProUCL Inputs: AOC12_0-005_ForProUCL_BaPTCDD update
Table AOC12-A2 ProUCL Inputs: AOC12_0-03_ForProUCL
Table AOC12-A2 ProUCL Inputs: AOC12_0-03_ForProUCL_BaPTCDD update
Table AOC12-A2 ProUCL Inputs: AOC12_0-06_ForProUCL
Table AOC12-A2 ProUCL Inputs: AOC12_0-06_ForProUCL_BaPTCDD update
Table AOC12-A2 ProUCL Inputs: AOC12_0-10_ForProUCL
Table AOC12-A2 ProUCL Inputs: AOC12_0-10_ForProUCL_BaPTCDD update

Table AOC12-A2 ProUCL Outputs: AOC12 0-10_UCLs
Table AOC12-A2 ProUCL Outputs: AOC12_UCLs_BaPTCDD update

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12a-T1a	AOC12a-T1a	AOC12a-T1a	AOC12a-T1c	AOC12a-T2a	AOC12a-T2b	AOC12b-T1a	AOC12b-T1b	AOC12c-T1a	AOC12c-T1a	AOC12c-T1a	AOC12c-T1b	AOC12c-T1b	AOC12c-T1b	AOC12c-T1c	AOC12c-T1c
	SAMPLE	AOC12a-T1a-7001	AOC12a-T1a-7002	AOC12a-T1b-7003	AOC12a-T1c-7004	AOC12a-T2a-7005	AOC12a-T2b-7006	AOC12b-T1a-7009	AOC12b-T1b-7010	AOC12c-T1a-7014	AOC12c-T1b-7015	AOC12c-T1b-7016	AOC12c-T1c-7017	AOC12c-T1c-7023	AOC12c-T2c-7020	AOC12c-T2d-7021	AOC12c-T2d-7022
	DATE	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		0	2	7	7	6	7	2	2	10	0	2	10	3	2	10	10
SAMPLE BOTTOM DEPTH (FT)		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
SAMPLE TYPE																	Field Duplicate
ANALYTE	UNITS																
General																	
pH	PHUNITS	7.97	9.93	8.31	8.98	8.86	9.61	8.34	9.12	7.88	8.47	9.28	8.23	8.52	9.2	--	8.25
Metals																	
Antimony	mg/kg	2 UJ	2 U	2 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2 UJ	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Arsenic	mg/kg	3.6	3.7	7	8.4	4.4	4.9	4.9	5.8	6	5.4	4.9	4.7	6.5	5.1	--	5
Barium	mg/kg	79	14	240	110	58	25	81	88	120	110 J	150	93	160	140	150	--
Beryllium	mg/kg	1 U	1 U	2 U	1 U	1 U	1 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.4 U	0.41 U	0.41 U	0.42 U	0.41 U	0.42 U	0.42 U	0.42 U	0.41 U	0.41 U	0.42 U	0.42 U	0.43 U	--	0.42 U
Chromium, total	mg/kg	13	4.9	22	17	13	15	26	26	25	28	25	22	27	23	--	23
Cobalt	mg/kg	3.4	1.6	7.8	6.7	6.6	6.9	14	9.6	8.7	8.4	9.3	7.8	9.4	8.4	7.7	--
Copper	mg/kg	5.6	2 U	12	8.6	9	7.8	18	14	9.6	13	11	9.4	12	13	12	--
Lead	mg/kg	8.3	2.4	3.8	3.9	3.1	3.5	4.5	4.9	4	7.1	4	3.9	6.4	5.7	--	3.8
Mercury	mg/kg	0.098 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	--
Molybdenum	mg/kg	1 U	1 U	2 U	1 U	1	1 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Nickel	mg/kg	6.9	2.7	17	13	10	12	20	20	18	18	18	16	19	19	17	--
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U
Silver	mg/kg	1 U	1 U	2 U	1 U	1 U	1 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Thallium	mg/kg	2 U	2 U	4.1 U	2.1 U	2 U	2 U	4.1 U	4.2 U	4.2 U	4 U	4.1 U	4.1 U	4.1 U	4.1 U	4.2 U	--
Vanadium	mg/kg	19	13	32	36	28	32	41	42	39	38	39	35	40	36	--	36
Zinc	mg/kg	26	9	51	42	39	44	57	58	50	77	51	45	57	49	--	50
Metals CLP																	
Aluminum	mg/kg	4500	--	--	--	--	--	--	--	--	12000	--	--	--	--	--	--
Calcium	mg/kg	10000 J	--	--	--	--	--	--	--	--	31000	--	--	--	--	--	--
Cyanide	mg/kg	1.1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Iron	mg/kg	9900 J	--	--	--	--	--	--	--	--	23000	--	--	--	--	--	--
Magnesium	mg/kg	3000 J	--	--	--	--	--	--	--	--	8300	--	--	--	--	--	--
Manganese	mg/kg	130	--	--	--	--	--	--	--	--	290	--	--	--	--	--	--
Potassium	mg/kg	1300	--	--	--	--	--	--	--	--	2700	--	--	--	--	--	--
Sodium	mg/kg	210	--	--	--	--	--	--	--	--	340	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
4,4-DDE	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
4,4-DDT	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Aldrin	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
alpha-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
beta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
delta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Dieldrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Endo sulfan I	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Endo sulfan II	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Endrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
Endrin ketone	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Heptachlor	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Methoxy chlor	ug/kg	5 U	--	--	--	--	--	--	--	--	5.1 U	--	--	--	--	--	--
Toxaphene	ug/kg	50 U	--	--	--	--	--	--	--	--	51 U	--	--	--	--	--	--

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12a-T1a	AOC12a-T1a	AOC12a-T1a	AOC12a-T1c	AOC12a-T2a	AOC12a-T2b	AOC12b-T1a	AOC12b-T1b	AOC12c-T1a	AOC12c-T1a	AOC12c-T1a	AOC12c-T1b	AOC12c-T1b	AOC12c-T1b	AOC12c-T1c	AOC12c-T1c
	SAMPLE	AOC12a-T1a-7001	AOC12a-T1a-7002	AOC12a-T1b-7003	AOC12a-T1c-7004	AOC12a-T2a-7005	AOC12a-T2b-7006	AOC12b-T1a-7009	AOC12b-T1b-7010	AOC12c-T1a-7014	AOC12c-T1b-7015	AOC12c-T1b-7016	AOC12c-T1c-7017	AOC12c-T1c-7023	AOC12c-T2c-7020	AOC12c-T2d-7021	AOC12c-T2d-7022
	DATE	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		0	2	7	7	6	7	2	2	10	0	2	10	3	2	10	10
SAMPLE BOTTOM DEPTH (FT)		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
SAMPLE TYPE																	Field Duplicate
ANALYTE	UNITS																
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	33 UJ	--	--	--	--	--	--	--	33 U	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1254	ug/kg	31	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1262	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	17 UJ	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Total PCBs	ug/kg	31	8.5 U	--	--	--	--	--	--	--	8.5 U	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
2-Methyl naphthalene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Acenaphthene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Acenaphthylene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Anthracene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
B(a)P Equivalent	ug/kg	19	5.8 U	5.9 U	6 U	5.9 U	5.9 U	6 U	6	6 U	5.9	6 U	6 U	61	16	--	6 U
Benzo (a) anthracene	ug/kg	7.3	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	30	8.1	--	5.2 U
Benzo (a) pyrene	ug/kg	13	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	39	11	--	5.2 U
Benzo (b) fluoranthene	ug/kg	14	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	45	9.9	--	5.2 U
Benzo (ghi) perylene	ug/kg	12	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	35	10	--	5.2 U
Benzo (k) fluoranthene	ug/kg	20 J	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	45	14	--	5.2 U
Chrysene	ug/kg	20	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	49	13	--	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	11	5.2 U	--	5.2 U
Fluoranthene	ug/kg	29	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	6.5	5.2 U	5.7	5.2 U	5.2 U	61	16	--	5.2 U
Fluorene	ug/kg	5 U	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	--	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	11	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	32	9.3	--	5.2 U
Naphthalene	ug/kg	5 U	4.1 U	4.2 U	5.2 U	4.4 U	5.1 U	5.1 U	5.2 U	4.3 U	5.1 U	5.2 U	5.2 U	5.2 U	5 U	--	4.8 U
PAH High molecular weight	ug/kg	154	0	0	0	0	0	0	6.5	0	5.7	0	0	407	107	0	--
PAH Low molecular weight	ug/kg	9.4	0	0	0	0	0	0	0	0	0	0	0	14	0	0	--
Phenanthrene	ug/kg	9.4	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	14	5.2 U	--	5.2 U
Pyrene	ug/kg	28	5 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.2 U	60	16	--	5.2 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	700 U	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	700 U	--	--	--	--	--	--	--	--	710 UJ	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2-Chlorophenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2-Methylphenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
2-Nitrophenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2,3,4,6-Tetrachlorophenol	ug/kg	700 U	--	--	--	--	--	--	--	--	710 UJ	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2,4-Dimethylphenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2,4-Dinitrophenol	ug/kg	1600 UJ	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
2,4-Dinitrotoluene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
2,6-Dinitrotoluene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
4-Chloro-3-methylphenol	ug/kg	660 U	660 U	680 U	680 U	670 U	670 U	680 U	690 U	690 U	670 U	680 U	680 U	680 U	680 U	--	690 U
4-Chloroaniline	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12a-T1a	AOC12a-T1a	AOC12a-T1a	AOC12a-T1c	AOC12a-T2a	AOC12a-T2b	AOC12b-T1a	AOC12b-T1b	AOC12c-T1a	AOC12c-T1a	AOC12c-T1a	AOC12c-T1b	AOC12c-T1b	AOC12c-T1b	AOC12c-T1c	AOC12c-T1c
	SAMPLE	AOC12a-T1a-7001	AOC12a-T1a-7002	AOC12a-T1b-7003	AOC12a-T1c-7004	AOC12a-T2a-7005	AOC12a-T2b-7006	AOC12b-T1a-7009	AOC12b-T1b-7010	AOC12c-T1a-7014	AOC12c-T1b-7015	AOC12c-T1b-7016	AOC12c-T1c-7017	AOC12c-T1c-7023	AOC12c-T2c-7020	AOC12c-T2d-7021	AOC12c-T2d-7022
	DATE	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		0	2	7	7	6	7	2	2	10	0	2	10	3	2	10	10
SAMPLE BOTTOM DEPTH (FT)		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
SAMPLE TYPE																	Field Duplicate
ANALYTE	UNITS																
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
4-Methylphenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
Acetophenone	ug/kg	700 U	--	--	--	--	--	--	--	--	710 UJ	--	--	--	--	--	--
Atrazine	ug/kg	700 U	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
Benzaldehyde	ug/kg	700 U	--	--	--	--	--	--	--	--	710 UJ	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
Benzyl alcohol	ug/kg	660 U	660 U	680 U	680 U	660 U	670 U	680 U	690 U	670 U	680 U	680 U	680 U	680 U	680 U	--	690 U
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Butylbenzylphthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Caprolactam	ug/kg	330 UJ	--	--	--	--	--	--	--	--	330 UJ	--	--	--	--	--	--
Carbazole	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	--	1100
Di-n-octyl phthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Dibenzofuran	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Diethyl phthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Dimethyl phthalate	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Hexachlorobenzene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Hexachloroethane	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
N-nitrosodiphenylamine	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
Phenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--
TPH as gasoline	mg/kg	--	1.1 U	1.1 U	0.97 U	1 UJ	0.84 U	1.2 U	160 U	1.2 U	--	1 U	0.98 U	--	1 U	0.82 U	--
TPH as motor oil	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	22.5	10 U	--	120 J
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1-Dichloroethene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1-Dichloropropene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1,1-Trichloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1,1,2-Tetrachloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1,2-Trichloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,1,2,2-Tetrachloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2-Dibromo-3-chloropropane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2-Dibromoethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2-Dichlorobenzene	ug/kg	330 U	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	330 U	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2-Dichloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2-Dichloropropane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2,3-Trichlorobenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2,3-Trichloropropane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2,4-Trichlorobenzene	ug/kg	330 U	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	330 U	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,2,4-Trimethylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,3-Dichlorobenzene	ug/kg	330 U	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	330 U	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,3-Dichloropropane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,3,5-Trimethylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
1,4-Dichlorobenzene	ug/kg	330 U	4.1 UJ	4.2 UJ	5.6 UJ	4.4 UJ	5.1 UJ	5.1 U	6.3 U	4.3 U	330 U	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12a-T1a	AOC12a-T1a	AOC12a-T1a	AOC12a-T1c	AOC12a-T2a	AOC12a-T2b	AOC12b-T1a	AOC12b-T1b	AOC12c-T1a	AOC12c-T1a	AOC12c-T1a	AOC12c-T1b	AOC12c-T1b	AOC12c-T1b	AOC12c-T1c	AOC12c-T1c
	SAMPLE	AOC12a-T1a-7001	AOC12a-T1a-7002	AOC12a-T1b-7003	AOC12a-T1c-7004	AOC12a-T2a-7005	AOC12a-T2b-7006	AOC12b-T1a-7009	AOC12b-T1b-7010	AOC12c-T1a-7014	AOC12c-T1b-7015	AOC12c-T1b-7016	AOC12c-T1c-7017	AOC12c-T1c-7023	AOC12c-T2c-7020	AOC12c-T2d-7021	AOC12c-T2d-7022
	DATE	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		0	2	7	7	6	7	2	2	10	0	2	10	3	2	10	10
SAMPLE BOTTOM DEPTH (FT)		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
SAMPLE TYPE																	Field Duplicate
ANALYTE	UNITS																
1,4-Dioxane	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
2-Hexanone	ug/kg	--	41 U	--	--	--	--	--	--	--	--	65 U	--	--	--	--	48 U
2,2-Dichloropropane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1700 U	1600 U	1600 U	1600 U	1700 U	1700 U	1600 U	1700 U	1600 U	1700 U	1600 U	1700 U	--
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	350 U	340 U	340 U	350 U	--
4-Isopropyltoluene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Acetone	ug/kg	--	41 U	42 U	--	44 U	--	51 U	63 U	--	--	65 UJ	54 UJ	56 U	--	--	48 UJ
Acrolein	ug/kg	--	81 U	84 U	110 U	89 U	100 U	100 U	130 U	86 U	--	130 UJ	110 UJ	110 U	99 UJ	--	96 UJ
Acrylonitrile	ug/kg	--	41 U	42 U	56 U	44 U	51 U	51 U	63 U	43 U	--	65 U	54 U	56 U	50 U	--	48 U
Benzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Bromobenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Bromochloromethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Bromodichloromethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Bromoform	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Bromomethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Carbon disulfide	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Carbon tetrachloride	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Chloro methane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Chlorobenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Chloroethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Chloroform	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
cis-1,2-Dichloroethene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
cis-1,3-Dichloropropene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Cyclohexane	ug/kg	--	4.1 U	--	--	--	--	--	--	--	--	6.5 U	--	--	--	--	--
Dibromochloromethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Dibromomethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Dichlorodifluoromethane	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Ethyl- benzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Hexachlorobutadiene	ug/kg	330 U	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	330 U	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Hexachlorocyclopentadiene	ug/kg	660 U	--	--	--	--	--	--	--	--	670 U	--	--	--	--	--	--
Isophorone	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
Isopropylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Methyl acetate	ug/kg	--	4.1 U	--	--	--	--	--	--	--	--	6.5 U	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	41 U	42 U	56 U	44 U	51 U	51 U	63 U	43 U	--	65 U	54 U	56 U	50 U	--	48 U
Methyl isobutyl ketone	ug/kg	--	41 U	42 U	56 U	44 U	51 U	51 U	63 U	43 U	--	65 U	54 U	56 U	50 U	--	48 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Methylcyclohexane	ug/kg	--	4.1 U	--	--	--	--	--	--	--	--	6.5 U	--	--	--	--	--
Methylene chloride	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
N-Butylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
N-Propylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Nitrobenzene	ug/kg	330 U	330 U	340 U	340 U	340 U	340 U	340 U	350 U	350 U	330 U	340 U	340 U	340 U	340 U	350 U	--
p-Chlorotoluene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
sec-Butylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Styrene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
tert-Butylbenzene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Tetrachloroethene	ug/kg	--	4.1 UJ	4.2 UJ	5.6 UJ	4.4 UJ	5.1 UJ	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Toluene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
trans-1,2-Dichloroethene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
trans-1,3-Dichloropropene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12a-T1a	AOC12a-T1a	AOC12a-T1a	AOC12a-T1c	AOC12a-T2a	AOC12a-T2b	AOC12b-T1a	AOC12b-T1b	AOC12c-T1a	AOC12c-T1a	AOC12c-T1a	AOC12c-T1b	AOC12c-T1b	AOC12c-T1b	AOC12c-T1c	AOC12c-T1c
	SAMPLE	AOC12a-T1a-7001	AOC12a-T1a-7002	AOC12a-T1b-7003	AOC12a-T1c-7004	AOC12a-T2a-7005	AOC12a-T2b-7006	AOC12b-T1a-7009	AOC12b-T1b-7010	AOC12c-T1a-7014	AOC12c-T1b-7015	AOC12c-T1b-7016	AOC12c-T1c-7017	AOC12c-T1c-7023	AOC12c-T2c-7020	AOC12c-T2d-7021	AOC12c-T2d-7022
	DATE	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/20/2008	9/22/2008	9/20/2008	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		0	2	7	7	6	7	2	2	10	0	2	10	3	2	10	10
SAMPLE BOTTOM DEPTH (FT)		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	8	8	7	8	3	3	11	0.5	3	11	4	3	11	11
SAMPLE TYPE																	Field Duplicate
ANALYTE	UNITS																
Trichloroethene	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Vinyl chloride	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Xylene, m,p-	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Xylene, o-	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U
Xylenes, total	ug/kg	--	4.1 U	4.2 U	5.6 U	4.4 U	5.1 U	5.1 U	6.3 U	4.3 U	--	6.5 U	5.4 U	5.6 U	5 U	--	4.8 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12c-T2a	AOC12c-T2b
	SAMPLE	AOC12c-T2a-7018	AOC12c-T2b-7019
	DATE	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		7	7
SAMPLE BOTTOM DEPTH (FT)		8	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		8	8
SAMPLE TYPE			
ANALYTE	UNITS		
General			
pH	PHUNITS	9.25	7.76
Metals			
Antimony	mg/kg	2.1 U	2.1 U
Arsenic	mg/kg	4.2	4.8
Barium	mg/kg	67	84
Beryllium	mg/kg	1.1 U	2.1 U
Cadmium	mg/kg	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.42 U
Chromium, total	mg/kg	19	21
Cobalt	mg/kg	7.2	7.5
Copper	mg/kg	10	10
Lead	mg/kg	3.4	3.9
Mercury	mg/kg	0.11 U	0.1 U
Molybdenum	mg/kg	1.1 U	2.1 U
Nickel	mg/kg	16	16
Selenium	mg/kg	1.1 U	1 U
Silver	mg/kg	1.1 U	2.1 U
Thallium	mg/kg	2.1 U	4.2 U
Vanadium	mg/kg	33	34
Zinc	mg/kg	50	45
Metals CLP			
Aluminum	mg/kg	--	--
Calcium	mg/kg	--	--
Cyanide	mg/kg	--	--
Iron	mg/kg	--	--
Magnesium	mg/kg	--	--
Manganese	mg/kg	--	--
Potassium	mg/kg	--	--
Sodium	mg/kg	--	--
Pesticides			
4,4-DDD	ug/kg	--	--
4,4-DDE	ug/kg	--	--
4,4-DDT	ug/kg	--	--
Aldrin	ug/kg	--	--
alpha-BHC	ug/kg	--	--
alpha-Chlordane	ug/kg	--	--
beta-BHC	ug/kg	--	--
delta-BHC	ug/kg	--	--
Dieldrin	ug/kg	--	--
Endo sulfan I	ug/kg	--	--
Endo sulfan II	ug/kg	--	--
Endosulfan sulfate	ug/kg	--	--
Endrin	ug/kg	--	--
Endrin aldehyde	ug/kg	--	--
Endrin ketone	ug/kg	--	--
gamma-BHC	ug/kg	--	--
gamma-Chlordane	ug/kg	--	--
Heptachlor	ug/kg	--	--
Heptachlor Epoxide	ug/kg	--	--
Methoxy chlor	ug/kg	--	--
Toxaphene	ug/kg	--	--

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12c-T2a	AOC12c-T2b
	SAMPLE	AOC12c-T2a-7018	AOC12c-T2b-7019
	DATE	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		7	7
SAMPLE BOTTOM DEPTH (FT)		8	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		8	8
SAMPLE TYPE			
ANALYTE	UNITS		
Polychlorinated Biphenyls			
Aroclor 1016	ug/kg	--	--
Aroclor 1221	ug/kg	--	--
Aroclor 1232	ug/kg	--	--
Aroclor 1242	ug/kg	--	--
Aroclor 1248	ug/kg	--	--
Aroclor 1254	ug/kg	--	--
Aroclor 1260	ug/kg	--	--
Aroclor 1262	ug/kg	--	--
Aroclor 1268	ug/kg	--	--
Total PCBs	ug/kg	--	--
Polycyclic Aromatic Hydrocarbons			
1-Methyl naphthalene	ug/kg	5.4 U	5.2 U
2-Methyl naphthalene	ug/kg	5.4 U	5.2 U
Acenaphthene	ug/kg	5.4 U	5.2 U
Acenaphthylene	ug/kg	5.4 U	5.2 U
Anthracene	ug/kg	5.4 U	5.2 U
B(a)P Equivalent	ug/kg	6.2 U	6 U
Benzo (a) anthracene	ug/kg	5.4 U	5.2 U
Benzo (a) pyrene	ug/kg	5.4 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.4 U	5.2 U
Benzo (ghi) perylene	ug/kg	5.4 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.4 U	5.2 U
Chrysene	ug/kg	5.4 U	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.4 U	5.2 U
Fluoranthene	ug/kg	5.4 U	5.2 U
Fluorene	ug/kg	5.4 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.4 U	5.2 U
Naphthalene	ug/kg	5.4 U	5.2 U
PAH High molecular weight	ug/kg	0	0
PAH Low molecular weight	ug/kg	0	0
Phenanthrene	ug/kg	5.4 U	5.2 U
Pyrene	ug/kg	5.4 U	5.2 U
Semi-Volatile Organic Compounds			
1,1'-Biphenyl	ug/kg	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--
2-Chloro naphthalene	ug/kg	350 U	340 U
2-Chlorophenol	ug/kg	350 U	340 U
2-Methylphenol	ug/kg	350 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U
2-Nitrophenol	ug/kg	350 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--
2,4-Dichlorophenol	ug/kg	350 U	340 U
2,4-Dimethylphenol	ug/kg	350 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	340 U
2,6-Dinitrotoluene	ug/kg	350 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	350 U	340 U
4-Bromophenyl phenyl ether	ug/kg	350 U	340 U
4-Chloro-3-methylphenol	ug/kg	710 U	690 U
4-Chloroaniline	ug/kg	350 U	340 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12c-T2a	AOC12c-T2b
	SAMPLE	AOC12c-T2a-7018	AOC12c-T2b-7019
	DATE	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		7	7
SAMPLE BOTTOM DEPTH (FT)		8	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		8	8
SAMPLE TYPE			
ANALYTE	UNITS		
4-Chlorophenyl phenyl ether	ug/kg	350 U	340 U
4-Methylphenol	ug/kg	350 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1700 U
Acetophenone	ug/kg	--	--
Atrazine	ug/kg	--	--
Benzaldehyde	ug/kg	--	--
Benzoic acid	ug/kg	1800 U	1700 U
Benzyl alcohol	ug/kg	710 U	690 U
bis (2-chloroethoxy) methane	ug/kg	350 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	340 U
Butylbenzylphthalate	ug/kg	350 U	340 U
Caprolactam	ug/kg	--	--
Carbazole	ug/kg	--	--
Di-n-butyl phthalate	ug/kg	350 U	340 U
Di-n-octyl phthalate	ug/kg	350 U	340 U
Dibenzofuran	ug/kg	350 U	340 U
Diethyl phthalate	ug/kg	350 U	340 U
Dimethyl phthalate	ug/kg	350 U	340 U
Hexachlorobenzene	ug/kg	350 U	340 U
Hexachloroethane	ug/kg	350 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	340 U
N-nitrosodiphenylamine	ug/kg	350 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U
Phenol	ug/kg	350 U	340 U
Total Petroleum Hydrocarbons			
TPH as diesel	mg/kg	10 U	10 U
TPH as gasoline	mg/kg	0.9 U	0.86 U
TPH as motor oil	mg/kg	10 U	10 U
Volatile Organic Compounds			
1,1-Dichloroethane	ug/kg	5.9 U	5.4 U
1,1-Dichloroethene	ug/kg	5.9 U	5.4 U
1,1-Dichloropropene	ug/kg	5.9 U	5.4 U
1,1,1-Trichloroethane	ug/kg	5.9 U	5.4 U
1,1,1,2-Tetrachloroethane	ug/kg	5.9 U	5.4 U
1,1,2-Trichloroethane	ug/kg	5.9 U	5.4 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.9 U	5.4 U
1,1,2,2-Tetrachloroethane	ug/kg	5.9 U	5.4 U
1,2-Dibromo-3-chloropropane	ug/kg	5.9 U	5.4 U
1,2-Dibromoethane	ug/kg	5.9 U	5.4 U
1,2-Dichlorobenzene	ug/kg	5.9 U	5.4 U
1,2-Dichloroethane	ug/kg	5.9 U	5.4 U
1,2-Dichloropropane	ug/kg	5.9 U	5.4 U
1,2,3-Trichlorobenzene	ug/kg	5.9 U	5.4 U
1,2,3-Trichloropropane	ug/kg	5.9 U	5.4 U
1,2,4-Trichlorobenzene	ug/kg	5.9 U	5.4 U
1,2,4-Trimethylbenzene	ug/kg	5.9 U	5.4 U
1,3-Dichlorobenzene	ug/kg	5.9 U	5.4 U
1,3-Dichloropropane	ug/kg	5.9 U	5.4 U
1,3,5-Trimethylbenzene	ug/kg	5.9 U	5.4 U
1,4-Dichlorobenzene	ug/kg	5.9 U	5.4 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12c-T2a	AOC12c-T2b
	SAMPLE	AOC12c-T2a-7018	AOC12c-T2b-7019
	DATE	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		7	7
SAMPLE BOTTOM DEPTH (FT)		8	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		8	8
SAMPLE TYPE			
ANALYTE	UNITS		
1,4-Dioxane	ug/kg	--	--
2-Chlorotoluene	ug/kg	5.9 U	5.4 U
2-Hexanone	ug/kg	--	--
2,2-Dichloropropane	ug/kg	5.9 U	5.4 U
2,4,5-Trichlorophenol	ug/kg	1700 U	1700 U
2,4,6-Trichlorophenol	ug/kg	350 U	340 U
4-Isopropyltoluene	ug/kg	5.9 U	5.4 U
Acetone	ug/kg	--	54 UJ
Acrolein	ug/kg	120 UJ	110 UJ
Acrylonitrile	ug/kg	59 U	54 U
Benzene	ug/kg	5.9 U	5.4 U
bis (2-chloroethyl) ether	ug/kg	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	340 U
Bromobenzene	ug/kg	5.9 U	5.4 U
Bromochloromethane	ug/kg	5.9 U	5.4 U
Bromodichloromethane	ug/kg	5.9 U	5.4 U
Bromoform	ug/kg	5.9 U	5.4 U
Bromomethane	ug/kg	5.9 U	5.4 U
Carbon disulfide	ug/kg	5.9 U	5.4 U
Carbon tetrachloride	ug/kg	5.9 U	5.4 U
Chloro methane	ug/kg	5.9 U	5.4 U
Chlorobenzene	ug/kg	5.9 U	5.4 U
Chloroethane	ug/kg	5.9 U	5.4 U
Chloroform	ug/kg	5.9 U	5.4 U
cis-1,2-Dichloroethene	ug/kg	5.9 U	5.4 U
cis-1,3-Dichloropropene	ug/kg	5.9 U	5.4 U
Cyclohexane	ug/kg	--	--
Dibromochloromethane	ug/kg	5.9 U	5.4 U
Dibromomethane	ug/kg	5.9 U	5.4 U
Dichlorodifluoromethane	ug/kg	5.9 U	5.4 U
Ethyl- benzene	ug/kg	5.9 U	5.4 U
Hexachlorobutadiene	ug/kg	5.9 U	5.4 U
Hexachlorocyclopentadiene	ug/kg	--	--
Isophorone	ug/kg	350 U	340 U
Isopropylbenzene	ug/kg	5.9 U	5.4 U
Methyl acetate	ug/kg	--	--
Methyl ethyl ketone	ug/kg	59 U	54 U
Methyl isobutyl ketone	ug/kg	59 U	54 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.9 U	5.4 U
Methylcyclohexane	ug/kg	--	--
Methylene chloride	ug/kg	5.9 U	5.4 U
N-Butylbenzene	ug/kg	5.9 U	5.4 U
N-Propylbenzene	ug/kg	5.9 U	5.4 U
Nitrobenzene	ug/kg	350 U	340 U
p-Chlorotoluene	ug/kg	5.9 U	5.4 U
sec-Butylbenzene	ug/kg	5.9 U	5.4 U
Styrene	ug/kg	5.9 U	5.4 U
tert-Butylbenzene	ug/kg	5.9 U	5.4 U
Tetrachloroethene	ug/kg	5.9 U	5.4 U
Toluene	ug/kg	5.9 U	5.4 U
trans-1,2-Dichloroethene	ug/kg	5.9 U	5.4 U
trans-1,3-Dichloropropene	ug/kg	5.9 U	5.4 U

Table AOC12-A1
Dataset for AOC 12 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC12c-T2a	AOC12c-T2b
	SAMPLE	AOC12c-T2a-7018	AOC12c-T2b-7019
	DATE	9/20/2008	9/20/2008
SAMPLE TOP DEPTH (FT)		7	7
SAMPLE BOTTOM DEPTH (FT)		8	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		8	8
SAMPLE TYPE			
ANALYTE	UNITS		
Trichloroethene	ug/kg	5.9 U	5.4 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.9 U	5.4 U
Vinyl chloride	ug/kg	5.9 U	5.4 U
Xylene, m,p-	ug/kg	5.9 U	5.4 U
Xylene, o-	ug/kg	5.9 U	5.4 U
Xylenes, total	ug/kg	5.9 U	5.4 U

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

AOC12-A3 Appendix Figure List

Exposure Unit: AOC 12

Reference Figure: AOC12-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC12-A3.1	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC12-A3.2	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC12-A3.3	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC12-A3.4	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC12-A3.5	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC12-A3.6	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC12-A3.7	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC12-A3.8	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC12-A3.9	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC12-A3.10	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC12-A3.11	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC12-A3.12	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT

AOC 12 0 - 10 FEET BELOW GROUND SURFACE ARSENIC

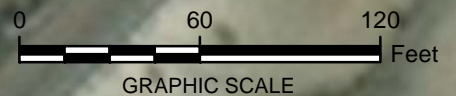


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	4.20 - 4.40
	≥4.41 - 4.80
	≥4.81 - 5.00
	≥5.01 - 6.08
	≥6.09 - 8.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC12-A3.1

AOC 12 0 - 10 FEET BELOW GROUND SURFACE BARIUM

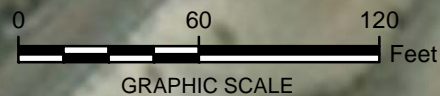


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

	NOT DETECTED
	25.00
	≥25.01 - 67.00
	≥67.01 - 94.80
	≥94.81 - 110.00
	≥110.01 - 154.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.2

AOC 12 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

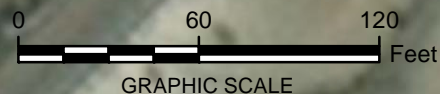


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 11.70 - 13.00
- ≥ 13.01 - 15.00
- ≥ 15.01 - 19.00
- ≥ 19.01 - 21.00
- ≥ 21.01 - 26.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.3

AOC 12 0 - 10 FEET BELOW GROUND SURFACE COBALT

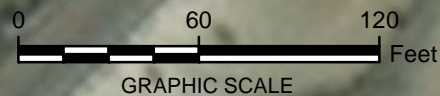


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	3.82
	≥3.83 - 6.90
	≥6.91 - 7.50
	≥7.51 - 9.60
	≥9.61 - 14.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.4

AOC 12 0 - 10 FEET BELOW GROUND SURFACE COPPER

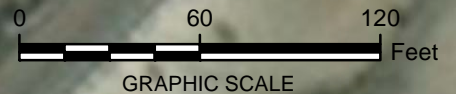


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 5.22
- ≥5.23 - 9.00
- ≥9.01 - 11.40
- ≥11.41 - 14.00
- ≥14.01 - 18.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.5

AOC 12 0 - 10 FEET BELOW GROUND SURFACE LEAD

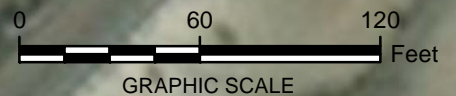


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	3.10
	≥3.11 - 3.50
	≥3.51 - 4.00
	≥4.01 - 4.90
	≥4.91 - 6.19

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.6

AOC 12 0 - 10 FEET BELOW GROUND SURFACE NICKEL

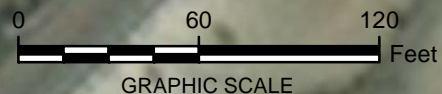


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 7.83
- $\geq 7.84 - 10.00$
- $\geq 10.01 - 13.00$
- $\geq 13.01 - 16.00$
- $\geq 16.01 - 20.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.7

AOC 12 0 - 10 FEET BELOW GROUND SURFACE VANADIUM

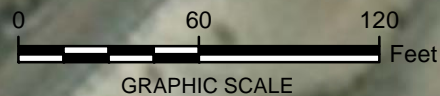


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	19.90
	≥ 19.91 - 28.00
	≥ 28.01 - 34.00
	≥ 34.01 - 38.80
	≥ 38.81 - 42.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.8

AOC 12 0 - 10 FEET BELOW GROUND SURFACE ZINC

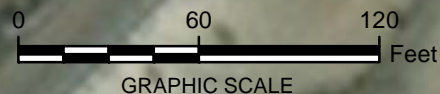


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	25.00
	≥25.01 - 45.00
	≥45.01 - 50.00
	≥50.01 - 54.60
	≥54.61 - 58.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.9

AOC 12 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE

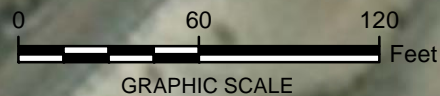


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.55 - 2.60
	≥2.61 - 2.70
	≥2.71 - 3.22
	≥3.23 - 7.82
	≥7.83 - 47.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.10

AOC 12 0 - 10 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

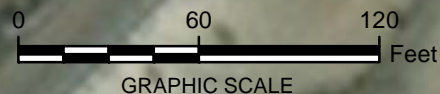


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00
	≥0.01 - 1.14
	≥1.15 - 6.50
	≥6.51 - 30.80
	≥30.81 - 317.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC12-A3.11

AOC 12 0 - 10 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.90
- $\geq 5.91 - 6.00$
- $\geq 6.01 - 6.20$
- $\geq 6.21 - 8.47$
- $\geq 8.48 - 47.50$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC12-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 60 120
Feet
GRAPHIC SCALE

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THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
AOC12-A3.12

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 12 Using Depth-Weighted EPCs



Attachment AOC12-B**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 12
Using Depth-Weighted EPCs****Tables**

AOC12-B.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC12-B.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC12-B.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC12-B.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC12-B.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC12-B.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC12-B.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User
AOC12-B.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC12-B.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC12-B.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC12-B.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC12-B.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC12-B.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC12-B.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User
AOC12-B.3a	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC12-B.3b	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC12-B.3c	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC12-B.3d	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC12-B.3e	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC12-B.3f	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC12-B.3g	Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User
AOC12-B.4a	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC12-B.4b	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC12-B.4c	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC12-B.4d	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC12-B.4e	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC12-B.4f	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC12-B.4g	Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User

Table AOC12-B.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls																
Total PCBs	1.6E-11	5.3E-11	4.4E-10	2.0E-10	1.2E-11	5.3E-11	3.3E-10	1.5E-10	8.3E-12	5.3E-11	2.3E-10	1.0E-10	6.8E-12	5.3E-11	1.8E-10	8.4E-11
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NC = Not considered a carcinogen.
ND = Not detected.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls																
Total PCBs	1.2E-10	7.2E-11	6.6E-09	1.5E-09	9.2E-11	7.2E-11	5.0E-09	1.1E-09	6.3E-11	7.2E-11	3.4E-09	7.7E-10	5.1E-11	7.2E-11	2.8E-09	6.3E-10
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NC = Not considered a carcinogen.
ND = Not detected.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls								
Total PCBs	1.9E-13	1.6E-10	4.9E-10	1.0E-09	1.4E-13	1.6E-10	3.7E-10	7.7E-10
Total Petroleum Hydrocarbons								
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls								
Total PCBs	3.7E-13	3.2E-10	9.8E-10	2.0E-09	2.8E-13	3.2E-10	7.5E-10	1.5E-09
Total Petroleum Hydrocarbons								
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls								
Total PCBs	1.9E-13	1.6E-10	2.0E-10	3.2E-10	1.4E-13	1.6E-10	1.5E-10	2.4E-10
Total Petroleum Hydrocarbons								
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Polychlorinated Biphenyls								
Total PCBs	3.7E-11	2.0E-11	4.7E-09	2.6E-10	2.8E-11	2.0E-11	3.6E-09	2.0E-10
Total Petroleum Hydrocarbons								
TPH as motor oil	ND	NC	ND	ND	ND	NC	ND	ND

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Zinc	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Polychlorinated Biphenyls				
Total PCBs	5.4E-14	3.1E-11	4.1E-14	3.1E-11
Total Petroleum Hydrocarbons				
TPH as motor oil	ND	NC	ND	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	2.8E-06	NV	5.1E-06	3.5E-05	2.5E-06	NV	4.5E-06	3.1E-05	2.2E-06	NV	3.9E-06	2.7E-05	1.9E-06	NV	3.5E-06	2.4E-05
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	4.4E-10	NV	1.2E-08	5.4E-09	3.7E-10	NV	9.9E-09	4.5E-09	8.2E-10	NV	2.2E-08	1.0E-08	1.0E-09	NV	2.7E-08	1.2E-08
Fluoranthene	1.1E-09	NV	2.9E-08	1.3E-08	7.4E-10	NV	2.0E-08	9.1E-09	1.4E-09	NV	3.8E-08	1.7E-08	5.6E-10	NV	1.5E-08	6.9E-09
Phenanthrene	3.4E-10	NV	9.3E-09	4.2E-09	2.6E-10	NV	7.0E-09	3.2E-09	3.0E-10	NV	8.2E-09	3.8E-09	3.9E-10	NV	1.1E-08	4.8E-09
Pyrene	1.0E-09	2.8E-09	2.8E-08	1.3E-08	7.1E-10	2.8E-09	1.9E-08	8.8E-09	1.4E-09	2.8E-09	3.8E-08	1.7E-08	1.7E-09	2.8E-09	4.6E-08	2.1E-08
Polychlorinated Biphenyls																
Total PCBs	1.1E-09	3.7E-09	3.1E-08	1.4E-08	8.6E-10	3.7E-09	2.3E-08	1.1E-08	5.8E-10	3.7E-09	1.6E-08	7.2E-09	4.7E-10	3.7E-09	1.3E-08	5.9E-09
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND	5.0E-07	NV	9.1E-06	6.2E-06	6.3E-07	NV	1.1E-05	7.8E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	7.0E-07	NV	2.5E-06	8.7E-06	6.2E-07	NV	2.3E-06	7.7E-06	5.5E-07	NV	2.0E-06	6.7E-06	4.8E-07	NV	1.8E-06	6.0E-06
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.1E-10	NV	5.9E-09	1.4E-09	9.1E-11	NV	5.0E-09	1.1E-09	2.1E-10	NV	1.1E-08	2.5E-09	2.5E-10	NV	1.4E-08	3.1E-09
Fluoranthene	2.6E-10	NV	1.4E-08	3.3E-09	1.8E-10	NV	1.0E-08	2.3E-09	3.5E-10	NV	1.9E-08	4.4E-09	1.4E-10	NV	7.5E-09	1.7E-09
Phenanthrene	8.6E-11	NV	4.7E-09	1.1E-09	6.5E-11	NV	3.5E-09	8.0E-10	7.6E-11	NV	4.1E-09	9.4E-10	9.7E-11	NV	5.3E-09	1.2E-09
Pyrene	2.6E-10	1.3E-10	1.4E-08	3.2E-09	1.8E-10	1.3E-10	9.7E-09	2.2E-09	3.5E-10	1.3E-10	1.9E-08	4.3E-09	4.3E-10	1.3E-10	2.3E-08	5.3E-09
Polychlorinated Biphenyls																
Total PCBs	2.8E-10	1.7E-10	1.5E-08	3.5E-09	2.1E-10	1.7E-10	1.2E-08	2.7E-09	1.5E-10	1.7E-10	7.9E-09	1.8E-09	1.2E-10	1.7E-10	6.4E-09	1.5E-09
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND	1.3E-07	NV	4.6E-06	1.6E-06	1.6E-07	NV	5.7E-06	2.0E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	1.2E-09	NV	6.5E-07	2.3E-05	1.2E-09	NV	8.9E-08	2.1E-06	1.1E-09	NV	5.8E-07	2.0E-05	1.1E-09	NV	7.9E-08	1.9E-06
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.9E-13	NV	1.5E-09	3.5E-09	1.9E-13	NV	2.1E-10	3.3E-10	1.6E-13	NV	1.3E-09	2.9E-09	1.6E-13	NV	1.7E-10	2.7E-10
Fluoranthene	4.7E-13	NV	3.7E-09	8.5E-09	4.7E-13	NV	5.0E-10	7.9E-10	3.3E-13	NV	2.6E-09	5.9E-09	3.3E-13	NV	3.5E-10	5.5E-10
Phenanthrene	1.5E-13	NV	1.2E-09	2.7E-09	1.5E-13	NV	1.6E-10	2.6E-10	1.1E-13	NV	9.0E-10	2.1E-09	1.1E-13	NV	1.2E-10	1.9E-10
Pyrene	4.5E-13	3.3E-10	3.6E-09	8.2E-09	4.5E-13	3.3E-10	4.9E-10	7.7E-10	3.1E-13	3.3E-10	2.5E-09	5.7E-09	3.1E-13	3.3E-10	3.4E-10	5.3E-10
Polychlorinated Biphenyls																
Total PCBs	5.0E-13	4.3E-10	3.9E-09	9.1E-09	5.0E-13	4.3E-10	5.4E-10	8.5E-10	3.8E-13	4.3E-10	3.0E-09	6.9E-09	3.8E-13	4.3E-10	4.1E-10	6.4E-10
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	2.5E-09	NV	1.3E-06	4.5E-05	2.5E-09	NV	1.8E-07	4.2E-06	2.2E-09	NV	1.2E-06	4.0E-05	2.2E-09	NV	1.6E-07	3.7E-06
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	3.9E-13	NV	3.1E-09	7.0E-09	3.9E-13	NV	4.2E-10	6.6E-10	3.2E-13	NV	2.5E-09	5.8E-09	3.2E-13	NV	3.5E-10	5.5E-10
Fluoranthene	9.3E-13	NV	7.4E-09	1.7E-08	9.3E-13	NV	1.0E-09	1.6E-09	6.5E-13	NV	5.1E-09	1.2E-08	6.5E-13	NV	7.0E-10	1.1E-09
Phenanthrene	3.0E-13	NV	2.4E-09	5.5E-09	3.0E-13	NV	3.3E-10	5.2E-10	2.3E-13	NV	1.8E-09	4.1E-09	2.3E-13	NV	2.5E-10	3.9E-10
Pyrene	9.0E-13	6.6E-10	7.1E-09	1.6E-08	9.0E-13	6.6E-10	9.7E-10	1.5E-09	6.3E-13	6.6E-10	5.0E-09	1.1E-08	6.3E-13	6.6E-10	6.8E-10	1.1E-09
Polychlorinated Biphenyls																
Total PCBs	1.0E-12	8.7E-10	7.9E-09	1.8E-08	1.0E-12	8.7E-10	1.1E-09	1.7E-09	7.6E-13	8.7E-10	6.0E-09	1.4E-08	7.6E-13	8.7E-10	8.2E-10	1.3E-09
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Zinc	1.2E-09	NV	8.9E-08	2.1E-06	1.1E-09	NV	7.9E-08	1.9E-06
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	1.9E-13	NV	2.1E-10	3.3E-10	1.6E-13	NV	1.7E-10	2.7E-10
Fluoranthene	4.7E-13	NV	5.0E-10	7.9E-10	3.3E-13	NV	3.5E-10	5.5E-10
Phenanthrene	1.5E-13	NV	1.6E-10	2.6E-10	1.1E-13	NV	1.2E-10	1.9E-10
Pyrene	4.5E-13	3.3E-10	4.9E-10	7.7E-10	3.1E-13	3.3E-10	3.4E-10	5.3E-10
Polychlorinated Biphenyls								
Total PCBs	5.0E-13	4.3E-10	5.4E-10	8.5E-10	3.8E-13	4.3E-10	4.1E-10	6.4E-10
Total Petroleum Hydrocarbons								
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.
 CDI = Chronic Daily Intake.
 COPC = Constituent of Potential Concern.
 EC = Exposure Concentration.
 mg/kg-day = milligrams per kilogram per day.
 mg/m³ = milligrams per cubic meter.
 ND = Not detected.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Zinc	2.5E-07	NV	2.4E-06	3.2E-06	2.5E-07	NV	2.0E-06	1.3E-06	2.2E-07	NV	2.1E-06	2.8E-06	2.2E-07	NV	1.8E-06	1.2E-06
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	3.9E-11	NV	5.5E-09	4.9E-10	3.9E-11	NV	4.8E-09	2.0E-10	3.2E-11	NV	4.6E-09	4.1E-10	3.2E-11	NV	4.0E-09	1.7E-10
Fluoranthene	9.4E-11	NV	1.3E-08	1.2E-09	9.4E-11	NV	1.2E-08	4.9E-10	6.5E-11	NV	9.3E-09	8.3E-10	6.5E-11	NV	8.0E-09	3.4E-10
Phenanthrene	3.0E-11	NV	4.3E-09	3.9E-10	3.0E-11	NV	3.7E-09	1.6E-10	2.3E-11	NV	3.3E-09	2.9E-10	2.3E-11	NV	2.8E-09	1.2E-10
Pyrene	9.1E-11	4.1E-11	1.3E-08	1.2E-09	9.1E-11	4.1E-11	1.1E-08	4.7E-10	6.3E-11	4.1E-11	9.0E-09	8.0E-10	6.3E-11	4.1E-11	7.7E-09	3.3E-10
Polychlorinated Biphenyls																
Total PCBs	1.0E-10	5.4E-11	1.4E-08	1.3E-09	1.0E-10	5.4E-11	1.2E-08	5.3E-10	7.6E-11	5.4E-11	1.1E-08	9.7E-10	7.6E-11	5.4E-11	9.3E-09	4.0E-10
Total Petroleum Hydrocarbons																
TPH as motor oil	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Zinc	1.6E-10	NV	1.4E-10	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	2.4E-14	NV	2.0E-14	NV
Fluoranthene	5.8E-14	NV	4.1E-14	NV
Phenanthrene	1.9E-14	NV	1.4E-14	NV
Pyrene	5.6E-14	2.7E-11	3.9E-14	2.7E-11
Polychlorinated Biphenyls				
Total PCBs	6.2E-14	3.6E-11	4.7E-14	3.6E-11
Total Petroleum Hydrocarbons				
TPH as motor oil	ND	NV	ND	NV

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/m³ = milligrams per cubic meter.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3a
Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls																				
Total PCBs	9.2E-12	3.0E-11	8.8E-10	4.0E-10	1.3E-09	7.0E-12	3.0E-11	6.7E-10	3.0E-10	1.0E-09	4.8E-12	3.0E-11	4.5E-10	2.1E-10	6.9E-10	3.9E-12	3.0E-11	3.7E-10	1.7E-10	5.7E-10
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	9E-12	3E-11	9E-10	4E-10	1E-09	7E-12	3E-11	7E-10	3E-10	1E-09	5E-12	3E-11	5E-10	2E-10	7E-10	4E-12	3E-11	4E-10	2E-10	6E-10

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
NC = Not considered a carcinogen.
ND = Not detected.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3b
Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs) ¹				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls																				
Total PCBs	7E-11	4E-11	1E-08	3E-09	2E-08	5E-11	4.1E-11	1.0E-08	2.3E-09	1.2E-08	3.6E-11	4.1E-11	6.8E-09	1.5E-09	8.4E-09	2.9E-11	4.1E-11	5.5E-09	1.3E-09	6.9E-09
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	7E-11	4E-11	1E-08	3E-09	2E-08	5E-11	4E-11	1E-08	2E-09	1E-08	4E-11	4E-11	7E-09	2E-09	8E-09	3E-11	4E-11	6E-09	1E-09	7E-09

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
NC = Not considered a carcinogen.
ND = Not detected.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3c

Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls										
Total PCBs	1.1E-13	9.2E-11	9.8E-10	2.0E-09	3.1E-09	8.0E-14	9.2E-11	7.5E-10	1.5E-09	2.4E-09
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Cumulative ILCR	1E-13	9E-11	1E-09	2E-09	3E-09	8E-14	9E-11	7E-10	2E-09	2E-09

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3d

Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls										
Total PCBs	2.1E-13	1.8E-10	2.0E-09	4.1E-09	6.2E-09	1.6E-13	1.8E-10	1.5E-09	3.1E-09	4.8E-09
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Cumulative ILCR	2E-13	2E-10	2E-09	4E-09	6E-09	2E-13	2E-10	1E-09	3E-09	5E-09

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3e
Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls										
Total PCBs	1.1E-13	9.2E-11	4.0E-10	6.3E-10	1.1E-09	8.0E-14	9.2E-11	3.0E-10	4.8E-10	8.7E-10
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Cumulative ILCR	1E-13	9E-11	4E-10	6E-10	1E-09	8E-14	9E-11	3E-10	5E-10	9E-10

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
NC = Not considered a carcinogen.
ND = Not detected.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3f

Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls										
Total PCBs	2.1E-11	1.2E-11	9.5E-09	5.2E-10	1.0E-08	1.6E-11	1.2E-11	7.2E-09	3.9E-10	7.6E-09
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Cumulative ILCR	2E-11	1E-11	9E-09	5E-10	1E-08	2E-11	1E-11	7E-09	4E-10	8E-09

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.3g
Baseline Scenario ILCRs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Zinc	NC	NC	--	NC	NC	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	NC	NC	--	NC	NC	--
Fluoranthene	NC	NC	--	NC	NC	--
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
Polychlorinated Biphenyls						
Total PCBs	3.1E-14	1.7E-11	1.8E-11	2.3E-14	1.7E-11	1.8E-11
Total Petroleum Hydrocarbons						
TPH as motor oil	ND	NC	--	ND	NC	--
Cumulative ILCR	3E-14	2E-11	2E-11	2E-14	2E-11	2E-11

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4a
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Zinc	2.3E-06	NV	1.7E-05	1.2E-04	1.4E-04	2.1E-06	NV	1.5E-05	1.0E-04	1.2E-04	1.8E-06	NV	1.3E-05	9.0E-05	1.0E-04	1.6E-06	NV	1.2E-05	8.0E-05	9.3E-05
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	3.7E-09	NV	4.0E-07	1.8E-07	5.8E-07	3.0E-09	NV	3.3E-07	1.5E-07	4.8E-07	6.8E-09	NV	7.4E-07	3.4E-07	1.1E-06	8.4E-09	NV	9.1E-07	4.1E-07	1.3E-06
Fluoranthene	6.6E-10	NV	7.2E-08	3.3E-08	1.1E-07	4.6E-10	NV	5.0E-08	2.3E-08	7.3E-08	8.8E-10	NV	9.5E-08	4.4E-08	1.4E-07	3.5E-10	NV	3.8E-08	1.7E-08	5.5E-08
Phenanthrene	8.6E-12	NV	9.3E-10	4.2E-10	1.4E-09	6.5E-12	NV	7.0E-10	3.2E-10	1.0E-09	7.6E-12	NV	8.2E-10	3.8E-10	1.2E-09	9.7E-12	NV	1.1E-09	4.8E-10	1.5E-09
Pyrene	8.5E-10	2.4E-09	9.3E-08	4.2E-08	1.4E-07	5.9E-10	2.4E-09	6.4E-08	2.9E-08	9.7E-08	1.2E-09	2.4E-09	1.3E-07	5.7E-08	1.9E-07	1.4E-09	2.4E-09	1.5E-07	7.1E-08	2.3E-07
Polychlorinated Biphenyls																				
Total PCBs	1.4E-05	4.6E-05	1.5E-03	7.0E-04	2.3E-03	1.1E-05	4.6E-05	1.2E-03	5.3E-04	1.8E-03	7.3E-06	4.6E-05	7.9E-04	3.6E-04	1.2E-03	5.9E-06	4.6E-05	6.4E-04	2.9E-04	9.9E-04
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--	7.4E-07	NV	5.4E-05	3.7E-05	9.1E-05	9.3E-07	NV	6.7E-05	4.6E-05	1.1E-04
Total Hazard Index	2E-05	5E-05	2E-03	8E-04	2E-03	1E-05	5E-05	1E-03	6E-04	2E-03	1E-05	5E-05	9E-04	5E-04	1E-03	8E-06	5E-05	7E-04	4E-04	1E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4b
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Zinc	5.9E-07	NV	8.5E-06	2.9E-05	3.8E-05	5.2E-07	NV	7.5E-06	2.6E-05	3.4E-05	4.5E-07	NV	6.6E-06	2.2E-05	3.0E-05	4.0E-07	NV	5.9E-06	2.0E-05	2.6E-05
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	9.1E-10	NV	2.0E-07	4.5E-08	2.4E-07	7.6E-10	NV	1.7E-07	3.8E-08	2.0E-07	1.7E-09	NV	3.7E-07	8.5E-08	4.6E-07	2.1E-09	NV	4.5E-07	1.0E-07	5.6E-07
Fluoranthene	1.7E-09	NV	3.6E-07	8.2E-08	4.4E-07	1.2E-09	NV	2.5E-07	5.7E-08	3.1E-07	2.2E-09	NV	4.8E-07	1.1E-07	5.9E-07	8.7E-10	NV	1.9E-07	4.3E-08	2.3E-07
Phenanthrene	7.2E-11	NV	1.6E-08	3.5E-09	1.9E-08	5.4E-11	NV	1.2E-08	2.7E-09	1.4E-08	6.3E-11	NV	1.4E-08	3.1E-09	1.7E-08	8.1E-11	NV	1.8E-08	4.0E-09	2.2E-08
Pyrene	2.1E-09	1.1E-09	4.6E-07	1.1E-07	5.7E-07	1.5E-09	1.1E-09	3.2E-07	7.3E-08	4.0E-07	2.9E-09	1.1E-09	6.3E-07	1.4E-07	7.8E-07	3.6E-09	1.1E-09	7.7E-07	1.8E-07	9.5E-07
Polychlorinated Biphenyls																				
Total PCBs	3.5E-06	2.1E-06	7.7E-04	1.8E-04	9.5E-04	2.7E-06	2.1E-06	5.8E-04	1.3E-04	7.2E-04	1.8E-06	2.1E-06	4.0E-04	9.0E-05	4.9E-04	1.5E-06	2.1E-06	3.2E-04	7.3E-05	4.0E-04
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.9E-07	NV	2.7E-05	9.2E-06	3.6E-05	2.3E-07	NV	3.4E-05	1.2E-05	4.5E-05
Total Hazard Index	4E-06	2E-06	8E-04	2E-04	1E-03	3E-06	2E-06	6E-04	2E-04	8E-04	2E-06	2E-06	4E-04	1E-04	6E-04	2E-06	2E-06	4E-04	1E-04	5E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4c
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Zinc	1.0E-09	NV	2.2E-06	7.5E-05	7.7E-05	1.0E-09	NV	3.0E-07	7.0E-06	7.3E-06	9.2E-10	NV	1.9E-06	6.7E-05	6.8E-05	9.2E-10	NV	2.6E-07	6.2E-06	6.5E-06
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	1.6E-12	NV	5.1E-08	1.2E-07	1.7E-07	1.6E-12	NV	6.9E-09	1.1E-08	1.8E-08	1.3E-12	NV	4.2E-08	9.7E-08	1.4E-07	1.3E-12	NV	5.8E-09	9.1E-09	1.5E-08
Fluoranthene	2.9E-12	NV	9.2E-08	2.1E-07	3.0E-07	2.9E-12	NV	1.3E-08	2.0E-08	3.2E-08	2.0E-12	NV	6.4E-08	1.5E-07	2.1E-07	2.0E-12	NV	8.8E-09	1.4E-08	2.3E-08
Phenanthrene	1.3E-13	NV	4.0E-09	9.2E-09	1.3E-08	1.3E-13	NV	5.4E-10	8.6E-10	1.4E-09	9.5E-14	NV	3.0E-09	6.9E-09	9.9E-09	9.5E-14	NV	4.1E-10	6.5E-10	1.1E-09
Pyrene	3.8E-12	2.8E-09	1.2E-07	2.7E-07	3.9E-07	3.8E-12	2.8E-09	1.6E-08	2.6E-08	4.5E-08	2.6E-12	2.8E-09	8.3E-08	1.9E-07	2.8E-07	2.6E-12	2.8E-09	1.1E-08	1.8E-08	3.2E-08
Polychlorinated Biphenyls																				
Total PCBs	6.2E-09	5.4E-06	2.0E-04	4.5E-04	6.6E-04	6.2E-09	5.4E-06	2.7E-05	4.2E-05	7.5E-05	4.7E-09	5.4E-06	1.5E-04	3.4E-04	5.0E-04	4.7E-09	5.4E-06	2.0E-05	3.2E-05	5.8E-05
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Total Hazard Index	7E-09	5E-06	2E-04	5E-04	7E-04	7E-09	5E-06	3E-05	5E-05	8E-05	6E-09	5E-06	2E-04	4E-04	6E-04	6E-09	5E-06	2E-05	4E-05	6E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4d
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Zinc	2.1E-09	NV	4.4E-06	1.5E-04	1.5E-04	2.1E-09	NV	5.9E-07	1.4E-05	1.5E-05	1.8E-09	NV	3.9E-06	1.3E-04	1.4E-04	1.8E-09	NV	5.3E-07	1.2E-05	1.3E-05
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	3.2E-12	NV	1.0E-07	2.3E-07	3.4E-07	3.2E-12	NV	1.4E-08	2.2E-08	3.6E-08	2.7E-12	NV	8.5E-08	1.9E-07	2.8E-07	2.7E-12	NV	1.2E-08	1.8E-08	3.0E-08
Fluoranthene	5.8E-12	NV	1.8E-07	4.2E-07	6.1E-07	5.8E-12	NV	2.5E-08	4.0E-08	6.5E-08	4.1E-12	NV	1.3E-07	3.0E-07	4.2E-07	4.1E-12	NV	1.8E-08	2.8E-08	4.5E-08
Phenanthrene	2.5E-13	NV	8.0E-09	1.8E-08	2.6E-08	2.5E-13	NV	1.1E-09	1.7E-09	2.8E-09	1.9E-13	NV	6.0E-09	1.4E-08	2.0E-08	1.9E-13	NV	8.2E-10	1.3E-09	2.1E-09
Pyrene	7.5E-12	5.5E-09	2.4E-07	5.5E-07	7.9E-07	7.5E-12	5.5E-09	3.2E-08	5.1E-08	8.9E-08	5.2E-12	5.5E-09	1.7E-07	3.8E-07	5.5E-07	5.2E-12	5.5E-09	2.3E-08	3.6E-08	6.4E-08
Polychlorinated Biphenyls																				
Total PCBs	1.2E-08	1.1E-05	3.9E-04	9.1E-04	1.3E-03	1.2E-08	1.1E-05	5.4E-05	8.5E-05	1.5E-04	9.5E-09	1.1E-05	3.0E-04	6.9E-04	1.0E-03	9.5E-09	1.1E-05	4.1E-05	6.4E-05	1.2E-04
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Total Hazard Index	1E-08	1E-05	4E-04	1E-03	1E-03	1E-08	1E-05	5E-05	1E-04	2E-04	1E-08	1E-05	3E-04	8E-04	1E-03	1E-08	1E-05	4E-05	8E-05	1E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4e
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Zinc	1.0E-09	NV	3.0E-07	7.0E-06	7.3E-06	9.2E-10	NV	2.6E-07	6.2E-06	6.5E-06
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	1.6E-12	NV	6.9E-09	1.1E-08	1.8E-08	1.3E-12	NV	5.8E-09	9.1E-09	1.5E-08
Fluoranthene	2.9E-12	NV	1.3E-08	2.0E-08	3.2E-08	2.0E-12	NV	8.8E-09	1.4E-08	2.3E-08
Phenanthrene	1.3E-13	NV	5.4E-10	8.6E-10	1.4E-09	9.5E-14	NV	4.1E-10	6.5E-10	1.1E-09
Pyrene	3.8E-12	2.8E-09	1.6E-08	2.6E-08	4.5E-08	2.6E-12	2.8E-09	1.1E-08	1.8E-08	3.2E-08
Polychlorinated Biphenyls										
Total PCBs	6.2E-09	5.4E-06	2.7E-05	4.2E-05	7.5E-05	4.7E-09	5.4E-06	2.0E-05	3.2E-05	5.8E-05
Total Petroleum Hydrocarbons										
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Total Hazard Index	7E-09	5E-06	3E-05	5E-05	8E-05	6E-09	5E-06	2E-05	4E-05	6E-05

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4f
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Zinc	2.1E-07	NV	7.9E-06	1.1E-05	1.9E-05	2.1E-07	NV	6.8E-06	4.4E-06	1.1E-05	1.8E-07	NV	7.0E-06	9.4E-06	1.7E-05	1.8E-07	NV	6.0E-06	3.9E-06	1.0E-05
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	3.2E-10	NV	1.8E-07	1.6E-08	2.0E-07	3.2E-10	NV	1.6E-07	6.8E-09	1.7E-07	2.7E-10	NV	1.5E-07	1.4E-08	1.7E-07	2.7E-10	NV	1.3E-07	5.7E-09	1.4E-07
Fluoranthene	5.9E-10	NV	3.4E-07	3.0E-08	3.7E-07	5.9E-10	NV	2.9E-07	1.2E-08	3.0E-07	4.1E-10	NV	2.3E-07	2.1E-08	2.5E-07	4.1E-10	NV	2.0E-07	8.6E-09	2.1E-07
Phenanthrene	2.5E-11	NV	1.4E-08	1.3E-09	1.6E-08	2.5E-11	NV	1.2E-08	5.3E-10	1.3E-08	1.9E-11	NV	1.1E-08	9.7E-10	1.2E-08	1.9E-11	NV	9.4E-09	4.0E-10	9.8E-09
Pyrene	7.5E-10	3.5E-10	4.3E-07	3.8E-08	4.7E-07	7.5E-10	3.5E-10	3.7E-07	1.6E-08	3.9E-07	5.3E-10	3.5E-10	3.0E-07	2.7E-08	3.3E-07	5.3E-10	3.5E-10	2.6E-07	1.1E-08	2.7E-07
Polychlorinated Biphenyls																				
Total PCBs	1.3E-06	6.8E-07	7.2E-04	6.4E-05	7.8E-04	1.3E-06	6.8E-07	6.1E-04	2.6E-05	6.4E-04	9.5E-07	6.8E-07	5.4E-04	4.8E-05	5.9E-04	9.5E-07	6.8E-07	4.7E-04	2.0E-05	4.9E-04
Total Petroleum Hydrocarbons																				
TPH as motor oil	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Total Hazard Index	1E-06	7E-07	7E-04	7E-05	8E-04	1E-06	7E-07	6E-04	3E-05	7E-04	1E-06	7E-07	6E-04	6E-05	6E-04	1E-06	7E-07	5E-04	2E-05	5E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC12-B.4g
Baseline Scenario HIs for COPCs in AOC 12 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Zinc	1.3E-10	NV	1.3E-10	1.1E-10	NV	1.1E-10
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.0E-13	NV	2.0E-13	1.7E-13	NV	1.7E-13
Fluoranthene	3.7E-13	NV	3.7E-13	2.5E-13	NV	2.5E-13
Phenanthrene	1.6E-14	NV	1.6E-14	1.2E-14	NV	1.2E-14
Pyrene	4.7E-13	2.3E-10	2.3E-10	3.3E-13	2.3E-10	2.3E-10
Polychlorinated Biphenyls						
Total PCBs	7.8E-10	4.5E-07	4.5E-07	5.9E-10	4.5E-07	4.5E-07
Total Petroleum Hydrocarbons						
TPH as motor oil	ND	NV	--	ND	NV	--
Total Hazard Index	9E-10	4E-07	4E-07	7E-10	4E-07	4E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at AOC 12 Using
Depth-Weighted EPCs



Attachment AOC12-C**Dose and Risk Calculations for Ecological Receptors at AOC 12 Using Depth-Weighted EPCs**

Table AOC12-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 12
Table AOC12-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 12
Table AOC12-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 12
Table AOC12-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 12
Table AOC12-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 12
Table AOC12-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC12-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 12

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Zinc	7.70E+01	160	5E-01	7.70E+01	120	6E-01
Polycyclic Aromatic Hydrocarbons						
PAH High molecular weight	2.57E-01	1.2	2E-01	1.54E-01	18	9E-03
Polychlorinated Biphenyls						
Total PCBs	3.10E-02	40	8E-04	3.10E-02	1	3E-02

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern

EPC = exposure point concentration

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

mg/kg = milligrams per kilogram

ND = not detected in the applicable depth interval

ng/kg = nanograms per kilogram

no SL = no screening level available

NOAEL = no-observed adverse effect level

PCBs = polychlorinated biphenyls

Table AOC12-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Zinc	Gambel's Quail	7.7E+01	m	100% Plants	1.0E-01	5.4E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Gambel's Quail	1.5E-01	m	100% Plants	1.0E-01	5.0E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.1E-02	m	100% Plants	1.0E-01	3.1E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Zinc	Cactus Wren	7.7E+01	m	100% Insects	9.3E-02	3.6E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Cactus Wren	1.5E-01	m	100% Insects	9.3E-02	4.0E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.1E-02	m	100% Insects	9.3E-02	3.6E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Zinc	Desert Shrew	7.7E+01	m	100% Insects	2.0E-02	3.6E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Desert Shrew	1.5E-01	m	100% Insects	2.0E-02	4.0E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	3.1E-02	m	100% Insects	2.0E-02	3.6E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Zinc	Merriam's Kangaroo Rat	7.7E+01	m	100% Plants	2.4E-02	5.4E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.1E-02	m	100% Plants	2.4E-02	3.1E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC12-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Zinc	Gambel's Quail	2.1E+00	--	--	3.1E-01	2.4E+00	6.6E+01	1.7E+02	4E-02	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Gambel's Quail	1.9E-03	--	--	6.1E-04	2.5E-03	1.0E+01	1.0E+02	3E-04	3E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.2E-05	--	--	1.2E-04	1.4E-04	9.0E-02	1.3E+00	2E-03	1E-04
Inorganics										
Zinc	Cactus Wren	--	6.5E+01	--	1.3E+00	6.6E+01	6.6E+01	1.7E+02	1E+00	4E-01
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Cactus Wren	--	7.3E-02	--	2.6E-03	7.6E-02	1.0E+01	1.0E+02	8E-03	8E-04
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	6.6E-03	--	5.3E-04	7.2E-03	9.0E-02	1.3E+00	8E-02	6E-03
Inorganics										
Zinc	Desert Shrew	--	7.2E+01	--	3.1E-01	7.2E+01	7.5E+01	3.0E+02	1E+00	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Desert Shrew	--	8.1E-02	--	6.3E-04	8.2E-02	6.2E-01	3.1E+00	1E-01	3E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	7.4E-03	--	1.3E-04	7.5E-03	3.6E-01	1.3E+00	2E-02	6E-03
Inorganics										
Zinc	Merriam's Kangaroo Rat	4.4E+00	--	--	1.5E-01	4.6E+00	7.5E+01	3.0E+02	6E-02	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Merriam's Kangaroo Rat	4.1E-03	--	--	5.1E-04	4.6E-03	6.2E-01	3.1E+00	8E-03	2E-03
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.5E-05	--	--	6.1E-05	8.7E-05	3.6E-01	1.3E+00	2E-04	7E-05

Notes:
See Notes and Abbreviations following Table AOC12-C.5

Table AOC12-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Zinc	Gambel's Quail	7.7E+01	m	100% Plants	1.0E-01	5.4E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.1E-02	m	100% Plants	1.0E-01	3.1E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Zinc	Cactus Wren	7.7E+01	m	100% Insects	9.3E-02	3.6E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.1E-02	m	100% Insects	9.3E-02	3.6E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Zinc	Desert Shrew	7.7E+01	m	100% Insects	2.0E-02	3.6E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Desert Shrew	1.5E-01	m	100% Insects	2.0E-02	4.0E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	3.1E-02	m	100% Insects	2.0E-02	3.6E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Zinc	Merriam's Kangaroo Rat	7.7E+01	m	100% Plants	2.4E-02	5.4E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.1E-02	m	100% Plants	2.4E-02	3.1E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC12-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Zinc	Gambel's Quail	2.1E+00	--	--	3.1E-01	2.4E+00	1.7E+01	1.7E+02	1E-01	1E-02
Polychlorinated Biphenyls									--	--
Total PCBs	Gambel's Quail	1.2E-05	--	--	1.2E-04	1.4E-04	9.0E-02	1.3E+00	2E-03	1E-04
Inorganics									--	--
Zinc	Cactus Wren	--	6.5E+01	--	1.3E+00	6.6E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls									--	--
Total PCBs	Cactus Wren	--	6.6E-03	--	5.3E-04	7.2E-03	9.0E-02	1.3E+00	8E-02	6E-03
Inorganics									--	--
Zinc	Desert Shrew	--	7.2E+01	--	3.1E-01	7.2E+01	9.6E+00	4.1E+02	8E+00	2E-01
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Desert Shrew	--	8.1E-02	--	6.3E-04	8.2E-02	1.3E+00	3.3E+01	6E-02	2E-03
Polychlorinated Biphenyls									--	--
Total PCBs	Desert Shrew	--	7.4E-03	--	1.3E-04	7.5E-03	3.6E-01	1.3E+00	2E-02	6E-03
Inorganics									--	--
Zinc	Merriam's Kangaroo Rat	4.4E+00	--	--	1.5E-01	4.6E+00	9.6E+00	4.1E+02	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Merriam's Kangaroo Rat	4.1E-03	--	--	5.1E-04	4.6E-03	1.3E+00	3.3E+01	4E-03	1E-04
Polychlorinated Biphenyls									--	--
Total PCBs	Merriam's Kangaroo Rat	2.5E-05	--	--	6.1E-05	8.7E-05	3.6E-01	1.3E+00	2E-04	7E-05

Notes:
See Notes and Abbreviations following Table AOC12-C.5

Table AOC12-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Zinc	Gambel's Quail	7.7E+01	m	100% Plants	1.0E-01	5.4E+01	1.7E-01	3.8E-02	4.0E-03	8.9E-03
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Gambel's Quail	1.5E-01	m	100% Plants	1.0E-01	5.0E-02	1.7E-01	3.8E-02	4.0E-03	8.9E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.1E-02	m	100% Plants	1.0E-01	3.1E-04	1.7E-01	3.8E-02	4.0E-03	8.9E-03
Inorganics										
Zinc	Cactus Wren	7.7E+01	m	100% Insects	9.3E-02	3.6E+02	3.9E-02	1.8E-01	1.7E-02	6.6E-02
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Cactus Wren	1.5E-01	m	100% Insects	9.3E-02	4.0E-01	3.9E-02	1.8E-01	1.7E-02	6.6E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.1E-02	m	100% Insects	9.3E-02	3.6E-02	3.9E-02	1.8E-01	1.7E-02	6.6E-02
Inorganics										
Zinc	Desert Shrew	7.7E+01	m	100% Insects	2.0E-02	3.6E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Desert Shrew	1.5E-01	m	100% Insects	2.0E-02	4.0E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	3.1E-02	m	100% Insects	2.0E-02	3.6E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Zinc	Merriam's Kangaroo Rat	7.7E+01	m	100% Plants	2.4E-02	5.4E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.1E-02	m	100% Plants	2.4E-02	3.1E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC12-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Zinc	Gambel's Quail	2.1E+00	--	--	3.1E-01	2.1E-02	6.6E+01	1.7E+02	3E-04	1E-04
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Gambel's Quail	1.9E-03	--	--	6.1E-04	2.3E-05	1.0E+01	1.0E+02	2E-06	2E-07
Polychlorinated Biphenyls									--	--
Total PCBs	Gambel's Quail	1.2E-05	--	--	1.2E-04	1.2E-06	9.0E-02	1.3E+00	1E-05	9E-07
Inorganics									--	--
Zinc	Cactus Wren	--	6.5E+01	--	1.3E+00	4.4E+00	6.6E+01	1.7E+02	7E-02	3E-02
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Cactus Wren	--	7.3E-02	--	2.6E-03	5.0E-03	1.0E+01	1.0E+02	5E-04	5E-05
Polychlorinated Biphenyls									--	--
Total PCBs	Cactus Wren	--	6.6E-03	--	5.3E-04	4.7E-04	9.0E-02	1.3E+00	5E-03	4E-04
Inorganics									--	--
Zinc	Desert Shrew	--	7.2E+01	--	3.1E-01	7.2E+01	7.5E+01	3.0E+02	1E+00	2E-01
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Desert Shrew	--	8.1E-02	--	6.3E-04	8.2E-02	6.2E-01	3.1E+00	1E-01	3E-02
Polychlorinated Biphenyls									--	--
Total PCBs	Desert Shrew	--	7.4E-03	--	1.3E-04	7.5E-03	3.6E-01	1.3E+00	2E-02	6E-03
Inorganics									--	--
Zinc	Merriam's Kangaroo Rat	4.4E+00	--	--	1.5E-01	4.6E+00	7.5E+01	3.0E+02	6E-02	2E-02
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Merriam's Kangaroo Rat	4.1E-03	--	--	5.1E-04	4.6E-03	6.2E-01	3.1E+00	8E-03	2E-03
Polychlorinated Biphenyls									--	--
Total PCBs	Merriam's Kangaroo Rat	2.5E-05	--	--	6.1E-05	8.7E-05	3.6E-01	1.3E+00	2E-04	7E-05

Notes:
See Notes and Abbreviations following Table AOC12-C.5

Table AOC12-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Zinc	Gambel's Quail	7.7E+01	m	100% Plants	1.0E-01	5.4E+01	1.7E-01	3.8E-02	4.0E-03	8.9E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.1E-02	m	100% Plants	1.0E-01	3.1E-04	1.7E-01	3.8E-02	4.0E-03	8.9E-03
Inorganics										
Zinc	Cactus Wren	7.7E+01	m	100% Insects	9.3E-02	3.6E+02	3.9E-02	1.8E-01	1.7E-02	6.6E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.1E-02	m	100% Insects	9.3E-02	3.6E-02	3.9E-02	1.8E-01	1.7E-02	6.6E-02
Inorganics										
Zinc	Desert Shrew	7.7E+01	m	100% Insects	2.0E-02	3.6E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Desert Shrew	1.5E-01	m	100% Insects	2.0E-02	4.0E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	3.1E-02	m	100% Insects	2.0E-02	3.6E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Zinc	Merriam's Kangaroo Rat	7.7E+01	m	100% Plants	2.4E-02	5.4E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH High molecular weight	Merriam's Kangaroo Rat	2.6E-01	m	100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.1E-02	m	100% Plants	2.4E-02	3.1E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC12-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 12

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Zinc	Gambel's Quail	2.1E+00	--	--	3.1E-01	2.1E-02	1.7E+01	1.7E+02	1E-03	1E-04
Polychlorinated Biphenyls									--	--
Total PCBs	Gambel's Quail	1.2E-05	--	--	1.2E-04	1.2E-06	9.0E-02	1.3E+00	1E-05	9E-07
Inorganics									--	--
Zinc	Cactus Wren	--	6.5E+01	--	1.3E+00	4.4E+00	1.7E+01	1.7E+02	3E-01	3E-02
Polychlorinated Biphenyls									--	--
Total PCBs	Cactus Wren	--	6.6E-03	--	5.3E-04	4.7E-04	9.0E-02	1.3E+00	5E-03	4E-04
Inorganics									--	--
Zinc	Desert Shrew	--	7.2E+01	--	3.1E-01	7.2E+01	9.6E+00	4.1E+02	8E+00	2E-01
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Desert Shrew	--	8.1E-02	--	6.3E-04	8.2E-02	1.3E+00	3.3E+01	6E-02	2E-03
Polychlorinated Biphenyls									--	--
Total PCBs	Desert Shrew	--	7.4E-03	--	1.3E-04	7.5E-03	3.6E-01	1.3E+00	2E-02	6E-03
Inorganics									--	--
Zinc	Merriam's Kangaroo Rat	4.4E+00	--	--	1.5E-01	4.6E+00	9.6E+00	4.1E+02	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons									--	--
PAH High molecular weight	Merriam's Kangaroo Rat	4.1E-03	--	--	5.1E-04	4.6E-03	1.3E+00	3.3E+01	4E-03	1E-04
Polychlorinated Biphenyls									--	--
Total PCBs	Merriam's Kangaroo Rat	2.5E-05	--	--	6.1E-05	8.7E-05	3.6E-01	1.3E+00	2E-04	7E-05

Notes:
See Notes and Abbreviations following Table AOC12-C.5

Table AOC12-C Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times \text{SIR}) + (C_{\text{plants}} \times \text{FIR} \times F_{\text{plants}}) + (C_{\text{insects}} \times \text{FIR} \times F_{\text{insects}}) + (C_{\text{mammals}} \times \text{FIR} \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.

Appendix AOC14

Soil HHERA for AOC 14 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC14 SOIL HHERA FOR AOC 14 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form. A thin white line runs diagonally across the shape, and a thin white horizontal line intersects it near the bottom.

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FIGURE

AOC14-1.1 Soil Sampling Locations AOC 14 Exposure Area

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- A Dataset and Exposure Point Concentration Calculations for the AOC 14 HHERA
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- D Dose and Risk Calculations for Ecological Receptors at AOC 14 Using Maximum Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

95UCL	95% upper confidence limit on the mean
µg/dL	microgram per deciliter
AOC	area of concern
Arcadis	Arcadis U.S., Inc.
B(a)PEQ	benzo(a)pyrene equivalent
BAF	bioaccumulation factor
BCa	bias-corrected accelerated
BCW	Bat Cave Wash
bgs	below ground surface
BNSF	Burlington Northern Santa Fe
BTAG	Navy/Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
BTV	background threshold value
CDI	chronic daily intake
CH2M	CH2M HILL
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CrVI	hexavalent chromium
CSM	conceptual site model
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
EC	exposure concentration
EcoSSL	Ecological Soil Screening Level
EPC	exposure point concentration
ERA	ecological risk assessment
FOD	frequency of detection
ft	foot/feet
GANDA	Garcia and Associates

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HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HNWR	Havasupai National Wildlife Refuge
HQ	hazard quotient
I-40	Interstate 40
ILCR	incremental lifetime cancer risk
KM	Kaplan-Meier mean
LMW	low molecular weight
LOAEL	lowest-observed adverse effects level
LOE	line of evidence
main report	Soil Human Health and Ecological Risk Assessment
mg/kg	milligram per kilogram
mg/kg-bw/day	milligram per kilogram body weight per day
NA	not applicable
ng/kg	nanogram per kilogram
NOAEL	no-observed adverse effects level
OCS	outside the compressor station
OEHHA	California Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
ORNL	Oak Ridge National Laboratory
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
QSAR	quantitative structure activity relationship
RAWP	Human Health and Ecological Risk Assessment Work Plan
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA Facility Investigation/Remedial Investigation Report
SUF	site use factor
SVOC	semivolatile organic compound

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SWMU	solid waste management unit
T&E	threatened and endangered
TCDD	tetrachlorodibenzo-p-dioxin
TCS	Topock Compressor Station
TEQ	toxicity equivalent
TEQ human	dioxin toxicity equivalents for humans
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	undesignated area
UCL	upper confidence limit
USBLM	U.S. Bureau of Land Management
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WOE	weight of evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern 14 (AOC 14) soil potential exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 14 potential exposure area, shown on Figure AOC14-1.1, is approximately 2.9 acres in total and includes sample locations shown in Table AOC14-1.1 of this appendix. Available soil data from the AOC 14 potential exposure area were used to conduct a quantitative HHERA as presented herein. A summary of the human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are presented in Sections 5 and 6, respectively, of the Soil Human Health and Ecological Risk Assessment Report for the TCS (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA or in general.

Descriptions of the physical location and characteristics of the AOC 14 potential exposure area and the HHERA methodologies are provided in the main report and the final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report, as well.

This appendix summarizes site use, data evaluation, potential receptors, exposure pathways, and the results of the HHERA risk characterization for soil in the AOC 14 potential exposure area. Tables and figures specific to the AOC 14 HHERA are also presented in this appendix.

1.1 Summary of Site Use

AOC 14, also referred to as the Railroad Debris Site is located approximately 1,000 feet (ft) north of the TCS and is currently bounded by the Burlington Northern Santa Fe (BNSF) railroad tracks to the north, Interstate 40 (I-40) to the south, Bat Cave Wash (BCW) to the west, and a former access road to the east. The primary plateau of AOC 14 is approximately 100 ft above the bottom of BCW. AOC 14 is located on property owned by the Havasu National Wildlife Refuge (HNWR), BNSF Railroad, U.S. Bureau of Land Management (USBLM), and Caltrans.

The Railroad Debris Site first appears in an aerial photograph dated 1947, before the establishment of the TCS, showing a mound of soil apparently related to construction of the rail line. In subsequent aerial photographs dated 1955, a white patch and other materials are present on this Railroad Debris Site along with a dirt road that runs from the north end of the TCS to this area. A white patch can be seen on aerial photographs from the same period (mid 1950s) on the ground adjacent to the sludge-drying beds (Solid Waste Management Unit [SWMU] 5). The white material is probably dehydrated lime (water softening) sludge from the Permutit water-conditioning system. Former employees report that the water softening sludge was trucked to the Railroad Debris Site and sprayed on the ground (CH2M HILL [CH2M] 2006). AOC 14 currently contains miscellaneous construction debris including chunks of asphalt, railroad ties, and piping. An asbestos removal action was completed in 1999, and sampling detected no remaining asbestos.

The Department of Toxic Substances Control (DTSC) field observations in 2009 identified scattered debris and a potential burn layer (visible in the I-40 road cut) in the southwest corner of AOC 14. During additional

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employee interviews conducted by Pacific Gas and Electric Company (PG&E) in late 2009 and early 2010, a former PG&E TCS employee reported periodic burning of primarily office garbage on the western edge of the AOC 14 bench area, as shown on Figure AOC14-1.1 of Appendix AOC14. The employee reported that AOC 14 was used for dumping and garbage burning until the freeway was built in the 1960s (PG&E 2010). Potential sources of dioxins and furans in the vicinity of the TCS may include historical industrial activities as well as other sources unrelated to TCS activities (i.e., unauthorized dumping and burning; regional wildfires; combustion of diesel and leaded gas; and exhaust from cars, trucks, and trains) (CH2M, 2017a). This area may also have contributed run-off to BCW.

Because some material is buried, constituents could also have affected shallow and subsurface soils in the immediate vicinity of the debris, water softening sludge, and/or residual burned material. Constituents released from debris located in the higher (eastern) portion of AOC 14 could also have been transported to the lower portions of the unit through surface runoff. Primary source media therefore consist of surface, shallow, and subsurface soils.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 14 HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 14 potential exposure area.

All soil sampling locations at the AOC 14 potential exposure area are presented on Figure AOC14-1.1 and in Table AOC14-1.1. Note that although location RR-1 falls outside the potential exposure area boundary for AOC 14, data from this sampling location were included in the AOC 14 potential exposure area dataset because they were collected to support site characterization for this AOC (i.e., assigned to AOC 14 in the forthcoming Draft Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) Report Volume 3, currently being prepared by Jacobs). The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Draft RFI/RI Report Volume 3 (currently being prepared by Jacobs). For the baseline scenario, only soil data from 0 to 10 ft below ground surface (bgs) are typically included in the HHERA. Because potential soil contact does not extend below 10 ft bgs for the baseline scenario, deeper soil data (i.e., greater than 10 ft bgs) were excluded from the risk evaluation, as noted in Table AOC14-1.1.

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. For the AOC 14 potential exposure area, available soil data are presented in Attachment AOC14-A1. For the AOC 14 potential exposure area, soil data are available from 164 samples, of which soil data from 144 samples from 0 to 10 ft bgs were considered for use in the HHERA. Because potential soil contact does not extend below 10 ft bgs, deeper soil data (i.e., greater than 10 ft bgs), from 20 samples were excluded from the baseline evaluations as noted in Table AOC14-1.1.

Within this dataset, analytical results for four organic compounds (2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, benzoic acid, and hexachlorocyclopentadiene) in a single sample (AOC14-20-8138) received an “R” data qualifier, therefore, these results were rejected from the HHERA. Methods used to process the data for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo(a)pyrene equivalent [B(a)PEQ], polychlorinated biphenyls [PCBs], and dioxin/furan toxicity equivalents [TEQ]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 14 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for AOC 14) as presented in Attachment AOC14-A1. Metals, LMW PAHs, HMW PAHs, and dioxin TEQ were above background levels in AOC 14 soil (0 to 10 ft bgs) and, therefore, are included as COPCs and/or COPECs in the baseline exposure depths evaluated in the HHERA. All other detected organic constituents in AOC 14 potential exposure area soil in the baseline exposure depths are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios evaluated in the AOC 14 HHERA are summarized in Tables AOC14-2.1a through AOC14-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 14 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 14 exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC14-A2. The summary statistics for these AOC 14 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to ecological receptors (i.e., hazard quotient [HQ] > 1 for any COPEC). For the AOC 14 potential exposure area, area-weighted EPCs were deemed necessary for either the HHRA or the ERA and, therefore, were evaluated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC14-A3.

Soil summary statistics for constituents measured at the AOC 14 potential exposure area¹ and detected at least once and depth- and area-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed above are presented in Table AOC14-3.1. If the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset. Table AOC14-3.1 also presents the basis of the calculated depth- and area-weighted EPCs, including if the EPC is based on the maximum detected concentration.

In some cases, the area-weighted EPCs are greater than the depth-weighted EPCs for some COPCs in this potential exposure area. In such cases depth-weighted EPCs are based on an upper confidence limit (UCL) method (Land's H-UCL) that can produce unstable results. Depending on the underlying data distribution, Land's H-UCL values can overestimate or underestimate the true expected UCL value (U.S. Environmental Protection Agency [USEPA] 2015). The UCL method used to calculate the area-weighted EPC (bias-corrected

¹ The list of constituents shown in the Section 3 tables is based on analytes that were detected at least once at the site (including all potential exposure areas inside or outside the TCS) and measured at AOC 14.

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accelerated [BCa] Bootstrap) is resistant to such effects and provides a more reliable estimate of the UCL. This issue is discussed in further detail in Section 5.6.3 of the main report.

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach; presents the COPCs, EPCs, risk and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 14 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for human health receptors at the AOC 14 potential exposure area are presented in Attachment AOC14-B.

Risks/hazards estimated for an individual AOC/SWMU/undesignated area (UA) potential exposure area like AOC 14 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in AOC 14 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the AOC 14 potential exposure area. The receptors and potential exposure pathways evaluated for the AOC 14 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and volatile organic compound (VOC) vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult campers, hikers, hunters, and off-highway vehicle [OHV] riders)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 14 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. The COPC selection process using soil data

encompassing all relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for the AOC 14 potential exposure area) are presented in Attachment AOC14-A. COPCs for the four exposure depths and one scenario (baseline) evaluated for the AOC 14 HHRA are summarized in Table AOC14-4.1 (details are presented in Tables AOC14-2.1a through AOC14-2.1d).

COPCs included metals (antimony, hexavalent chromium, copper, lead, mercury, and thallium), inorganics (nitrate and phosphate), semivolatile organic compounds (SVOCs) (4-methylphenol, bis [2-ethylhexyl] phthalate, and butylbenzenephthalate), PAHs, pesticides (4,4-dichlorodiphenyldichloroethylene [4,4-DDE] and 4,4-dichlorodiphenyltrichloroethane [4,4-DDT]), PCBs, total petroleum hydrocarbon (TPH) as diesel, TPH as motor oil, and dioxin TEQ in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC14-A. Depth- and area-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables AOC14-4.2a through AOC14-4.2h and Tables AOC14-4.3a through AOC14-4.3d, respectively, for the four exposure depths.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Workers** – surface, shallow, subsurface I and subsurface II soil
- **Recreational Users (child and/or adult campers, hikers, hunters, and OHV riders)** – surface and shallow soil
- **Tribal Users** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values using depth-weighted EPCs are presented in Tables AOC14-B1.1a through AOC14-B1.1g (carcinogenic effects) and Tables AOC14-B1.2a through AOC14-B1.2g (noncarcinogenic effects) in Attachment AOC14-B1 for the receptors evaluated. The calculated EC and CDI values using area-weighted EPCs are presented in Table AOC14-B2.1a (carcinogenic effects) and Table AOC14-B2.2a (noncarcinogenic effects) in Attachment AOC14-B2 for the receptors. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in

Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to DTSC guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For human receptors, assuming lifetime soil exposure is limited to AOC 14 potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} . Note that risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (USEPA 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC14-4.4 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the AOC 14 potential exposure area, calculated using depth-weighted EPCs. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC14-B1.3a through AOC14-B1.3g) and noncancer hazard calculations (Tables AOC14-B1.4a through AOC14-B1.4g) are presented in Attachment AOC14-B1.

Risk/hazard estimates for the AOC 14 potential exposure area are summarized in the tables and discussed below. Assuming lifetime soil contact is limited to AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for each receptor potentially exposed to COPCs in AOC 14 soil at all exposure depths are at or below the *de minimis* levels of 1×10^{-6} and 1, respectively, for the short-term maintenance worker, camper, hiker, hunter, OHV rider, and tribal user. Risk estimates for potential soil contact limited to the AOC 14 potential exposure area for lifetime exposure are above *de minimis* levels but within the acceptable risk management range for long-term maintenance workers.

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	5E-08	NA	0.01	NA
	Shallow	2E-07	NA	0.6	NA
	Subsurface I	2E-07	NA	0.7	NA
	Subsurface II	1E-07	NA	0.5	NA
Long-Term Maintenance Worker	Surface	4E-07	NA	0.003	NA
	Shallow	2E-06	CrVI (6E-07) TEQ human (2E-06)	0.1	NA
	Subsurface I	2E-06	CrVI (8E-07) TEQ human (1E-06)	0.2	NA
	Subsurface II	1E-06	NA	0.1	NA

Notes:

CrVI = hexavalent chromium

NA = Not applicable. ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

TEQ human = dioxin toxicity equivalents for humans

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs for the short-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions (Table AOC14-B1.3a).

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in AOC 14 surface and subsurface II soil are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions (Table AOC14-B1.3b). However, the depth-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in shallow and subsurface I soil are two-times above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this receptor, risk estimates above *de minimis* levels were primarily attributed to dioxin TEQ in soil via the dermal contact and soil ingestion pathways and to hexavalent chromium in soil via the inhalation of particulates pathway (Table AOC14-B1.3b).

Elevated concentrations of dioxin TEQ appear to be localized in the area around sampling locations AOC14-14W and AOC14-19. These two locations have the two highest concentrations of dioxin TEQ detected in AOC 14 soil. Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted estimated cumulative ILCRs for the long-term maintenance worker were estimated, as discussed below in Section 4.6.2.

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Assuming that lifetime soil contact is limited to AOC 14 potential exposure area, the depth-weighted estimated cumulative HIs for the short- and long-term maintenance workers (Table AOC14-B1.4a and Table AOC14-B1.4b, respectively) potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are below an HI of 1. The depth-weighted EPCs for lead in AOC 14 potential exposure area soil at surface shallow, subsurface I, and subsurface II exposure depths under the baseline scenario are not expected to result in an increase in blood lead levels above the California Office of Environmental Health Hazard Assessment (OEHHA) benchmark value of 1 microgram per deciliter ($\mu\text{g}/\text{dL}$) in the fetus of a short- or long-term maintenance worker (Table AOC14-B1.5a and Table AOC14-B1.5b, respectively).

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	7E-08	NA	0.004	NA
	Shallow	7E-07	NA	0.2	NA
Hiker	Surface	1E-07	NA	0.009	NA
	Shallow	1E-06	NA	0.5	NA
Hunter	Surface	2E-08	NA	0.001	NA
	Shallow	2E-07	NA	0.02	NA
OHV Rider	Surface	2E-07	NA	0.002	NA
	Shallow	1E-06	NA	0.08	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs for the camper, hiker, hunter, and OHV rider (Tables AOC14-B1.3c thru AOC14-B1.3f) potentially exposed to COPCs in surface and shallow soil are at or below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions.

Assuming lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative HIs for the camper, hiker, hunter, and OHV rider (Tables AOC14-B1.4c through AOC14-B1.4f) potentially exposed to COPCs in surface and shallow soil are below an HI of 1. The depth-weighted EPCs for lead in AOC 14 potential exposure area surface and shallow soil are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of $1 \mu\text{g}/\text{dL}$ for child recreational users and the fetus of a hunter (Tables AOC14-B1.5c through AOC14-B1.5i).

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	1E-09	NA	0.00009	NA
	Shallow	1E-09	NA	0.0001	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for the tribal user potentially exposed to COPCs in surface and shallow soil (Tables AOC14-B1.3g and AOC14-B1.4g) are below the *de minimis* levels of 1×10^{-6} , the point of departure for risk management decisions and HI of 1, respectively.

4.6.2 Risk Characterization for Exposure to Soil (Baseline Scenario and Area-Weighted EPCs)

Table AOC14-4.5 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the AOC 14 potential exposure area, calculated using area-weighted EPCs, for potential receptors where the depth-weighted estimated cumulative ILCRs and HIs were above 1×10^{-6} and/or 1, respectively. Therefore, area-weighted ILCRs and HIs were provided for the long-term maintenance worker. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Table AOC14-B2.3a) and noncancer hazard calculations (Table AOC14-B2.4a) are presented in Attachment AOC14-B2.

The area-weighted estimated cumulative ILCRs and HIs for the long-term maintenance worker are summarized in the table below. The area-weighted estimated cumulative ILCRs and HIs for the long-term maintenance worker potentially exposed to COPCs in soil at all exposure depths are at or below the *de minimis* levels of 1×10^{-6} and 1, respectively, assuming that lifetime soil contact is limited to AOC 14 potential exposure area.

In general, the area-weighted approach resulted in a reduction in the risk or hazard estimates ranging from 1.2 to 1.5 times lower than the depth-weighted estimates. Furthermore, the area-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil are not expected to result in an increase in blood lead levels above the OEHHa benchmark value of $1 \mu\text{g/dL}$ in the fetus of a long-term maintenance worker (Table AOC14-B2.5a).

Maintenance Workers

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Long-Term Maintenance Worker	Surface	4E-07	NA	0.003	NA
	Shallow	1E-06	NA	0.1	NA
	Subsurface I	1E-06	NA	0.2	NA
	Subsurface II	9E-07	NA	0.1	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

4.6.3 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 14 potential exposure area are discussed below.

Additional uncertainties for the AOC 14 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC14-3.1.

For the AOC 14 potential exposure area, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: one metal (mercury), SVOCs (bis[2-ethylhexyl] phthalate and 4-methylphenol), one PAH (phenanthrene), and pesticides (4,4-DDE and 4,4-DDT)
- Shallow soil: metals (antimony, mercury, and thallium), VOCs (bromomethane, chloroform, chloromethane, and methyl acetate), SVOCs (bis[2-ethylhexyl] phthalate and 4-methylphenol), PAHs (acenaphthylene and anthracene), pesticides (4,4-DDE and 4,4-DDT), total PCBs, and inorganics compounds (nitrate and phosphate)
- Subsurface I soil: metals (antimony, mercury, and thallium), VOCs (bromomethane, chloroform, chloromethane, and methyl acetate), SVOCs (bis[2-ethylhexyl] phthalate and 4-methylphenol), PAHs (acenaphthylene, anthracene, and dibenzo[a,h]anthracene), pesticides (4,4-DDE and 4,4-DDT), total PCBs, and inorganics compounds (nitrate and phosphate)

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- Subsurface II soil: metals (antimony, mercury, and thallium), VOCs (bromomethane, chloroform, chloromethane, and methyl acetate), SVOCs (bis[2-ethylhexyl] phthalate, butylbenzylphthalate, and 4-methylphenol), PAHs (acenaphthylene, anthracene, and dibenzo[a,h]anthracene), pesticides (4,4-DDE and 4,4-DDT), total PCBs, and inorganics compounds (nitrate and phosphate).

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs listed above may not appropriately represent exposures and resulting risks/hazards. This approach to estimating EPCs does not materially impact the results of the HHRA because the AOC 14 potential exposure area COPCs are not risk drivers at the site due to their low frequency of detection and/or fewer than eight observations.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach; presents the COPECs, EPCs, dose, and risk tables for the AOC 14 ERA; and characterizes potential risk to ecological receptors exposed to COPECs in soil at the AOC 14 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the AOC 14 ERA based on risk calculations conducted using depth-weighted EPCs and area-weighted EPCs are presented in Attachment AOC14-C and described below.

Per the RAWP (Arcadis 2008) and DTSC guidance (1996), ecological risks were also calculated using maximum depth-weighted concentrations and presented in Attachment AOC14-D. Risks estimated using maximum depth-weighted concentrations are considered overly conservative and generally used for screening level purposes. Use of maximum concentrations are not recommended for use in the risk management decisions at the AOC 14 potential exposure area, where the area has been adequately characterized and data are available to estimate UCLs. Therefore, the risk results based on maximum depth-weighted concentrations are presented (Attachment AOC14-D) but are not discussed in this section.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for receptors exposed to COPECs in soil at the AOC 14 potential exposure area. These included plants, invertebrates, and small home-range receptors as follows:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammalian indicator receptors evaluated in this ERA for the AOC 14 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations exposed to surface, shallow and/or subsurface I soil (incidental and through biota uptake)
 - **Desert Shrew** – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the AOC 14 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake)
 - **Gambel's Quail** – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these exposure pathways are identified and described in Section 6.3 of the main report.

Large home-range receptors (desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs/investigation areas) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the AOC 14 potential exposure area were estimated and characterized as part of the evaluation of all AOCs outside the compressor station (OCS) and AOCs/investigation area outside the compressor station excluding BCW and AOC4 (OCSxBCW+AOC4); please see Appendix OCS and Appendix OCSxBCW+AOC4 for risk estimates for large home-range receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the Topock site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Although potential habitat exists for special-status² species at or near the site, none have been recorded as observed at the AOC 14 potential exposure area. The primary vegetation present at the AOC 14 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed T&E or rare plants or candidates for listing were found at the Topock site, including the AOC 14 potential exposure area.

Several species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E species or candidates for listing were observed at the AOC 14 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical receptors at the site within that group, use of no-effects based toxicity values, etc.) were used to assess risks to a wide range of receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 14 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 14 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC14-A1.

² Special-status species include both state- and federal-listed fully protected T&E species, state/federal species of concern, and traditional culturally significant plants; however, protection at the NOAEL is warranted only for fully protected species.

Because an ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by ecological receptors in the baseline exposure scenario. Additionally, essential nutrients (e.g., calcium, potassium, etc.) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate, etc.), are not typically evaluated in ERAs and were not selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC14-5.1.

COPECs included metals (antimony, hexavalent chromium, copper, lead, mercury, and thallium), SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), LMW PAHs, HMW PAHs, pesticides (4,4-DDT and 4,4-DDE), PCBs, dioxin TEQ (for wildlife receptors only), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD; for ecological communities only). TPHs were also identified as COPECs; however, due to lack of appropriate toxicity values to evaluate TPHs for ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs) if detected, were used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix.

For the AOC 14 potential exposure area, risks to ecological receptors were estimated using depth-weighted EPCs and area-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC14-A2. Area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC14-A3.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in Section 6.4 and shown on Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each receptor are presented in Table AOC14-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table AOC14-5.3 for the baseline scenario and the representative soil and/or biota EPCs identified for the baseline risk calculations are bolded in this table. Of the COPECs identified at the AOC 14 potential exposure

area for the baseline scenario, antimony, thallium, and PCBs were not detected in surface soil; therefore, risks for these COPECs to receptors only exposed to surface soil were not estimated. These include soil invertebrates, invertivorous mammals (desert shrew), and insectivorous birds (cactus wren). For the granivorous bird (Gambel's quail), risks from antimony, thallium, and PCBs were estimated only from diet.

Similarly, area-weighted soil EPCs and biota tissue EPCs calculated from area-weighted soil EPCs are presented in Table AOC14-5.4 for the baseline scenario. The representative soil and/or biota EPCs identified for the risk calculations are bolded in this table.

Per the RAWP (Arcadis 2008) and DTSC guidance (1996), risk calculations based on both the maximum depth-weighted concentration and the UCL for each COPEC are required. As mentioned earlier in this section, using the maximum depth-weighted concentrations results in overly conservative risks and is not recommended for risk management decisions. The estimated risks based on maximum depth-weighted concentrations are presented in Attachment AOC14-D but results are not discussed in this report.

5.4 Estimation of Exposure Concentration or Dose

Exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (e.g., in units of milligrams per kilogram [mg/kg]). Exposures for wildlife (mammals and birds) are quantified as doses (e.g., in units of mg/kg body weight per day [mg/kg-bw/day]). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or are assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the AOC 14 potential exposure area for the baseline scenario and are presented in Table AOC14-5.3. Area-weighted EPCs for the baseline scenario are presented in Table AOC14-5.4.

For wildlife, doses were calculated using the exposure parameters and equations presented in Section 6.4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the AOC 14 potential exposure area, as presented in Table AOC14-5.3 for the depth-weighted risk evaluations, and area-weighted soil and biota tissue EPCs as presented in Table AOC14-5.4 for the area-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC14-C. Dose calculations using area-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are also presented in Attachment AOC14-C. Dose calculations using maximum depth-weighted concentrations for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC14-D.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to ecological receptors potentially exposed to COPECs in soil and biota tissue at the AOC 14 potential exposure area. The screening values for plants and soil invertebrates are discussed in Section 6.5 of the main report and presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the NOAEL-based TRVs and lowest-observed adverse effects level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop the USEPA Ecological Soil Screening Levels (EcoSSLs; USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (ORNL; Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-TRVs³ based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009) were also used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in the main report Tables 6-7 and 6-8, respectively.

Plant screening values are not available for dioxins; soil invertebrate screening values are not available for thallium; avian TRVs are not available for antimony and 4-methylphenol; and mammalian TRVs are not available for 4-methylphenol. Therefore, risks to these receptors from exposure to these specific COPECs could not be estimated. In addition, appropriate screening values and TRVs are not available for TPHs. Therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the AOC 14 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both of those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimates (HQs) involved integrating exposure profiles with the exposure-effects information. For each receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are discussed below for interpreting the risk results and identifying potential unacceptable risk to ecological receptors. Uncertainties specific to the AOC 14 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.7 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC with respective screening values and these HQs were compared to the target HQ of 1. Following USEPA guidance (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach using multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to plants and invertebrates.

³ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily lowest observed adverse effect levels. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

- COPECs with HQs greater than 1 indicate unacceptable risk to plants and invertebrates is possible. However, exceedances of the screening values (which are conservative and are generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection (FOD), site use history, and confidence in the screening values was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, possible risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: (1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); (2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOEs to support a conclusion of no unacceptable risk); or (3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs previously identified in the RAWP documents (Arcadis 2008, 2009, 2015). The HQs based on LOAEL-based TRVs selected in the RAWP are referred to as “LOAEL-based HQs.” HQs based on NOAEL-based TRVs selected in the RAWP are referred as “NOAEL-based HQs.” Additionally, NOAEL and LOAEL HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The BTAG NOAEL-based TRVs are considered very conservative, resulting in a wide range of risk estimates for wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at the AOC 14 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1, but LOAEL-based HQs less than or equal to 1 pose no unacceptable risks to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study and the nature and magnitude of the effects, if any, that may occur at exposures between these values is unknown. In such cases, a WOE approach, including multiple LOEs, were used in reducing uncertainty for characterizing potential risk to individual wildlife receptors.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach (including an alternate target HQ of 10 for dioxin TEQ)⁴ was used in reducing uncertainty for characterizing potential risk to wildlife populations at the BCW exposure area, as described in the preceding bullet.

⁴ For dioxin TEQ, the selected bioaccumulation factors (BAFs) and TRVs result in significant overestimation of risk for key wildlife receptors, primarily for invertivorous small mammals and insectivorous birds. Due to the compounded conservatism in the risk estimates for dioxin TEQ,

- NOAEL-based HQs greater than 1 are considered one LOE in assessing potential risk to sensitive species, if present in this exposure area. Evaluation of T&E species for the AOC 14 potential exposure area is characterized in Section 5.1.1.

Ultimately three risk outcomes for wildlife are possible based on the HQs greater than 1 and WOE: (1) unacceptable risk to individual wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs); (2) unacceptable risk to wildlife is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or (3) unacceptable risk to wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOEs in reaching the WOE conclusions.

For the AOC 14 potential exposure area, evaluations were completed for the following scenarios and discussed in this section:

- Baseline scenario using depth-weighted EPCs
- Baseline scenario using area-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables AOC14-5.5a through AOC14-5.6b. However, risk results for only a subset of the COPECs were discussed in the evaluations using area-weighted EPCs. For plants and soil invertebrates, COPECs with HQs greater than 1 based on the depth-weighted EPC were discussed in the evaluations using area-weighted EPCs. For wildlife (i.e., birds and mammals), COPECs with NOAEL-based HQs greater than 1 based on the depth-weighted EPC and species- and site-specific site use factor (SUF) were discussed in the area-weighted EPC evaluations. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community/population-level risk was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs).

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) estimated for the baseline scenario using depth-weighted EPCs are summarized in this section. Detailed risk calculations for plants and soil invertebrates (Table AOC14-C.1) and detailed dose and risk calculations for wildlife (Tables AOC14-C.2 through AOC14-C.5) are presented in Attachment AOC14-C. COPECs identified at the AOC 14 potential exposure area for the baseline scenario include six metals, two SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), TPHs, LMW and HMW PAHs, two pesticides (4,4-DDE and

HQs greater than 10 were considered to pose unacceptable risk. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are presented in Sections 6.4.3 and 6.5.2 of the main report, respectively. These alternate BAFs and TRVs are based on current understanding of uptake and toxicity of TEQ mixtures and represent an additional LOEs considered for dioxin TEQ. As a result, a target LOAEL HQ of 10 for dioxin TEQ was used. Uncertainty in the risk estimates for dioxin TEQ is discussed in detail in Section 6.7.6.

4,4-DDT), PCBs, dioxin TEQ in soil (for wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) (Table AOC14-5.1). Potential risk to receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table AOC14-5.5a summarizes the HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 14 potential exposure area for the baseline scenario using depth-weighted EPCs.

Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are greater than 1 for antimony, copper, lead, mercury, thallium, and HMW PAHs based on the highest EPC value from the shallow, surface, and subsurface I depth intervals. HQs for remaining COPECs are less than 1 for plants, indicating *de minimis* risk to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). Antimony, thallium, and PCBs were not detected in surface soil; therefore, risks for these COPECs to soil invertebrates were not estimated. For soil invertebrates, HQs are greater than 1 for mercury and 4-methylphenol based on exposure to surface soil only. HQs for remaining COPECs are less than 1 for soil invertebrates, indicating *de minimis* risk to soil invertebrates from exposure to these COPECs.

For antimony, the plant HQ is greater than 1. Antimony was not detected in surface soil (0 to 0.5 ft bgs) and was detected at only two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs) and two of 27 locations in subsurface I soil (FOD = 7% in 0 to 6 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from shallow soil (0 to 3 ft bgs) is based on the maximum depth-weighted concentration of 19 mg/kg and was used as the depth-weighted EPC (the highest EPC) to evaluate potential risk to plants from exposure to antimony. However, the average shallow soil depth-weighted concentration across the AOC 14 potential exposure area of 1.782 mg/kg (Kaplan-Meier [KM] mean) results in an HQ of less than 1 for plants. A background value is not available for antimony, as antimony was not detected in the background dataset. For plants, the antimony screening level is 5 mg/kg and based on a secondary report citing unspecified toxic effects on plants (Efroymson et al. 1997a); the report notes that no primary reference data are available for antimony and assign a low confidence in the screening benchmark. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Based on the low FOD for antimony and low confidence in the screening value, unacceptable risk to plant communities is considered unlikely at the AOC 14 potential exposure area.

For copper, the plant HQ is greater than 1. Copper was detected in 100% of sample locations in the surface soil (0 to 0.5 ft bgs), shallow soil (0 to 3 ft bgs), and subsurface I soil (0 to 6 ft bgs). The depth-weighted EPC for copper from shallow soil (0 to 3 ft bgs) was used to evaluate potential risk to plants (the highest EPC) from exposure to copper in soil. The depth-weighted concentrations for copper are greater than background (16.8 mg/kg) in six of the total 48 shallow soil locations. The depth-weighted EPC for copper in shallow soil (223 mg/kg) is considered elevated compared with background (i.e., exceeding background by approximately 13 times). Background HQ for copper based on the 95% UCL on the mean (95UCL) background concentration is less than 1. The high copper EPC is due primarily to depth-weighted concentrations in two locations (438 mg/kg at AOC14-16W and 1,800 mg/kg at AOC14-19). The plant screening value (70 mg/kg) is considered relatively robust, as it is based on an ample dataset representing multiple species and is above background concentrations. Although the plant screening level for copper is considered robust for prediction of toxicity to

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plants, based on the low HQ and limited spatial extent of elevated concentrations, unacceptable risk to plant communities is considered unlikely.

For lead, the plant HQ is greater than 1. Lead was detected in 100% of sample locations in the surface soil (0 to 0.5 ft bgs), shallow soil (0 to 3 ft bgs), and subsurface I soil (0 to 6 ft bgs). The depth-weighted EPC for lead from shallow soil (0 to 3 ft bgs) was used to evaluate potential risk to plants (the highest EPC) from exposure to lead in soil. The depth-weighted concentrations for lead are greater than background (8.39 mg/kg) in nine of the total 24 shallow soil locations. The depth-weighted EPC for lead in shallow soil (364 mg/kg) is considered elevated compared with background (i.e., exceeding background by approximately 43 times). Background HQ for lead based on the 95UCL background concentration is less than 1. Similar to copper, the high lead EPC is due primarily to depth-weighted concentrations in one location (1,600 mg/kg at AOC14-19). The plant screening level (120 mg/kg) is considered robust as it is based on multiple studies representing four species and various soil exposure conditions and is greater than background concentrations. Although the screening level for lead is considered robust for prediction of toxicity to plants, based on the low HQ and limited spatial extent of elevated concentrations, unacceptable risk to plant communities is considered unlikely.

For mercury, the HQs for plants and soil invertebrates are greater than 1. Mercury was detected in only one of 23 locations in surface soil (FOD = 4% in 0 to 0.5 ft bgs), two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs) and three of 27 locations in subsurface I soil (FOD = 11% in 0 to 6 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from subsurface I soil (0 to 6 ft bgs) is based on the maximum depth-weighted concentration of 102 mg/kg and was used as the depth-weighted EPC (the highest EPC) to evaluate potential risk to plants from exposure to mercury. For the 0 to 6 ft bgs interval, the maximum concentration (102 mg/kg at AOC14-16W) is much higher than the depth-weighted concentrations at the other two locations with detected mercury (0.15 mg/kg at AOC14-SS1 and 0.078 mg/kg at AOC14-14W).

The maximum depth-weighted concentration of 0.41 mg/kg for mercury and was used as the depth-weighted EPC to evaluate potential risk to soil invertebrates. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Mercury was not detected in the background dataset; therefore, a background value could not be developed for comparison. However, aside from the maximum depth-weighted concentration, the remaining locations had depth-weighted concentrations near or below the reporting limit. The screening values for plants (0.3 mg/kg) and soil invertebrates (0.1 mg/kg) are based on a limited number of studies and the screening value for soil invertebrates is based on different forms of mercury. Based on the two studies available which use different systems and earthworm species, it was not possible to evaluate the relative toxicity of forms of mercury. Efroymson et al. (1997a, b) indicate that there is low confidence in the screening values and the ability to predict toxicity to plants and soil invertebrates. Based on the low FOD for mercury and low confidence in the screening values, unacceptable risk to plant and soil invertebrate communities is considered unlikely at the AOC 14 potential exposure area.

For thallium, the HQ for plants was greater than 1. Thallium was not detected in surface soil (0 to 0.5 ft bgs) and was detected at only two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs) and two of 27 locations in subsurface I soil (FOD = 7% in 0 to 6 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from subsurface I soil (0 to 6 ft bgs) based on the maximum depth-weighted concentration of 1.85 mg/kg was used as the depth-weighted EPC (the highest EPC) to evaluate potential risk to plants from exposure to thallium. For areas where a constituent is largely not

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detected, use of a maximum concentration as the EPC may not appropriately characterize risk. The magnitude of the HQ is low and is based on a plant screening value (1 mg/kg) considered to be uncertain, as it is based on unspecified effect in plants reported in a secondary reference, as cited in Efroymsen et al. (1997a). Thallium was not detected in the background dataset; therefore, a background value could not be developed. Based on the low FOD for thallium and low confidence in the screening value, unacceptable risk to plant communities is considered unlikely at the AOC 14 potential exposure area.

For HMW PAHs, the HQ for plants was greater than 1. HMW PAHs were frequently detected in surface soil (FOD = 48% in 0 to 0.5 ft bgs), shallow soil (FOD = 59% in 0 to 3 ft bgs), and subsurface I soil (FOD = 60% in 0 to 6 ft bgs). The depth-weighted EPC for HMW PAHs from surface soil (0 to 0.5 ft bgs) was used to evaluate potential risk to plants (the highest EPC) from exposure to HMW PAHs in soil, but EPCs were lower (approximately 2 to 3 times lower than surface soil) at deeper intervals. The depth-weighted concentrations for HMW PAHs are greater than background (0.0376 mg/kg) in six of the total 21 surface soil locations but exceeded the plant screening value (1.2 mg/kg) at only two locations. The depth-weighted EPC for HMW PAHs in surface soil (4.33 mg/kg) is considered elevated compared with background (i.e., exceeding background by approximately 117 times). The high EPC is primarily due to elevated concentrations in one location (8.07 mg/kg at AOC14-14W). The screening level (1.2 mg/kg) cited in USEPA (1999) for benzo(a)pyrene and benzo(b)fluoranthene is based on a reported chronic no-effects concentration (Sims and Overcash 1983). Reduced stem growth was observed in summer wheat at 6.254 mg/kg, but no effects were seen on rye plants at this concentration. The plant toxicity data cited in Sims and Overcash (1983) were not included in the plant EcoSSL; no sufficient studies were identified by USEPA to calculate a plant EcoSSL for HMW PAHs (USEPA 2007). As such, there is low confidence in the selected plant screening value to predict toxicity to plants exposure to mixtures of HMW PAHs at the site. The authors also note that the most important source of PAHs for plants is the atmosphere where they enter via the gaseous phase or deposit bound to particles on the plant surface (Sims and Overcash 1983; USEPA 2007). Thus, the relevance of the soil exposure pathway for plants at the AOC 14 potential exposure area is uncertain. Additionally, the HQ is low in magnitude. Based on the risk results and discussion above, unacceptable risk to plant communities from exposure to HMW PAH is considered uncertain.

For 4-methylphenol, the HQ for soil invertebrates was greater than 1. 4-methylphenol was detected in only one of 21 locations in surface soil (FOD = 5% in 0 to 0.5 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from surface soil (0 to 0.5 ft bgs) is based on the maximum depth-weighted concentration of 0.43 mg/kg (at AOC14-2) and was used as the depth-weighted EPC to evaluate potential risk to soil invertebrates from exposure to 4-methylphenol. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Because a conventional screening value was not available for 4-methylphenol, the screening value for soil invertebrates (0.08 mg/kg) is based on an equilibrium partitioning model as presented in USEPA (2015). The screening level is calculated assuming equilibrium partitioning between the moisture (i.e., water) and organic carbon in soil and uses toxicity thresholds for water from published water quality benchmarks when available (as is the case for 4-methylphenol) or estimated using various quantitative structure activity relationship (QSAR) models (such as the USEPA's Ecological Structure Activity Relationships [2012]). The screening levels assume similar sensitivity of aquatic organisms and soil invertebrates. A silty clay loam texture classification for the soil type was used by USEPA (2015), which is not representative of site conditions. Based on the approach and assumptions used to calculate the screening level, there is low confidence in the ability of this screening level to predict toxicity to soil invertebrates. Based

on the low FOD and low confidence in the screening level for 4-methylphenol, unacceptable risk to soil invertebrate communities is considered unlikely at the AOC 14 potential exposure area.

For TPH mixtures, individual constituents were used to characterize potential risks to plants and invertebrates. BTEX were not detected in any samples (Attachment AOC14-A1) and HQs for LMW and HMW PAHs for soil invertebrates are less than 1, indicating no unacceptable risk for soil invertebrates from TPH. For plants, the LMW PAH HQ is less than 1, but the HQ for plants exposed to HMW PAHs is greater than 1. As discussed above for HMW PAHs, unacceptable risk to plants is uncertain for PAHs. Therefore, unacceptable risk to plants from exposure to TPHs at the AOC 14 potential exposure area is also considered uncertain.

To summarize, based on the risk results and WOE, unacceptable risk to plants from exposure to HMW PAHs/TPHs in soil at the AOC 14 potential exposure area is uncertain; and unacceptable risk to plant communities from exposure to antimony, copper, lead, mercury, and thallium is unlikely. For soil invertebrate communities, unacceptable risk from exposure to mercury and 4-methylphenol in soil at the AOC 14 potential exposure area is unlikely as well, based on the low FOD and uncertainties associated with the screening levels.

No unacceptable risk to plant and invertebrate communities is expected from remaining inorganic COPECs with available screening values (hexavalent chromium, 4-methylphenol, bis [2-ethylhexyl] phthalate, LMW PAHs, 4,4-DDT, 4,4-DDE, and PCBs for plants; and hexavalent chromium, copper, lead, bis [2-ethylhexyl] phthalate, HMW and LMW PAHs, 4,4-DDT, 4,4-DDE, PCBs, and 2,3,7,8-TCDD for soil invertebrates). Based on the risk estimates and potential uncertainties associated with the baseline risk using depth-weighted EPCs, antimony, copper, lead, mercury, thallium, and HMW PAHs were further evaluated for plants, and mercury and 4-methylphenol were further evaluated for soil invertebrates using area-weighted EPCs as discussed in Section 5.6.2.

5.6.1.2 Small Mammals

For the AOC 14 potential exposure area, baseline risks were estimated for mammals using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using Selected TRVs

Table AOC14-5.5a summarizes HQs estimated for small mammals at the AOC 14 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Merriam's Kangaroo Rat (granivorous small mammal):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based

HQs in soil are less than 1 for all COPECs except antimony and mercury. The potential risks from COPECs with HQs greater than 1 are characterized below and the HQs for these COPECs are summarized in a table at end of this subsection for small mammals. TRVs are not available for TPHs; however, risks to these receptors are characterized below based on PAHs as indicator chemicals as described previously.

- For antimony, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous small mammals is expected; however, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Antimony was not detected in surface soil (0 to 0.5 ft bgs) and was detected at only two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from shallow soil (0 to 3 ft bgs) based on the maximum depth-weighted concentration of 19 mg/kg and was used as the depth-weighted EPC (the highest EPC from surface, shallow, and subsurface I soil) to evaluate potential risk to Merriam's kangaroo rat from exposure to antimony. The magnitude of the HQ is low; however, for areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Antimony was not detected in the background dataset; therefore, a background value could not be developed for comparison. Additionally, there is uncertainty in the TRVs for antimony. The selected LOAEL TRV (0.59 mg/kg-bw/day) is based on the paired value from the selected NOAEL (0.059 mg/kg-bw/day) in a study by Rossi et al. (1987) reported in the EcoSSL guidance. Other studies cited in the EcoSSL and ORNL guidance indicate the selected TRVs are the most conservative. ORNL (Sample et al. 1996) reports a LOAEL TRV of 1.25 mg/kg-bw/day. The EcoSSL guidance (USEPA 2007) reports paired LOAEL values ranging from 42 mg/kg-bw/day to 835 mg/kg-bw/day, which are orders of magnitudes greater than the selected LOAEL. Potential risk to Merriam's kangaroo rat from exposure to antimony is likely overestimated.
- For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous small mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Mercury was detected in only one of 23 locations in surface soil (FOD = 4% in 0 to 0.5 ft bgs), two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs), and three of 27 locations in subsurface I soil (FOD = 11% in 0 to 6 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the depth-weighted EPC from subsurface I soil (0 to 6 ft bgs) is based on the maximum depth-weighted concentration of 102 mg/kg and was used as the depth-weighted EPC (as it was the highest EPC) to evaluate potential risk to Merriam's kangaroo rat from exposure to mercury. The magnitude of the HQ is low; however, for areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Mercury was not detected in the background dataset; therefore, a background value could not be developed for comparison. However, aside from the maximum depth-weighted concentration, the remaining locations had depth-weighted concentrations near or below the reporting limit.
- The selected BTAG TRVs (DTSC 2009) are based on reproductive and developmental effects in rats exposed to organic mercury, as presented in data from the USEPA (1995) Great Lakes Initiative Documents for the Protection of Wildlife. In the Great Lakes Initiative and BTAG approach, mercury TRVs are based on exposure to methylmercury, as this is the form found predominantly in fish and consumed by fish-eating wildlife. However, exposure to methylmercury is not expected for

granivorous and invertivorous mammalian wildlife present in mercury upland areas of the site. Toxicity data for inorganic mercury indicate that unacceptable risk would only be observed at higher concentrations (see main report Section 6.7.5 for discussion). Therefore, there is only moderate confidence in the TRVs to evaluate risk to mammals at the AOC 14 potential exposure area. Potential risk to the kangaroo rat from exposure to mercury is likely overestimated.

- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous small mammals from exposure to TPH is expected.

The NOAEL- and LOAEL-based HQs in soil are less than 1 for the remaining COPECs, indicating *de minimis* risk to individuals or populations of granivorous small mammals.

- **Desert Shrew (invertivorous small mammal):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this receptor are less than 1 for most COPECs except for HMW PAHs and dioxin TEQ for mammals. The potential risks from COPECs with HQs greater than 1 are characterized below and the HQs for these COPECs are summarized in a table at end of this subsection for small mammals. TRVs are not available for TPHs; however, risks to these receptors are characterized below based on indicator chemicals as described previously.
 - For HMW PAHs, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. HMW PAHs were frequently detected in surface soil (FOD = 48% in 0 to 0.5 ft bgs), with six of the 21 total surface soil locations having depth-weighted concentrations exceeding background (0.038 mg/kg). Depth-weighted concentrations at only one location exceed 10 times the background threshold value (BTV) (8.070 mg/kg at AOC14-14W). In addition, there is a wide range of toxicity information available for PAHs. For the selected TRVs for HMW PAHs, there is moderate confidence in ability to predict toxicity to small mammals. While the selected TRVs are based on EcoSSL data from multiple studies representing at least three small mammal species and five individual HMW PAHs (USEPA 2007), the data were derived for individual PAHs (not mixtures) and the geometric mean NOAEL-based TRV is nearly 20 times greater than the selected NOAEL-based TRV value. Alternate TRVs available from published sources and the literature (DTSC 2009; MacKenzie and Angevine 1981) indicate that the selected TRVs overestimate risk based on exposure to HMW PAHs (see Section 6.7.5 of the main report for details). As mentioned above for plants, the high EPC for HMW PAHs is primarily due to elevated concentrations in the one location (8.07 mg/kg at AOC14-14W). Additionally, the magnitude of the HQ is low. Based on the variability of the toxicity information unacceptable risk to the desert shrew from exposure to HMW PAH is considered to be uncertain.
 - For dioxin TEQ for mammals, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. As described in Section 6.7.6 of the main report, there is uncertainty associated with the mammalian TRVs and uptake factors selected for dioxins at this site. Dioxin TEQ were detected at eight of eight locations in surface soil (FOD = 100% in 0 to 0.5 ft bgs), with one of the eight total surface soil locations having depth-weighted concentrations above background (BTV = 5.58 nanograms per

kilogram [ng/kg]). High concentrations (i.e., locations with depth-weighted concentrations more than 10 times the BTV) of dioxin TEQ were not detected at the AOC 14 potential exposure area. Based on the risk results and the uncertainties discussed above, unacceptable risk to individual receptors is uncertain for dioxin TEQ.

- For TPH mixtures, individual constituents were used to characterize potential risks to small mammals. BTEX were not detected in any samples (Attachment AOC14-A1) and HQs for LMW PAHs are less than 1. As discussed above for the desert shrew, unacceptable risk from HMW PAH concentrations is uncertain, and unacceptable risk from TPH is also considered uncertain.

The NOAEL- and LOAEL-based HQs in soil are less than 1 for the remaining COPECs, indicating *de minimis* risk to individuals and populations of invertivorous small mammals.

Based on the risk estimates and potential uncertainties associated with the baseline risk from antimony and mercury for granivorous small mammals; and HMW PAHs and dioxin TEQ for invertivorous small mammals, these COPECs were further evaluated site-specific SUFs and using area-weighted EPCs as discussed below and in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC14-5.5a also summarizes HQs estimated for small mammals at the AOC 14 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below. The HQs greater than 1 are summarized below.

- **Merriam's Kangaroo Rat (granivorous small mammal):** The NOAEL-based HQ for mercury is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Mercury was infrequently detected and the depth-weighted EPC was based on the maximum depth-weighted concentration. Therefore, potential risk for Merriam's kangaroo rat from exposure to mercury may not be appropriately characterized. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals or populations of granivorous small mammals from the remaining COPECs.
- **Desert Shrew (invertivorous small mammal):** The NOAEL-based HQ for HMW PAHs is greater than 1 and the LOAEL-based HQ is less than 1 for these COPECs, indicating no unacceptable risk to populations of invertivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals or populations of invertivorous small mammals from the remaining COPECs.

Summarized below are all HQ estimates for mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Small Mammals (SUF = 1)

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COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Antimony	2E+00	2E-01	--	--	--	--	--	--
Mercury	2E+00	1E-01	2E+00	1E-01	6E-01	4E-02	6E-01	4E-02
HMW PAHs	1E-01	2E-02	5E-02	2E-03	4E+00	8E-01	2E+00	7E-02
TEQ Mammals	3E-01	3E-02	--	--	3E+00	3E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table AOC14-5.5b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the AOC 14 potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the SUF was estimated as 1 for these receptors (i.e., their home range is less than or equal to the size of the exposure area). Therefore, the risk results using selected TRVs and BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Small Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of small mammals exposed to COPECs in soil at the AOC 14 potential exposure area using selected TRVs⁵, depth-weighted EPCs, and a site and species-specific SUF (SUF equal to 1), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammals), the LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of granivorous small mammals at the AOC 14 potential exposure area. COPECs indicative of uncertain risks to individual receptors (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included antimony and mercury. The following LOEs indicate potential risks to individual granivorous small mammals from exposure to antimony and mercury are likely overestimated: (1) low magnitude of HQs; (2) low FOD for these COPECs; (3) use of the maximum detected depth-weighted concentration as the depth-weighted EPC; and (4) low to moderate confidence in the TRVs. For the remaining COPECs at the AOC 14 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1 indicating no unacceptable risk to individuals and populations of granivorous small mammals.

⁵ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

- For desert shrew (invertivorous small mammals), the LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of invertivorous small mammals. COPECs indicative of uncertain risks to individual receptors (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included HMW PAHs and dioxin TEQ. The following LOEs indicate potential risks to individual insectivorous small mammals from exposure to HMW PAHs and dioxin TEQ are uncertain: (1) low magnitude HQs; (2) frequently detected at the AOC 14 potential exposure area; however, concentrations above background were infrequent; and (3) moderate to robust TRVs. For the remaining COPECs at the AOC 14 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1 indicating no unacceptable risk to individuals and populations of invertivorous small mammals.

Based on the risk estimates and potential uncertainties associated with the baseline risk to granivorous small mammals from exposure to antimony and mercury, as well as invertivorous small mammals from exposure to HMW PAHs and dioxin TEQ, these COPECs were further evaluated using area-weighted EPCs as discussed in Section 5.6.2.

5.6.1.3 Birds

For the AOC 14 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using Selected TRVs

Table AOC14-5.5a summarizes HQs estimated for birds at the AOC 14 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's Quail (granivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soil (0 to 6 ft bgs) through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs except mercury. The potential risks from COPECs with HQs greater than 1 are characterized below and the HQs for these COPECs are summarized in a table at end of this subsection for birds. TRVs are not available for TPHs; however, risks to these receptors are characterized below based on PAHs as indicator chemicals as described previously.
 - For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is equal to 1, indicating no unacceptable risk to populations of granivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Mercury was detected in only one of 23 locations in surface soil (FOD = 4% in 0 to 0.5 ft bgs), two of 24 locations in shallow soil (FOD = 8% in 0 to 3 ft bgs), and three of 27 locations in subsurface I soil (FOD = 11% in 0

to 6 ft bgs). Due to the low FOD in the dataset for the AOC 14 potential exposure area, the maximum depth-weighted concentration of 102 mg/kg in subsurface I soil (0 to 6 ft bgs) was used as the depth-weighted EPC (the highest EPC) to evaluate potential risk to Gambel's quail from exposure to mercury through its diet. The maximum concentration (102 mg/kg at AOC14-16W) greatly exceeds depth-weighted concentrations at the other two locations with detected mercury (0.15 mg/kg at AOC14-SS1 and 0.078 mg/kg at AOC14-14W). The maximum depth-weighted concentration of 0.41 mg/kg in surface soil (0 to 0.5 ft bgs) was used to evaluate potential exposure through incidental ingestion of soil. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Mercury was not detected in the background dataset; therefore, a background value could not be developed for comparison. As discussed above for small mammals, the mercury TRVs are conservative because they are based on methylmercury (DTSC 2009), a form of mercury unlikely to be present at AOC14. Potential risk to Gambel's quail from exposure to mercury is likely overestimated.

- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous birds from exposure to TPH is expected.

The NOAEL- and LOAEL-based HQs in soil are less than 1 for the remaining COPECs, indicating *de minimis* risk to individuals or populations of granivorous birds is expected.

- **Cactus Wren (insectivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs except mercury. The potential risks from COPECs with HQs greater than 1 are characterized below and the HQs for these COPECs are summarized in a table at end of this subsection for birds. TRVs are not available for TPHs; however, risks to these receptors are characterized below based on PAHs as indicator chemicals as described previously.
 - For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Similar to the discussion above for mercury and Gambel's quail, potential risk to cactus wren from exposure to mercury is likely overestimated.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to insectivorous birds from exposure to TPH is expected.

The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk for mercury for granivorous and insectivorous birds, this COPEC was further evaluated using site- and species-specific SUFs as discussed below.

Risks Evaluated Using the BTAG TRVs

Table AOC14-5.5a also summarizes HQs estimated for birds at the AOC 14 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's Quail (granivorous bird):** The NOAEL-based HQs for lead and mercury are greater than 1 and the LOAEL-based HQs are less than 1, indicating no unacceptable risk to populations of granivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 indicating *de minimis* risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus Wren (insectivorous bird):** The NOAEL-based HQs for lead and mercury are greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating *de minimis* risk to individuals and populations of insectivorous birds from these COPECs.

Summarized below are all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	2E-01	1E-01	2E+01	4E-02	7E-01	3E-01	8E+01	1E-01
Mercury	5E+00	1E+00	5E+00	1E+00	3E+00	7E-01	3E+00	7E-01

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using Selected TRVs

Table AOC14-5.5b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this receptor is 0.08 which reduced the NOAEL-based HQ for mercury to less than 1. Considering site use at the AOC 14 potential exposure area, the NOAEL- and LOAEL-based HQs for all COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds.

- **Cactus wren (insectivorous bird):** The site-specific SUF for this receptor is 0.6, which reduced the NOAEL- and LOAEL-based HQs for mercury, but the NOAEL-based HQ for mercury is still greater than 1. The potential risks from COPECs with HQs greater than 1 are characterized below and the HQs are summarized in a table at end of this subsection for birds.
 - For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. As noted above in Section 5.6.1.3.1, the depth-weighted EPC for mercury is based on the maximum detected depth-weighted concentration and the TRVs are conservative. Therefore, potential risk to individual insectivorous birds are likely overestimated.

The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk from mercury for insectivorous birds, this COPEC was further evaluated using area-weighted EPCs as discussed below in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC14-5.5b also summarizes HQs estimated for birds at the AOC 14 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this receptor is 0.08 which reduced the HQs for mercury to less than 1, indicating no unacceptable risk to individuals or populations of granivorous birds. Use of the site-specific SUF reduced the NOAEL- and LOAEL-based HQs for lead, but the NOAEL-based HQ for lead is still greater than 1, indicating no unacceptable risk to populations of granivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals and populations of granivorous birds from these COPECs.
- **Cactus wren (insectivorous bird):** The site-specific SUF for this receptor is 0.6. Although the magnitude of NOAEL-based HQs was reduced for lead and mercury in this evaluation, they are still greater than 1. The LOAEL-based HQs are less than one, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals and populations of insectivorous birds from these COPECs.

For the COPECs with NOAEL-based HQs greater than 1 using a SUF of 1 (using the selected TRV or BTAG TRV), HQ estimates using the species- and site-specific SUF for birds are summarized below:

Hazard Quotient Summary for Birds (site-specific SUF)								
COPEC	Gambel's Quail (SUF = 0.08)				Cactus Wren (SUF = 0.6)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	2E-02	8E-03	2E+00	3E-03	4E-01	2E-01	5E+01	7E-02
Mercury	4E-01	8E-02	4E-01	8E-02	2E+00	4E-01	2E+00	4E-01

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.3 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 14 potential exposure area using selected TRVs⁶, depth-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- For Gambel's quail (granivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs in this scenario.
- For the cactus wren (insectivorous birds), LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds at the AOC 14 potential exposure area. COPECs indicative of uncertain risks (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included only mercury. The following LOEs indicate potential risk to individual insectivorous birds from exposure to mercury is likely overestimated: (1) low magnitude of HQ; (2) low FOD; (3) use of the maximum detected depth-weighted concentration as the depth-weighted EPC; and (4) moderate confidence in the TRVs. For the remaining COPECs at the AOC 14 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk results and potential uncertainties associated with the baseline risk to insectivorous birds from mercury at the AOC 14 potential exposure area, this COPEC was further evaluated using area-weighted EPCs as discussed in Section 5.6.2.

⁶ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

5.6.2 Risk Characterization (Baseline Scenario and Area-Weighted EPCs)

Based on the risk characterization of COPECs in the baseline scenario using depth-weighted EPCs (Section 5.6.1), risks were characterized for all COPECs using area-weighted EPCs. For those COPECs identified for further evaluation in the depth-weighted evaluation, the results of the area-weighted risk characterization are presented below. These included:

- Antimony, copper, lead, mercury, thallium, and HMW PAHs for plants
- Mercury and 4-methylphenol for soil invertebrates
- Antimony and mercury for granivorous small mammals
- HMW PAHs and dioxin TEQ for invertivorous small mammals
- Mercury for insectivorous birds.

Potential risks to receptors from COPECs listed above were characterized for the baseline scenario using area-weighted EPCs as discussed in this section. Detailed risk calculations for plants and soil invertebrates (Table AOC14-C.6) and detailed dose and risk calculations for wildlife for all COPECs (Tables AOC14-C.7 through AOC14-C.10) are presented in Attachment AOC14-C.

5.6.2.1 Plants and Soil Invertebrates

Table AOC14-5.6a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 14 potential exposure area for the baseline scenario using area-weighted EPCs for all COPECs. However, only the COPECs identified for further evaluation using area-weighted EPCs are discussed here. The HQ for hexavalent chromium is greater than 1 using area-weighted EPC and is discussed below.

Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. HQs were based on the highest EPC from the shallow, surface, and subsurface I depth intervals. For plants, the HQs using area-weighted EPCs are greater than 1 for antimony, hexavalent chromium, copper, lead, mercury, and thallium. The HQ increased for hexavalent chromium using the area-weighted EPC, relative to the depth-weighted EPC due to the difference in the UCL calculation method (see Section 3, above). The HQ for HMW PAHs was reduced in this evaluation and is equal to 1. Therefore, unacceptable risk to plant communities is not expected for HMW PAHs. The HQ for hexavalent chromium increased to greater than 1 from the depth-weighted evaluation, in which the HQ was equal to 1.

For antimony, mercury, and thallium, plant HQs based on the area-weighted EPCs did not change from the plant HQs based on the depth-weighted EPCs, because the depth-weighted and area-weighted EPCs are based on the maximum depth-weighted concentration. As discussed in Section 5.6.1.1, these COPECs were infrequently detected and generally based on low confidence screening values. Therefore, unacceptable risk to plant communities from exposure to antimony, mercury, and thallium is considered unlikely at the AOC 14 potential exposure area.

For copper and lead, the plant HQs based on area-weighted EPCs were reduced from the depth-weighted EPCs but the HQs are still greater than 1. Uncertainties associated with plants exposed to these COPECs in soil are discussed in Section 5.6.1.1. Copper and lead were frequently detected (100%) at the AOC 14 potential exposure area; however, exceedances of the BTV were infrequent. Plant screening values are

considered robust, therefore, unacceptable risk to plant communities and is considered possible. Although the screening levels for copper and lead is considered robust for prediction of toxicity to plants, based on the low HQs and limited spatial extent of elevated concentrations, unacceptable risk to plant communities from these COPECs is considered unlikely.

For hexavalent chromium, the plant HQ based on an area-weighted EPC is greater than 1. EPCs in surface and shallow soil are lower than in subsurface I soil (Table AOC14-5.4), indicating lower exposure and risk to shallow-rooted plants compared to deep-rooted plants at the AOC 14 potential exposure area (plant HQs based on surface and shallow soil area-weighted EPCs are less than or equal to 1). The upland terrestrial habitats at the site, including AOC 14, are typical of Mojave Desert uplands dominated by creosote bush scrub, which are shallow rooted plants with roots extending down to 8-14 inches (Marshall 1995).

No T&E species have been observed at the AOC 14 potential exposure area (see Section 5.1.1). The hexavalent chromium screening values for plants are based on a limited number of studies, most of which were conducted in artificial test systems with species unlikely to be present in the AOC 14 potential exposure area. Efroymsen et al. (1997a) indicate that there is low confidence in the screening value and its ability to predict toxicity to plants. Hexavalent chromium was detected at the AOC 14 potential exposure area at 20 of 52 locations in the 0 to 6 ft bgs interval, of which depth-weighted concentrations were greater than background in eight locations. The elevated EPC is due primarily to high hexavalent chromium concentrations (i.e., greater than 10 times background of 0.83 mg/kg) at three locations (14.2 mg/kg at S4-4, 10.5 mg/kg at AOC14-16W, and 10.3 mg/kg at S2-6). Based on the risk results and discussion above, unacceptable risk to plants from exposure to hexavalent chromium is considered unlikely.

Soil invertebrates can potentially be exposed only to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, the HQ values for mercury and 4-methylphenol remained the same as discussed for the depth-weighted HQs in Section 5.6.1.1, because they are based on the maximum depth-weighted concentration due to low FOD. Based on the risk results and supporting LOEs as discussed in Section 5.6.1.1, including low FOD and uncertainty in the screening values, unacceptable risk to soil invertebrate communities from exposure to mercury and 4-methylphenol is considered unlikely.

Vegetation communities observed at the site during the floristic surveys conducted in 2013 (Garcia and Associates [GANDA] and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). More than 100 different vascular plant species have been observed within the survey area that includes the AOC 14 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013; CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

Risk Summary and Potential Risk Drivers for Ecological Communities

No risk drivers were identified for unacceptable ecological community-level risk predicted using the most refined exposure and effects assumptions (i.e., area-weighted EPCs) and additional LOEs supporting the conclusion of unacceptable risk.

For plants, area-weighted HQs were greater than 1 for antimony, hexavalent chromium, copper, lead, mercury, and thallium. The WOE indicate unacceptable risk to plant communities is considered unlikely from exposure to these COPECs.

For soil invertebrates, area-weighted HQs were greater than 1 for mercury and 4-methylphenol. The WOE indicates unacceptable risk is considered unlikely from exposure to these COPECs.

No unacceptable risk to plant and soil invertebrate communities is expected from remaining COPECs.

5.6.2.2 Small Mammals

For the AOC 14 potential exposure area, baseline risks were estimated for small mammals using area-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.2.1 *Risks Evaluated Using a Site-Specific SUF*

Risks Evaluated Using Selected TRVs

Table AOC14-5.6a summarizes the HQs estimated for small mammals at the AOC 14 potential exposure area using the selected TRVs, area-weighted EPCs, and an SUF equal to 1 for all COPECs. Table AOC14-5.6b summarizes HQs estimated for mammals at the AOC 14 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1 as the home range for small mammals is less than or equal to the size of the AOC 14 potential exposure area) for all COPECs. However, only the COPECs identified in Section 5.6.1.2 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Merriam's Kangaroo Rat (granivorous small mammal):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. The COPECs identified in Section 5.6.1.2 for further evaluation using area-weighted EPCs were antimony and mercury. HQs for these COPECs are summarized in a table at end of this subsection for small mammals.
 - For antimony, the NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because the maximum depth-weighted concentration was selected as the EPC in both evaluations due to low FOD. The NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. As discussed in Section 5.6.1.2, potential risk to the kangaroo rat from exposure to antimony is likely overestimated due to use of very conservative TRVs and use of the maximum depth-weighted concentration as the EPC. Furthermore, small mammal T&E species have not been observed at the AOC 14 potential exposure area. **Therefore, unacceptable risk to individual granivorous small mammals from exposure to antimony at the AOC 14 potential exposure area is unlikely.**
 - For mercury, the NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because the maximum depth-weighted concentration was selected as the EPC in both evaluations due to low FOD. The NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1,

indicating no unacceptable risk to populations of granivorous mammals is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. As discussed in Section 5.6.1.2, potential risk to the kangaroo rat from exposure to mercury is likely overestimated due to the use of the maximum depth-weighted concentration as the EPC, which may not appropriately characterize risk. Furthermore, small mammal T&E species have not been observed at the AOC 14 potential exposure area. **Therefore, unacceptable risk to individual granivorous small mammals from exposure to mercury at the AOC 14 potential exposure area is unlikely.**

- **Desert Shrew (invertivorous small mammal):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The COPECs identified in Section 5.6.1.2 for further evaluation using area-weighted EPCs were HMW PAHs and dioxin TEQ. HQs for these COPECs are summarized in a table at end of this subsection for small mammals.
 - For HMW PAHs, the magnitude of NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis and the NOAEL-based HQ is equal to 1, **indicating no unacceptable risk is expected for individuals or populations of invertivorous small mammals exposed to HMW PAH in soil.**
 - For dioxin TEQ for mammals, the NOAEL- based HQ was reduced from the depth-weighted EPC analysis but is still greater than 1. The LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous mammals is expected; however, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. Conservative assumptions were used to estimate the HQs, including use of bioaccumulation factors based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. As a result, the HQs are considered to be overestimated. Additionally, the magnitude of the HQ is low. T&E species have not been observed at the AOC 14 potential exposure area, as described in Section 5.1.1. Therefore, unacceptable risk to individuals and populations of invertivorous small mammals is considered to be unlikely.

NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals for the remaining COPECs.

Risks Evaluated Using the BTAG TRVs

Table AOC14-5.6b also summarizes HQs estimated for small mammals at the AOC 14 potential exposure area using the BTAG TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1). Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below. The HQs greater than 1 are summarized below.

- **Merriam's Kangaroo Rat (granivorous small mammal):** The NOAEL-based HQ for mercury is greater than 1 and the LOAEL-based HQs is less than 1, indicating no unacceptable risk to granivorous small mammal populations is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to individuals and populations of granivorous small mammals from the remaining COPECs.
- **Desert Shrew (invertivorous small mammal):** The NOAEL-based HQ for HMW PAHs was reduced to less than 1 using area-weighted EPCs. Thus, all NOAEL-based and LOAEL-based HQs are less than 1,

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indicating no unacceptable risk to individuals and populations of invertivorous small mammals COPECs in soil at the AOC 14 potential exposure area.

Summarized below are NOAEL- and LOAEL-based HQs for mammals for COPECs identified in Section 5.6.1.2 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species and site-specific SUF (if applicable for a receptor):

Hazard Quotient Summary for Small Mammals (Site-Specific SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Antimony	2E+00	2E-01	--	--	--	--	--	--
Mercury	2E+00	1E-01	2E+00	1E-01	6E-01	4E-02	6E-01	4E-02
HMW PAHs	3E-02	6E-03	2E-02	6E-04	1E+00	2E-01	5E-01	2E-02
TEQ Mammals	1E-01	1E-02	--	--	2E+00	2E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.2.2 *Baseline Risk Summary for Mammals Using Area-Weighted EPCs*

To summarize, based on the risks characterized for populations of small mammals exposed to COPECs in soil at the AOC 14 potential exposure area using selected TRVs⁷, area-weighted EPCs, and a site-specific SUF (SUF equal to 1 because the home ranges are less than or equal to the size of the exposure area), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammal), the LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of granivorous small mammals at the AOC 14 potential exposure area. COPECs indicative of uncertain risks to individual receptors (i.e., where the NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included antimony and mercury. For antimony and mercury, the WOE indicates unacceptable risk to individual receptors is considered unlikely. The supporting LOEs include: (1) low FOD; (2) low magnitude of the HQs; (3) use of the maximum detected depth-weighted concentration as the depth-weighted EPC; (4) low to moderate confidence in the TRVs; and (5) no observations of T&E species at the AOC 14 potential exposure area. For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of granivorous small mammals.

⁷ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

- For the desert shrew (invertivorous small mammals), the LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of invertivorous small mammals at the AOC 14 potential exposure area. COPECs indicative of uncertain risks to individual receptors (i.e., where the NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included only dioxin TEQ. For dioxin TEQ, the WOE indicates unacceptable risk to individual receptors is considered unlikely. The supporting LOEs include: (1) low magnitude of the HQs; (2) conservative assumptions used in the bioaccumulation into prey items; and (3) no observations of T&E species at the AOC 14 potential exposure area. For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of invertivorous small mammals.

Potential Risk Drivers for Small Mammals at AOC 14 Exposure Area

No risk-driving COPECs were identified at the AOC 14 potential exposure area for the baseline scenario using area-weighted EPCs, as no unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs and additional LOEs supporting the conclusion of unacceptable risk).

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were also identified at the AOC 14 potential exposure area. However, the additional LOEs support the conclusion that unacceptable risk from antimony and mercury to individual granivorous small mammals and dioxin TEQ to individual invertivorous small mammals is unlikely.

5.6.2.3 Birds

For the AOC 14 potential exposure area, baseline risks were estimated using area-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

5.6.2.3.1 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC14-5.6a summarizes HQs estimated for birds at the AOC 14 potential exposure area using the selected TRVs, area-weighted EPCs, and a SUF equal to 1 for all COPECs. Table AOC14-5.6b summarizes HQs estimated for birds at the AOC 14 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 0.06 for Gambel's quail and 0.4 for cactus wren) for all COPECs. However, only the COPECs identified in Section 5.6.1.3 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's Quail (granivorous bird):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. No unacceptable risk to individuals or population of granivorous birds were identified using depth-weighted EPCs. The results are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).

- **Cactus Wren (insectivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. Mercury was identified for further evaluation using area-weighted EPCs. The HQs for this COPEC are summarized in a table at end of this subsection for birds.
 - For mercury, the NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because the maximum depth-weighted concentration was selected as the EPC in both evaluations due to low FOD. The NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. As discussed in Section 5.6.1.3, potential risk to the cactus wren from exposure to mercury is likely overestimated due to conservative assumptions in the ERA, especially the use of the maximum detected depth-weighted concentration as the EPC due to low FOD, which may not appropriately characterize risk. Therefore, unacceptable risk to individual insectivorous birds from exposure to mercury at the AOC 14 potential exposure area is unlikely.

The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds for the remaining COPECs.

Risks Evaluated Using the BTAG TRVs

Table AOC14-5.6b also summarizes HQs estimated for birds at the AOC 14 potential exposure area using the BTAG TRVs, area-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized below.

- **Gambel's Quail (granivorous bird):** The site-specific SUF for this receptor is 0.08. The NOAEL-based HQ for lead was reduced to less than 1 using area-weighted EPCs. Thus, all NOAEL-based and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of insectivorous birds from COPECs in soil at the AOC 14 potential exposure area. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report.
- **Cactus Wren (insectivorous bird):** The site-specific SUF for this receptor is 0.6. Although the magnitude of the NOAEL-based HQ was reduced for lead in this evaluation, it is still greater than 1. The NOAEL-based HQ for mercury remained the same as in the depth-weighted EPC analysis, because the maximum depth-weighted concentration was used as the EPC due to low FOD. The LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds. However, potential risk to individual receptors are uncertain for lead and mercury. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to individuals and populations of insectivorous birds from these COPECs.

Summarized below are the NOAEL- and LOAEL-based HQs for birds for COPECs identified in Section 5.6.1.3 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species and site-specific SUF.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.08)				Cactus Wren (SUF = 0.6)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	1E-02	6E-03	1E+00	2E-03	4E-01	2E-01	4E+01	7E-02
Mercury	4E-01	8E-02	4E-01	8E-02	2E+00	4E-01	2E+00	4E-01

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.3.2 Baseline Risk Summary for Birds Using Area-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 14 potential exposure area using selected TRVs⁸, area-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- For Gambel's Quail (granivorous small mammal), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to individuals and populations of granivorous birds. Potential risk is *de minimis* from all COPECs at the AOC 14 potential exposure area for these granivorous birds and no further evaluation is necessary.
- For Cactus Wren (insectivorous birds), the LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds at the AOC 14 potential exposure area. COPECs indicative of uncertain risks to individual receptors (i.e., where the NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included only mercury. For mercury, the WOE indicates unacceptable risk to individual receptors is considered unlikely based on supporting LOEs: (1) low magnitude of HQ; (2) low FOD; (3) use of the maximum detected depth-weighted concentration as the EPC; (4) moderate confidence in the TRVs; and (5) no observations of T&E species at the AOC 14 potential exposure area. For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds.

Potential Risk Drivers for Birds at AOC 14 Exposure Area

No risk-driving COPECs were identified at the AOC 14 potential exposure area for the baseline scenario using area-weighted EPCs, as no unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and had additional supporting LOEs.

⁸ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

APPENDIX AOC14
SOIL HHERA FOR AOC 14 EXPOSURE AREA

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for the AOC 14 potential exposure area. These included only mercury for insectivorous birds. However, the additional LOEs support the conclusions that unacceptable risk to individual receptors from exposure to mercury is unlikely.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for human receptors were estimated, as presented above in Section 4. For ecological receptors, potential risks were estimated as presented above in Section 5. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Sections 5.6 and 6.7 of the main report, and uncertainties specific to the AOC 14 potential exposure area are discussed in this appendix. For AOC 14, a HHRA and ERA was conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline, i.e., no scouring) was evaluated, and risks were estimated for various receptors using depth-weighted EPCs and area-weighted EPCs.

At the AOC 14 potential exposure area, the COPCs/COPECs identified for the HHRA include metals (antimony, hexavalent chromium, copper, lead, mercury, and thallium), inorganics (nitrate and phosphate), SVOCs (4-methylphenol, bis[2-ethylhexyl] phthalate, and butylbenzylphthalate), LMW PAHs, HMW PAHs, PAHs, pesticides (4,4-DDE and 4,4-DDT), PCBs, TPH as diesel, TPH as motor oil, and dioxins and furans. A summary of these results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the AOC 14 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 14 potential exposure area using depth- and area-weighted EPCs under the baseline scenario were estimated. Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area for the receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface I	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface II	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Long-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Shallow	2×10^{-6} (CrVI and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Subsurface I	2×10^{-6} (CrVI and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
Camper	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---

APPENDIX AOC14
SOIL HHERA FOR AOC 14 EXPOSURE AREA

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 14 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Hiker	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Hunter	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
OHV Rider	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Tribal User	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---

Note:

--- = Area-weighted (area-wt) estimate not calculated because depth-weighted (depth-wt) estimates for the receptor were below *de minimis* levels

wt = weighted

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All receptors evaluated including: Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User
- **ILCR $\leq 1 \times 10^{-6}$** – Short-Term Maintenance Worker (all soil depths), Long-Term Maintenance Worker (surface and subsurface II), Camper (surface and shallow), Hiker (surface and shallow), Hunter (surface and shallow), OHV Rider (surface and shallow), and Tribal User (surface and shallow).

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Long-Term Maintenance Worker (shallow and subsurface I)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – None
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the depth-weighted estimated cumulative ILCRs above *de minimis* levels for the long-term maintenance worker were due to hexavalent chromium and dioxin TEQ. Therefore, potential risks/hazards for the long-term maintenance worker were evaluated using area-weighted EPCs and are as follows:

Area-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – Long-Term Maintenance Worker
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – Long-Term Maintenance Worker.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – None
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – None
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

OVERALL SUMMARY

Assuming that lifetime soil contact is limited to the AOC 14 potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 14 potential exposure area using depth-weighted EPCs for the short-term maintenance worker, camper, hiker, hunter, OHV rider, and tribal user are at or below 1×10^{-6} and 1, respectively. However, the estimated cumulative ILCRs using the depth-weighted EPCs for the long-term maintenance worker were 2 times above the point of departure for risk management decisions of 1×10^{-6} but below 5×10^{-6} and well within the risk management range of 1×10^{-6} and 1×10^{-4} . The estimated cumulative ILCRs using the area-weighted EPCs for the long-term maintenance worker were 1.2 to 1.5 times lower than the estimated cumulative ILCRs using the depth-weighted EPCs and are at or below the point of departure for risk management decisions of 1×10^{-6} . The estimated cumulative HIs using the depth- and area-weighted EPCs for the long-term maintenance worker, were below 1.

The depth- and area-weighted EPCs for lead in AOC 14 potential exposure area soil at all exposure depths are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL in the fetus of a short- or long-term maintenance worker, fetus of a hunter, or child recreational user.

Risks/hazards estimated for an individual potential exposure area like AOC 14 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site

risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in the AOC 14 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 14 potential exposure area, six metals (antimony, hexavalent chromium, copper, lead, mercury, and thallium), SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), LMW PAHs, HMW PAHs, PCBs, pesticides (4,4-DDE, 4,4-DDT), dioxin TEQ (for wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) were identified as COPECs. Risks could not be estimated for receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted and area-weighted EPCs. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and invertebrates).
- COPECs with HQs greater than 1 could indicate potential risk to ecological communities. A WOE approach was used to characterize potential risk to plants and invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risks to wildlife populations; however, potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual potential receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors based on the HQ.

The risk estimates (i.e., HQs) represent a single LOE in the risk characterization. A qualitative WOE approach incorporating other LOEs and uncertainties was used to characterize risk to wildlife populations at the AOC 14 potential exposure area.

HQs for all the COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are summarized in Table AOC14-6.1. The HQs/LOAEL HQs based on depth-weighted EPCs were greater than 1 for the following COPECs:

- **Plant Community** – antimony, hexavalent chromium, copper, lead, mercury, thallium, and HMW PAHs/TPHs
- **Soil Invertebrate Community** – mercury and 4-methylphenol
- **Small Mammals** – antimony and mercury for granivorous small mammals; HMW PAHs/TPHs and dioxin TEQ for insectivorous small mammals
- **Birds** – none for granivorous birds; mercury for insectivorous birds.

HQs were also calculated for all the COPECs using area-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are presented in Table AOC14-6.2.

HQs were also calculated for all the COPECs using area-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs and are presented in Table AOC14-6.1. For COPECs with HQs / LOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions (i.e., area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs), a WOE assessment was used to draw risk conclusions and identify potential risk drivers for the AOC 14 potential exposure area. The various LOEs considered in the WOE assessment and risk conclusions are presented in Table AOC14-6.2.

Based on the ecological risk characterization for the AOC 14 potential exposure area, using area-weighted EPCs, selected TRVs, and site-specific SUFs, the following conclusions were made.

6.2.1 Plant Communities

Overall, no unacceptable risk was identified for plants, including special-status species. Conclusions are as follows:

- No federal- or state-listed T&E or rare plants or candidates for listing were found at the Topock site, including the AOC 14 potential exposure area.
- Potential risks to plants are *de minimis* from exposure to 4-methylphenol and bis (2-ethylhexyl) phthalate), LMW PAHs, 4,4-DDE and 4,4-DDT, and PCBs at the AOC 14 potential exposure area. The HQ for HMW PAHs was reduced to less than 1 using an area-weighted EPC, indicating *de minimis* risk to plant communities from this COPEC as well at the AOC 14 potential exposure area.
- HQs for antimony, mercury, and thallium did not change from the depth-weighted evaluation. Unacceptable risks to plants from exposure to antimony and thallium are unlikely based on the following LOEs: (1) low magnitude of the HQs; (2) low FOD; (3) EPCs based on the maximum depth-weighted concentration; for areas where a constituent is largely not detected, use of a maximum concentration can potentially overestimate risk; and (4) low confidence in screening values to predict risk. For mercury, although the HQs were high in magnitude, unacceptable risk to plants is unlikely based on the following LOEs: (1) low FOD; (2) EPCs based on the maximum depth-weighted concentration; (3) low confidence in screening values to predict risk; and (4) limited spatial extent of elevated concentrations of mercury (102 mg/kg at AOC14-16W).
- The area-weighted HQ for hexavalent chromium increased to greater than 1 from the depth-weighting evaluation. The impact of area-weighting on these COPECs is discussed in Section 5.6.3 of the main report and in this appendix. Unacceptable risk to soil invertebrate communities is considered unlikely for hexavalent chromium based on supporting LOEs: (1) low magnitude of the HQ; (2) very conservative

screening level (less than the BTV); and (3) low confidence in the invertebrate screening value and its ability to predict risk.

- The HQs for copper and lead were reduced from the depth-weighting evaluation but are still greater than 1. Although the screening levels are considered robust for prediction of toxicity to plants and these COPECs were frequently detected at the AOC 14 potential exposure area, unacceptable risk to plant communities from exposure to copper and lead is unlikely based on the following LOEs: (1) detected concentrations infrequently exceeded the BTVs and screening levels; and (2) limited spatial extent of elevated concentrations; AOC14-16W (438 mg/kg) and AOC14-19 (1800 mg/kg) for copper, and AOC14-19 (1600 mg/kg) for lead.
- Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). Over a hundred different vascular plant species have been observed within the survey area that includes AOC 14 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013, CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

6.2.2 Soil Invertebrate Communities

Overall, no unacceptable risks to soil invertebrates are expected. Conclusions are as follows:

- Potential risks to soil invertebrates are *de minimis* from exposure to all COPECs except mercury and 4-methylphenol at the AOC 14 potential exposure area. Antimony, thallium, and PCBs were not detected in surface soil, where exposure occurs for this receptor.
- The HQs for mercury and 4-methylphenol remained the same as in the depth-weighted evaluation. Unacceptable risks to soil invertebrates from exposure to these COPECs is unlikely based of the following LOEs: (1) low magnitude of the HQs; (2) low FOD; (3) EPCs based on the maximum depth-weighted EPCs; for areas where a constituent is largely not detected, use of a maximum concentrations can potentially overestimate risks; (4) low confidence in screening values to predict risk; and (5) limited spatial extent of detected concentrations (0.41 mg/kg at AOC14-16W for mercury and 0.43 mg/kg at AOC14-2 for 4-methylphenol).

6.2.3 Small Mammals

Overall, no unacceptable risks to populations of small mammals (granivorous and invertivorous) potentially exposed to COPECs in soil are expected. Conclusions are as follows:

- Several species of mammals have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, T&E species with small home ranges were not observed at the AOC 14 potential exposure area, and therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.

- For Merriam's kangaroo rat (granivorous small mammal):
 - The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous small mammals, except for antimony and mercury.
 - COPECs indicative of uncertain risks to individual receptors included antimony and mercury. Unacceptable risk to granivorous small mammal populations from exposure to these COPECs is not expected based on LOAEL HQs less than 1. Unacceptable risk to individual granivorous small mammals from exposure to these COPECs is unlikely based on the following LOEs: (1) low magnitude of the HQs; (2) low FOD; (3) EPCs based on the maximum depth-weighted concentrations; for areas where a constituent is largely not detected, use of a maximum concentrations can potentially overestimate risks; (4) TRVs were considered overly conservative (for antimony, orders of magnitude lower than other published values; for mercury, based on methylmercury, which is unlikely to be present in upland soil; see Section 6.7 of the main report); and (5) T&E species with small home ranges have not been observed at the AOC 14 potential exposure area.
- For the desert shrew (invertivorous small mammals):
 - The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of insectivorous small mammals, except for HMW PAHs and dioxin TEQ. The NOAEL-based HQ for HMW PAHs was reduced to less than 1 using an area-weighted EPC, indicating *de minimis* risk to individual receptors from this COPEC as well at the AOC 14 potential exposure area.
 - COPECs indicative of uncertain risks to individual receptors included dioxin TEQ. The NAOEL-based HQ was reduced from the depth-weighted evaluation but is still greater than 1. Unacceptable risk to individual receptors for dioxin TEQ is unlikely based on the following LOEs: (1) low magnitude of the HQ; (2) conservative assumptions used in the risk estimates (dietary composition assumes 100% of a single-item diet, bioaccumulation based on a single congener, and very conservative TRVs and BAFs; see Section 6.7 of the main report); (3) limited spatial extent of concentrations above the BTV; and (4) T&E species with small home ranges have not been observed at the AOC 14 potential exposure area.

6.2.4 Birds

Overall, no unacceptable risks to bird populations (granivorous and insectivorous) exposed to COPECs in soil are expected. Conclusions are as follows:

- Several species of birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, T&E species with small home ranges were not observed at the AOC 14 potential exposure area, and therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Gambel's quail (granivorous bird), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous birds at the AOC 14 potential exposure area.
- For the cactus wren (insectivorous bird):

- The NOAEL and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of insectivorous birds at the AOC 14 potential exposure area, except for mercury.
- COPECs indicative of uncertain risks to individual receptors included mercury. For mercury, the NOAEL-based HQs remained the same as the depth-weighting evaluation. The LOAEL-based HQs for mercury are less than 1, same as the same as the depth-weighting evaluation. Unacceptable risk to insectivorous birds from exposure to mercury is unlikely based on the following LOEs: (1) low magnitude of the HQs; (2) low FOD; (3) EPCs based on the maximum depth-weighted concentrations; for areas where a constituent is largely not detected, use of a maximum concentrations can potentially overestimate risks; (4) low confidence in the TRVs for mercury as they are unlikely to reflect the species of mercury present at the AOC 14 potential exposure area; and (5) no observations of nesting T&E species with small home ranges at the AOC 14 potential exposure area.

6.2.5 Potential Risk Drivers for the AOC 14 Exposure Area

As presented in Table AOC14-6.2 and summarized in the table below, no potential risk drivers were identified for the AOC 14 potential exposure area for the baseline scenario, based on unacceptable community/population-level risk (i.e., HQ greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds) predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk.

Scenario	Potential Receptors and Risk Drivers at AOC 14 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's Kangaroo Rat)	Insectivorous Mammals (Desert Shrew)	Granivorous Birds (Gambel's Quail)	Insectivorous Birds (Cactus Wren)
Baseline	None	None	None	None	None	None

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APPENDIX AOC14
SOIL HHERA FOR AOC 14 EXPOSURE AREA

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TABLES



Table AOC14-1.1
Samples and Sampling Locations Included in the AOC 14 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC14-10-8050	10/01/08	AOC14-10	0	0.5	0.5	0-0.5	--
AOC14-10-8051	10/01/08	AOC14-10	2	3	3	0-03	--
AOC14-10-8052	10/01/08	AOC14-10	5	6	6	0-06	--
AOC14-10-8053	10/01/08	AOC14-10	5	6	6	0-06	--
AOC14-10-8054	10/01/08	AOC14-10	9	10	10	0-10	--
AOC14-10-8055	10/01/08	AOC14-10	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-11-8056	10/01/08	AOC14-11	5	6	6	0-06	--
AOC14-11-8057	10/01/08	AOC14-11	9	10	10	0-10	--
AOC14-11-8058	10/01/08	AOC14-11	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-12-8059	09/30/08	AOC14-12	5	6	6	0-06	--
AOC14-12-8060	09/30/08	AOC14-12	9	10	10	0-10	--
AOC14-12-8061	09/30/08	AOC14-12	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-13-8062	09/30/08	AOC14-13	5	6	6	0-06	--
AOC14-13-8063	09/30/08	AOC14-13	9	10	10	0-10	--
AOC14-13-8064	09/30/08	AOC14-13	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-13-8065	09/30/08	AOC14-13	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-14E-8127	02/18/16	AOC14-14E	0	1	0.5	0-0.5	--
AOC14-14E-8128	02/18/16	AOC14-14E	2	3	3	0-03	--
AOC14-14E-8129	02/18/16	AOC14-14E	2	3	3	0-03	--
AOC14-14E-8130	02/18/16	AOC14-14E	5	5.5	5.5	0-06	--
AOC14-14E-8131	02/18/16	AOC14-14E	6	7	7	0-10	--
AOC14-14E-8132	02/18/16	AOC14-14E	9	10	10	0-10	--
AOC14-14W-8100	02/16/16	AOC14-14W	0	1	0.5	0-0.5	--
AOC14-14W-8101	02/16/16	AOC14-14W	2	3	3	0-03	--
AOC14-14W-8102	02/16/16	AOC14-14W	5	5.5	5.5	0-06	--
AOC14-14W-8103	02/16/16	AOC14-14W	6	7	7	0-10	--
AOC14-14W-8104	02/16/16	AOC14-14W	9	10	10	0-10	--
AOC14-15-8105	02/18/16	AOC14-15	0	1	0.5	0-0.5	--
AOC14-15-8106	02/18/16	AOC14-15	2	3	3	0-03	--
AOC14-15-8108	02/18/16	AOC14-15	5	6	6	0-06	--
AOC14-15-8109	02/18/16	AOC14-15	7	8	8	0-10	--
AOC14-16E-8133	02/23/16	AOC14-16E	0	1	0.5	0-0.5	--
AOC14-16E-8134	02/23/16	AOC14-16E	2	3	3	0-03	--
AOC14-16E-8135	02/23/16	AOC14-16E	5	6	6	0-06	--
AOC14-16E-8136	02/23/16	AOC14-16E	9	10	10	0-10	--
AOC14-16W-8111	02/22/16	AOC14-16W	0	1	0.5	0-0.5	--
AOC14-16W-8112	02/22/16	AOC14-16W	2	3	3	0-03	--
AOC14-16W-8113	02/22/16	AOC14-16W	5	6	6	0-06	--
AOC14-16W-8114	02/22/16	AOC14-16W	7	8	8	0-10	--
AOC14-16W-8115	02/22/16	AOC14-16W	9	10	10	0-10	--
AOC14-16W-8116	02/22/16	AOC14-16W	9	10	10	0-10	--

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Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC14-17E-8137	02/24/16	AOC14-17E	9	10	10	0-10	--
AOC14-17W-8117	02/24/16	AOC14-17W	0	1	0.5	0-0.5	--
AOC14-17W-8118	02/24/16	AOC14-17W	2	3	3	0-03	--
AOC14-17W-8119	02/24/16	AOC14-17W	5	6	6	0-06	--
AOC14-17W-8120	02/24/16	AOC14-17W	9	10	10	0-10	--
AOC14-17W-8121	02/24/16	AOC14-17W	1	2	2	0-03	--
AOC14-1-8001	09/30/08	AOC14-1	0	0.5	0.5	0-0.5	--
AOC14-1-8002	09/30/08	AOC14-1	2	3	3	0-03	--
AOC14-1-8003	09/30/08	AOC14-1	5	6	6	0-06	--
AOC14-1-8004	09/30/08	AOC14-1	9	10	10	0-10	--
AOC14-1-8005	09/30/08	AOC14-1	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-18-8122	02/17/16	AOC14-18	0	1	0.5	0-0.5	--
AOC14-18-8123	02/17/16	AOC14-18	2	3	3	0-03	--
AOC14-18-8124	02/17/16	AOC14-18	5	6	6	0-06	--
AOC14-19-8125	02/17/16	AOC14-19	2	3	3	0-03	--
AOC14-19-8126	02/17/16	AOC14-19	3	4	4	0-06	--
AOC14-20-8138	04/26/17	AOC14-20	0	0.5	0.5	0-0.5	--
AOC14-20-8139	04/26/17	AOC14-20	2	3	3	0-03	--
AOC14-20-8140	04/26/17	AOC14-20	5	6	6	0-06	--
AOC14-20-8141	04/26/17	AOC14-20	8	9	9	0-10	--
AOC14-21-8142	04/26/17	AOC14-21	0	0.5	0.5	0-0.5	--
AOC14-21-8143	04/26/17	AOC14-21	2	3	3	0-03	--
AOC14-21-8144	04/26/17	AOC14-21	2	3	3	0-03	--
AOC14-21-8145	04/26/17	AOC14-21	5	6	6	0-06	--
AOC14-21-8146	04/26/17	AOC14-21	9	10	10	0-10	--
AOC14-2-8006	09/30/08	AOC14-2	0	0.5	0.5	0-0.5	--
AOC14-2-8007	09/30/08	AOC14-2	2	3	3	0-03	--
AOC14-2-8008	09/30/08	AOC14-2	5	6	6	0-06	--
AOC14-2-8009	09/30/08	AOC14-2	9	10	10	0-10	--
AOC14-2-8010	09/30/08	AOC14-2	9	10	10	0-10	--
AOC14-2-8011	09/30/08	AOC14-2	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-2-8088	10/01/08	AOC14-2	3	3.25	3.25	0-06	--
AOC14-3-8012	10/01/08	AOC14-3	0	0.5	0.5	0-0.5	--
AOC14-3-8013	10/01/08	AOC14-3	2	3	3	0-03	--
AOC14-3-8014	10/01/08	AOC14-3	5	6	6	0-06	--
AOC14-3-8015	10/01/08	AOC14-3	9	10	10	0-10	--
AOC14-3-8016	10/01/08	AOC14-3	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-4-8017	10/01/08	AOC14-4	0	0.5	0.5	0-0.5	--
AOC14-4-8018	10/01/08	AOC14-4	2	3	3	0-03	--
AOC14-4-8019	10/01/08	AOC14-4	5	6	6	0-06	--
AOC14-4-8020	10/01/08	AOC14-4	9	10	10	0-10	--

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AOC14-4-8021	10/01/08	AOC14-4	9	10	10	0-10	--
AOC14-4-8022	10/01/08	AOC14-4	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-5-8023	10/02/08	AOC14-5	0	0.5	0.5	0-0.5	--
AOC14-5-8024	10/02/08	AOC14-5	2	3	3	0-03	--
AOC14-5-8025	10/02/08	AOC14-5	5	6	6	0-06	--
AOC14-5-8026	10/02/08	AOC14-5	9	10	10	0-10	--
AOC14-5-8027	10/02/08	AOC14-5	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-6-8028	10/02/08	AOC14-6	0	0.5	0.5	0-0.5	--
AOC14-6-8029	10/02/08	AOC14-6	2	3	3	0-03	--
AOC14-6-8030	10/02/08	AOC14-6	5	6	6	0-06	--
AOC14-6-8031	10/02/08	AOC14-6	9	10	10	0-10	--
AOC14-6-8032	10/02/08	AOC14-6	9	10	10	0-10	--
AOC14-6-8033	10/02/08	AOC14-6	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-7-8034	10/02/08	AOC14-7	0	0.5	0.5	0-0.5	--
AOC14-7-8035	10/02/08	AOC14-7	2	3	3	0-03	--
AOC14-7-8036	10/02/08	AOC14-7	5	6	6	0-06	--
AOC14-7-8037	10/02/08	AOC14-7	9	10	10	0-10	--
AOC14-7-8038	10/02/08	AOC14-7	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-8-8039	10/02/08	AOC14-8	0	0.5	0.5	0-0.5	--
AOC14-8-8040	10/02/08	AOC14-8	2	3	3	0-03	--
AOC14-8-8041	10/02/08	AOC14-8	5	6	6	0-06	--
AOC14-8-8042	10/02/08	AOC14-8	9	10	10	0-10	--
AOC14-8-8043	10/02/08	AOC14-8	9	10	10	0-10	--
AOC14-8-8044	10/02/08	AOC14-8	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-9-8045	10/01/08	AOC14-9	0	0.5	0.5	0-0.5	--
AOC14-9-8046	10/01/08	AOC14-9	2	3	3	0-03	--
AOC14-9-8047	10/01/08	AOC14-9	5	6	6	0-06	--
AOC14-9-8048	10/01/08	AOC14-9	9	10	10	0-10	--
AOC14-9-8049	10/01/08	AOC14-9	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-1-8066	10/01/08	AOC14-SS1	0	0.5	0.5	0-0.5	--
AOC14-SS-1-8067	10/01/08	AOC14-SS1	2	3	3	0-03	--
AOC14-SS-1-8068	10/01/08	AOC14-SS1	5	6	6	0-06	--
AOC14-SS-1-8069	10/01/08	AOC14-SS1	9	10	10	0-10	--
AOC14-SS-1-8070	10/01/08	AOC14-SS1	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-2-8071	10/01/08	AOC14-SS2	0	0.5	0.5	0-0.5	--
AOC14-SS-2-8072	10/01/08	AOC14-SS2	2	3	3	0-03	--
AOC14-SS-2-8073	10/01/08	AOC14-SS2	5	6	6	0-06	--
AOC14-SS-2-8074	10/01/08	AOC14-SS2	9	10	10	0-10	--
AOC14-SS-2-8075	10/01/08	AOC14-SS2	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-2-8076	10/01/08	AOC14-SS2	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-3-8077	10/02/08	AOC14-SS3	0	0.5	0.5	0-0.5	--

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AOC14-SS-3-8078	10/02/08	AOC14-SS3	2	3	3	0-03	--
AOC14-SS-3-8079	10/02/08	AOC14-SS3	5	6	6	0-06	--
AOC14-SS-3-8080	10/02/08	AOC14-SS3	9	10	10	0-10	--
AOC14-SS-3-8081	10/02/08	AOC14-SS3	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-4-8082	10/02/08	AOC14-SS4	0	0.5	0.5	0-0.5	--
AOC14-SS-4-8083	10/02/08	AOC14-SS4	2	3	3	0-03	--
AOC14-SS-4-8084	10/02/08	AOC14-SS4	5	6	6	0-06	--
AOC14-SS-4-8085	10/02/08	AOC14-SS4	9	10	10	0-10	--
AOC14-SS-4-8086	10/02/08	AOC14-SS4	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC14-SS-4-8087	10/02/08	AOC14-SS4	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
GS-1	11/01/98	GS-1	0	0	0	0-0.5	--
GS-2	11/01/98	GS-2	0	0	0	0-0.5	--
RR-1	02/02/00	RR-1	0	0	0	0-0.5	--
RR-10	02/02/00	RR-10	0	0	0	0-0.5	--
RR-11	02/02/00	RR-11	0	0	0	0-0.5	--
RR-12	02/02/00	RR-12	0	0	0	0-0.5	--
RR-2	02/02/00	RR-2	0	0	0	0-0.5	--
RR-3	02/02/00	RR-3	0	0	0	0-0.5	--
RR-4	02/02/00	RR-4	0	0	0	0-0.5	--
RR-5	02/02/00	RR-5	0	0	0	0-0.5	--
RR-6	02/02/00	RR-6	0	0	0	0-0.5	--
RR-7	02/02/00	RR-7	0	0	0	0-0.5	--
RR-8	02/02/00	RR-8	0	0	0	0-0.5	--
RR-9	02/02/00	RR-9	0	0	0	0-0.5	--
S1-20-3	11/01/98	S1-20	3	3	3	0-03	--
S2-130-1	11/01/98	S2-130	1	1	0.5	0-0.5	--
S2-62-2	11/01/98	S2-62	2	2	2	0-03	--
S2-62-4	11/01/98	S2-62	4	4	4	0-06	--
S2-6-3	11/01/98	S2-6	3	3	3	0-03	--
S2-6-5	11/01/98	S2-6	5	5	5	0-06	--
S3-120-1	11/01/98	S3-120	1	1	0.5	0-0.5	--
S3-15-2	11/01/98	S3-15	2	2	2	0-03	--
S3-15-4	11/01/98	S3-15	4	4	4	0-06	--
S3-72-1	11/01/98	S3-72	1	1	0.5	0-0.5	--
S3-72-2	11/01/98	S3-72	2	2	2	0-03	--
S4-160-2	11/01/98	S4-160	2	2	2	0-03	--
S4-4-4	11/01/98	S4-4	4	4	4	0-06	--
S4-4-6	11/01/98	S4-4	6	6	6	0-06	--
S4-95-2	11/01/98	S4-95	2	2	2	0-03	--
S4-95-3	11/01/98	S4-95	3	3	3	0-03	--
S8-30-3	11/01/98	S8-30	3	3	3	0-03	--

Table AOC14-1.1
Samples and Sampling Locations Included in the AOC 14 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
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Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

HHERA = human health and ecological risk assessment

NE = not evaluated in the HHERA

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	9 / 9	3,000 - 9,000	mg/kg	No	Within Background
Antimony	0 / 23	ND	mg/kg	No	Not Detected
Arsenic	22 / 23	1.5 - 6.8	mg/kg	No	Within Background
Barium	23 / 23	66 - 300	mg/kg	No	Within Background
Beryllium	0 / 23	ND	mg/kg	No	Not Detected
Cadmium	1 / 23	1.4	mg/kg	No	Within Background
Calcium ^b	9 / 9	11,000 - 48,000	mg/kg	No	Within Background
Chromium, Hexavalent	10 / 40	0.26 - 5.8	mg/kg	Yes	Above Background
Chromium, total	40 / 40	9.0 - 75	mg/kg	No	Within Background
Cobalt	23 / 23	2.4 - 7.8	mg/kg	No	Within Background
Copper	40 / 40	2.2 - 44	mg/kg	Yes	Above Background
Cyanide	0 / 9	ND	mg/kg	No	Not Detected
Iron ^b	9 / 9	6,800 - 20,000	mg/kg	No	Within Background
Lead	23 / 23	2.2 - 18	mg/kg	Yes	Above Background
Magnesium ^b	9 / 9	2,600 - 8,500	mg/kg	No	Within Background
Manganese ^b	9 / 9	120 - 290	mg/kg	No	Within Background
Mercury (inorganic)	1 / 23	0.41	mg/kg	Yes	Above Background
Molybdenum	3 / 23	1.1 - 1.6	mg/kg	No	Within Background
Nickel	40 / 40	0.28 - 16	mg/kg	No	Within Background
Potassium ^b	9 / 9	690 - 2,800	mg/kg	No	Within Background
Selenium	0 / 23	ND	mg/kg	No	Not Detected
Silver	0 / 23	ND	mg/kg	No	Not Detected
Sodium ^b	9 / 9	190 - 850	mg/kg	No	Within Background
Thallium	0 / 23	ND	mg/kg	No	Not Detected
Vanadium	23 / 23	13 - 32	mg/kg	No	Within Background
Zinc	40 / 40	11 - 243	mg/kg	No	Within Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 21	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 21	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 21	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 21	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 9	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 21	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 21	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 6	ND	ug/kg	No	Not Detected
Acetone	0 / 6	ND	ug/kg	No	Not Detected
Acrolein	0 / 6	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 6	ND	ug/kg	No	Not Detected
Benzene	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 21	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 21	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 6	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 6	ND	ug/kg	No	Not Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromoform	0 / 6	ND	ug/kg	No	Not Detected
Bromomethane	0 / 6	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 6	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 6	ND	ug/kg	No	Not Detected
Chloro methane	0 / 6	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Chloroethane	0 / 6	ND	ug/kg	No	Not Detected
Chloroform	0 / 6	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 6	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 6	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 21	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 8	ND	ug/kg	No	Not Detected
Isophorone	0 / 21	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 6	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 6	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 21	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 6	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Styrene	0 / 6	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 6	ND	ug/kg	No	Not Detected
Toluene	0 / 6	ND	ug/kg	No	Not Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
trans-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 6	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 6	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 6	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 6	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 9	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 9	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 21	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 21	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 20	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 21	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 21	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 21	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 21	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 21	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 21	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 21	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 21	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 21	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 21	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 20	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 21	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 21	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 21	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 21	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 21	430	ug/kg	Yes	Detected
4-Nitroaniline	0 / 21	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 21	ND	ug/kg	No	Not Detected
Acetophenone	0 / 9	ND	ug/kg	No	Not Detected
Atrazine	0 / 9	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 9	ND	ug/kg	No	Not Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzoic acid	0 / 20	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 21	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 21	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 21	640	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 21	ND	ug/kg	No	Not Detected
Caprolactam	0 / 9	ND	ug/kg	No	Not Detected
Carbazole	0 / 9	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 21	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 21	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 21	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 21	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 21	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 21	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 21	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 21	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 21	ND	ug/kg	No	Not Detected
Phenol	0 / 21	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	21 / 21	0 - 8,070	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	21 / 21	0 - 380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 20	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 21	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 21	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 21	ND	ug/kg	No	Not Detected
Anthracene	0 / 21	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	5 / 21	5.8 - 1,000	ug/kg	No	Within Background
Benzo (a) pyrene ^c	4 / 21	6.1 - 550	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	6 / 21	5.9 - 840	ug/kg	No	Within Background
Benzo (ghi) perylene	6 / 21	5.3 - 11	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	6 / 21	5.9 - 360	ug/kg	No	Within Background
Chrysene ^c	9 / 21	5.2 - 1,100	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 21	ND	ug/kg	No	Not Detected
Fluoranthene	8 / 21	5.9 - 2,100	ug/kg	Yes	Detected
Fluorene	0 / 21	ND	ug/kg	No	Not Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Indeno (1,2,3-cd) pyrene ^c	4 / 21	5.3 - 8.2	ug/kg	No	Within Background
Naphthalene	0 / 21	ND	ug/kg	No	Not Detected
Phenanthrene	3 / 21	5.2 - 380	ug/kg	Yes	Detected
Pyrene	8 / 21	5.3 - 2,100	ug/kg	Yes	Detected
B(a)P Equivalent ^d	9 / 21	5.9 - 740	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 15	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 15	2.9	ug/kg	Yes	Detected
4,4-DDT	1 / 15	3.0	ug/kg	Yes	Detected
Aldrin	0 / 15	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 15	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 15	ND	ug/kg	No	Not Detected
beta-BHC	0 / 15	ND	ug/kg	No	Not Detected
delta-BHC	0 / 15	ND	ug/kg	No	Not Detected
Dieldrin	0 / 15	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 15	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 15	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 15	ND	ug/kg	No	Not Detected
Endrin	0 / 15	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 15	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 15	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 15	ND	ug/kg	No	Not Detected
Heptachlor	0 / 15	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 15	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 15	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 21	ND	ug/kg	No	Not Detected
Toxaphene	0 / 15	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	0 / 14	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	5 / 20	10 - 34	mg/kg	Yes	Detected
TPH as motor oil	10 / 20	11 - 252	mg/kg	Yes	Detected

Table AOC14-2.1a

Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Dioxins/Furans					
2,3,7,8-TCDD	1 / 8	0.18	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^f	8 / 8	0.32 - 5.3	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^f	8 / 8	0.22 - 8.2	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^f	8 / 8	0.22 - 8.2	ng/kg	Yes	Above Background (ERA Only)

Table AOC14-2.1a**Chemicals Included in the Risk Assessment: AOC 14 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	9 / 9	3,000 - 9,000	mg/kg	No	Within Background
Antimony	2 / 48	3.3 - 19	mg/kg	Yes	Above Background
Arsenic	46 / 48	1.5 - 19	mg/kg	No	Within Background
Barium	48 / 48	65 - 410	mg/kg	No	Within Background
Beryllium	0 / 48	ND	mg/kg	No	Not Detected
Cadmium	3 / 48	1.4 - 7.1	mg/kg	No	Within Background
Calcium ^b	10 / 10	11,000 - 48,000	mg/kg	No	Within Background
Chloride ^c	1 / 1	223	mg/kg	No	No Toxicity Values Available
Chromium, Hexavalent	20 / 74	0.21 - 20	mg/kg	Yes	Above Background
Chromium, total	74 / 74	9.0 - 380	mg/kg	No	Within Background
Cobalt	47 / 48	2.4 - 17	mg/kg	No	Within Background
Copper	73 / 74	1.8 - 1,800	mg/kg	Yes	Above Background
Cyanide	0 / 9	ND	mg/kg	No	Not Detected
Iron ^b	10 / 10	6,800 - 23,100	mg/kg	No	Within Background
Lead	48 / 48	2.2 - 1,600	mg/kg	Yes	Above Background
Magnesium ^b	10 / 10	2,600 - 8,500	mg/kg	No	Within Background
Manganese ^b	9 / 9	120 - 290	mg/kg	No	Within Background
Mercury (inorganic)	3 / 48	0.25 - 180	mg/kg	Yes	Above Background
Molybdenum	7 / 48	1.1 - 63	mg/kg	No	Within Background
Nickel	74 / 74	0.28 - 270	mg/kg	No	Within Background
Nitrate	1 / 1	17	mg/kg	Yes	Detected
Phosphate	1 / 1	64	mg/kg	Yes	Detected
Potassium ^b	10 / 10	690 - 2,800	mg/kg	No	Within Background
Selenium	0 / 48	ND	mg/kg	No	Not Detected
Silver	0 / 48	ND	mg/kg	No	Not Detected
Sodium ^b	9 / 10	190 - 850	mg/kg	No	Within Background
Sulfate ^c	1 / 1	585	mg/kg	No	No Toxicity Values Available
Thallium	2 / 48	2.1 - 2.3	mg/kg	Yes	Above Background
Vanadium	48 / 48	11 - 36	mg/kg	No	Within Background
Zinc	74 / 74	4.3 - 2,000	mg/kg	No	Within Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 28	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 28	ND	ug/kg	No	Not Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 28	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 28	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 28	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 28	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 28	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 28	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 28	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 28	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 43	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 28	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 28	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 28	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 43	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 28	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 28	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 28	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 43	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 28	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 43	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 9	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 28	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 43	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 43	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 28	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 28	ND	ug/kg	No	Not Detected
Acetone	0 / 22	ND	ug/kg	No	Not Detected
Acrolein	0 / 28	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 28	ND	ug/kg	No	Not Detected
Benzene	0 / 28	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 43	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 43	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 28	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 28	ND	ug/kg	No	Not Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 28	ND	ug/kg	No	Not Detected
Bromoform	0 / 28	ND	ug/kg	No	Not Detected
Bromomethane	0 / 28	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 28	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 28	ND	ug/kg	No	Not Detected
Chloro methane	0 / 28	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 28	ND	ug/kg	No	Not Detected
Chloroethane	0 / 28	ND	ug/kg	No	Not Detected
Chloroform	0 / 28	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 28	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 28	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 8	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 28	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 28	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 28	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 28	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 43	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 8	ND	ug/kg	No	Not Detected
Isophorone	0 / 43	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 28	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 9	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 28	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 28	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 28	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 28	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 28	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 43	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 28	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 28	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 28	ND	ug/kg	No	Not Detected
Styrene	0 / 28	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 28	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 28	ND	ug/kg	No	Not Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Toluene	0 / 28	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 28	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 28	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 28	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 28	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 28	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 28	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 9	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 9	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 43	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 43	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 42	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 43	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 43	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 43	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 43	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 43	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 43	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 43	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 43	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 43	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 43	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 42	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 43	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 43	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 43	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 43	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 43	430	ug/kg	Yes	Detected
4-Nitroaniline	0 / 43	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 43	ND	ug/kg	No	Not Detected
Acetophenone	0 / 9	ND	ug/kg	No	Not Detected
Atrazine	0 / 9	ND	ug/kg	No	Not Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzaldehyde	0 / 9	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 42	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 43	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 43	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 43	640	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 43	ND	ug/kg	No	Not Detected
Caprolactam	0 / 9	ND	ug/kg	No	Not Detected
Carbazole	0 / 9	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 43	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 43	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 43	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 43	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 43	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 43	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 43	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 43	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 43	ND	ug/kg	No	Not Detected
Phenol	0 / 43	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	43 / 43	0 - 8,070	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	43 / 43	0 - 380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 42	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 43	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 43	ND	ug/kg	No	Not Detected
Acenaphthylene	1 / 43	6.8	ug/kg	Yes	Detected
Anthracene	1 / 43	17	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	9 / 43	5.6 - 1,000	ug/kg	No	Within Background
Benzo (a) pyrene ^d	8 / 43	5.9 - 550	ug/kg	No	Within Background
Benzo (b) fluoranthene ^d	11 / 43	5.2 - 840	ug/kg	No	Within Background
Benzo (ghi) perylene	10 / 43	5.3 - 17	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	10 / 43	5.9 - 360	ug/kg	No	Within Background
Chrysene ^d	15 / 43	5.2 - 1,100	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^d	0 / 43	ND	ug/kg	No	Not Detected
Fluoranthene	13 / 43	5.9 - 2,100	ug/kg	Yes	Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Fluorene	0 / 43	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^d	8 / 43	5.3 - 12	ug/kg	No	Within Background
Naphthalene	0 / 43	ND	ug/kg	No	Not Detected
Phenanthrene	6 / 43	5.2 - 380	ug/kg	Yes	Detected
Pyrene	14 / 43	5.3 - 2,100	ug/kg	Yes	Detected
B(a)P Equivalent ^e	15 / 43	5.9 - 740	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 23	ND	ug/kg	No	Not Detected
4,4-DDE	2 / 23	2.9 - 4.4	ug/kg	Yes	Detected
4,4-DDT	1 / 23	3.0	ug/kg	Yes	Detected
Aldrin	0 / 23	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 23	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 23	ND	ug/kg	No	Not Detected
beta-BHC	0 / 23	ND	ug/kg	No	Not Detected
delta-BHC	0 / 23	ND	ug/kg	No	Not Detected
Dieldrin	0 / 23	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 23	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 23	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 23	ND	ug/kg	No	Not Detected
Endrin	0 / 23	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 23	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 23	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 23	ND	ug/kg	No	Not Detected
Heptachlor	0 / 23	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 23	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 23	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 43	ND	ug/kg	No	Not Detected
Toxaphene	0 / 23	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	1 / 22	35	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	10 / 42	10 - 630	mg/kg	Yes	Detected
TPH as gasoline	0 / 22	ND	mg/kg	No	Not Detected

Table AOC14-2.1b

Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
TPH as motor oil	23 / 42	10 - 4,500	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	2 / 18	0.18 - 17	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^g	18 / 18	0.31 - 210	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^g	18 / 18	0.22 - 140	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^g	18 / 18	0.22 - 140	ng/kg	Yes	Above Background (ERA Only)

Table AOC14-2.1b**Chemicals Included in the Risk Assessment: AOC 14 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	9 / 9	3,000 - 9,000	mg/kg	No	Within Background
Antimony	2 / 76	3.3 - 19	mg/kg	Yes	Above Background
Arsenic	74 / 76	1.1 - 19	mg/kg	No	Within Background
Barium	76 / 76	60 - 410	mg/kg	No	Within Background
Beryllium	0 / 76	ND	mg/kg	No	Not Detected
Cadmium	4 / 76	1.4 - 7.1	mg/kg	No	Within Background
Calcium ^b	11 / 11	11,000 - 379,000	mg/kg	No	Within Background
Chloride ^c	2 / 2	223 - 3,010	mg/kg	No	No Toxicity Values Available
Chromium, Hexavalent	30 / 107	0.21 - 20	mg/kg	Yes	Above Background
Chromium, total	107 / 107	9.0 - 420	mg/kg	No	Within Background
Cobalt	74 / 76	2.4 - 17	mg/kg	No	Within Background
Copper	105 / 107	1.8 - 1,800	mg/kg	Yes	Above Background
Cyanide	0 / 9	ND	mg/kg	No	Not Detected
Iron ^b	11 / 11	425 - 23,100	mg/kg	No	Within Background
Lead	75 / 76	1.4 - 1,600	mg/kg	Yes	Above Background
Magnesium ^b	11 / 11	2,600 - 23,000	mg/kg	No	Within Background
Manganese ^b	9 / 9	120 - 290	mg/kg	No	Within Background
Mercury (inorganic)	5 / 76	0.22 - 180	mg/kg	Yes	Above Background
Molybdenum	17 / 76	1.0 - 63	mg/kg	No	Within Background
Nickel	107 / 107	0.28 - 270	mg/kg	No	Within Background
Nitrate	2 / 2	17 - 29	mg/kg	Yes	Detected
Phosphate	2 / 2	11 - 64	mg/kg	Yes	Detected
Potassium ^b	11 / 11	90 - 2,800	mg/kg	No	Within Background
Selenium	1 / 76	1.5	mg/kg	No	Within Background
Silver	0 / 76	ND	mg/kg	No	Not Detected
Sodium ^b	10 / 11	190 - 6,590	mg/kg	No	Within Background
Sulfate ^c	2 / 2	585 - 1,630	mg/kg	No	No Toxicity Values Available
Thallium	4 / 76	2.1 - 2.3	mg/kg	Yes	Above Background
Vanadium	76 / 76	11 - 58	mg/kg	No	Within Background
Zinc	106 / 107	1.9 - 2,000	mg/kg	No	Within Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 52	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 52	ND	ug/kg	No	Not Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 52	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 52	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 52	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 52	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 52	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 52	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 52	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 52	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 52	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 52	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 52	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 52	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 52	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 52	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 52	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 9	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 52	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 68	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 68	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 52	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 52	ND	ug/kg	No	Not Detected
Acetone	0 / 41	ND	ug/kg	No	Not Detected
Acrolein	0 / 52	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 52	ND	ug/kg	No	Not Detected
Benzene	0 / 52	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 68	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 68	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 52	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 52	ND	ug/kg	No	Not Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 52	ND	ug/kg	No	Not Detected
Bromoform	0 / 52	ND	ug/kg	No	Not Detected
Bromomethane	0 / 52	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 52	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 52	ND	ug/kg	No	Not Detected
Chloro methane	0 / 52	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 52	ND	ug/kg	No	Not Detected
Chloroethane	0 / 52	ND	ug/kg	No	Not Detected
Chloroform	0 / 52	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 52	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 52	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 8	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 52	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 52	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 52	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 52	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 68	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 8	ND	ug/kg	No	Not Detected
Isophorone	0 / 68	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 52	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 9	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 52	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 52	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 52	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 52	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 52	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 68	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 52	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 52	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 52	ND	ug/kg	No	Not Detected
Styrene	0 / 52	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 52	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 52	ND	ug/kg	No	Not Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Toluene	0 / 52	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 52	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 52	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 52	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 52	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 52	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 52	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 9	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 9	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 68	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 68	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 67	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 68	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 68	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 68	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 68	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 68	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 68	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 68	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 68	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 68	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 68	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 67	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 68	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 68	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 68	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 68	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 68	430	ug/kg	Yes	Detected
4-Nitroaniline	0 / 68	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 68	ND	ug/kg	No	Not Detected
Acetophenone	0 / 9	ND	ug/kg	No	Not Detected
Atrazine	0 / 9	ND	ug/kg	No	Not Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzaldehyde	0 / 9	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 67	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 68	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 68	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 68	640	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 68	ND	ug/kg	No	Not Detected
Caprolactam	0 / 9	ND	ug/kg	No	Not Detected
Carbazole	0 / 9	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 68	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 68	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 68	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 68	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 68	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 68	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 68	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 68	ND	ug/kg	No	Not Detected
Phenol	0 / 68	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	68 / 68	0 - 8,070	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	68 / 68	0 - 380	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 67	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 68	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 68	ND	ug/kg	No	Not Detected
Acenaphthylene	1 / 68	6.8	ug/kg	Yes	Detected
Anthracene	2 / 68	17 - 22	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	12 / 68	5.6 - 1,000	ug/kg	No	Within Background
Benzo (a) pyrene ^d	11 / 68	5.9 - 550	ug/kg	No	Within Background
Benzo (b) fluoranthene ^d	16 / 68	5.1 - 840	ug/kg	No	Within Background
Benzo (ghi) perylene	13 / 68	5.3 - 40	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	13 / 68	5.9 - 360	ug/kg	No	Within Background
Chrysene ^d	19 / 68	5.2 - 1,100	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^d	2 / 68	13 - 17	ug/kg	No	Within Background
Fluoranthene	17 / 68	5.1 - 2,100	ug/kg	Yes	Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Fluorene	0 / 68	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^d	11 / 68	5.3 - 39	ug/kg	No	Within Background
Naphthalene	0 / 68	ND	ug/kg	No	Not Detected
Phenanthrene	7 / 68	5.2 - 380	ug/kg	Yes	Detected
Pyrene	18 / 68	5.3 - 2,100	ug/kg	Yes	Detected
B(a)P Equivalent ^e	20 / 68	5.9 - 740	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 30	ND	ug/kg	No	Not Detected
4,4-DDE	3 / 30	2.6 - 4.4	ug/kg	Yes	Detected
4,4-DDT	1 / 30	3.0	ug/kg	Yes	Detected
Aldrin	0 / 30	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 30	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 30	ND	ug/kg	No	Not Detected
beta-BHC	0 / 30	ND	ug/kg	No	Not Detected
delta-BHC	0 / 30	ND	ug/kg	No	Not Detected
Dieldrin	0 / 30	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 30	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 30	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 30	ND	ug/kg	No	Not Detected
Endrin	0 / 30	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 30	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 30	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 30	ND	ug/kg	No	Not Detected
Heptachlor	0 / 30	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 30	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 30	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 68	ND	ug/kg	No	Not Detected
Toxaphene	0 / 30	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	2 / 29	35 - 52	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	15 / 67	10 - 630	mg/kg	Yes	Detected
TPH as gasoline	0 / 46	ND	mg/kg	No	Not Detected

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
TPH as motor oil	38 / 67	10 - 4,500	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	3 / 27	0.18 - 20	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^g	26 / 27	0.20 - 780	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^g	26 / 27	0.096 - 480	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^g	26 / 27	0.096 - 480	ng/kg	Yes	Above Background (ERA Only)

Table AOC14-2.1c

Chemicals Included in the Risk Assessment: AOC 14 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	9 / 9	3,000 - 9,000	mg/kg	No	Within Background
Antimony	2 / 105	3.3 - 19	mg/kg	Yes	Above Background
Arsenic	102 / 105	1.0 - 19	mg/kg	No	Within Background
Barium	105 / 105	60 - 410	mg/kg	No	Within Background
Beryllium	0 / 105	ND	mg/kg	No	Not Detected
Cadmium	5 / 105	1.3 - 7.1	mg/kg	No	Within Background
Calcium ^b	11 / 11	11,000 - 379,000	mg/kg	No	Within Background
Chloride ^c	2 / 2	223 - 3,010	mg/kg	No	No Toxicity Values Available
Chromium, Hexavalent	33 / 136	0.21 - 20	mg/kg	Yes	Above Background
Chromium, total	136 / 136	8.2 - 420	mg/kg	No	Within Background
Cobalt	103 / 105	2.4 - 17	mg/kg	No	Within Background
Copper	134 / 136	1.8 - 1,800	mg/kg	Yes	Above Background
Cyanide	0 / 9	ND	mg/kg	No	Not Detected
Iron ^b	11 / 11	425 - 23,100	mg/kg	No	Within Background
Lead	104 / 105	1.1 - 1,600	mg/kg	Yes	Above Background
Magnesium ^b	11 / 11	2,600 - 23,000	mg/kg	No	Within Background
Manganese ^b	9 / 9	120 - 290	mg/kg	No	Within Background
Mercury (inorganic)	6 / 105	0.22 - 180	mg/kg	Yes	Above Background
Molybdenum	19 / 105	1.0 - 63	mg/kg	No	Within Background
Nickel	136 / 136	0.28 - 270	mg/kg	No	Within Background
Nitrate	2 / 2	17 - 29	mg/kg	Yes	Detected
Phosphate	2 / 2	11 - 64	mg/kg	Yes	Detected
Potassium ^b	11 / 11	90 - 2,800	mg/kg	No	Within Background
Selenium	3 / 105	1.2 - 1.6	mg/kg	No	Within Background
Silver	0 / 105	ND	mg/kg	No	Not Detected
Sodium ^b	10 / 11	190 - 6,590	mg/kg	No	Within Background
Sulfate ^c	2 / 2	585 - 1,630	mg/kg	No	No Toxicity Values Available
Thallium	7 / 105	2.1 - 2.6	mg/kg	Yes	Above Background
Vanadium	105 / 105	11 - 58	mg/kg	No	Within Background
Zinc	135 / 136	1.9 - 2,000	mg/kg	No	Within Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 79	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 79	ND	ug/kg	No	Not Detected

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 79	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 79	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 79	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 79	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 79	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 79	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 79	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 79	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 95	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 79	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 79	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 79	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 95	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 79	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 79	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 79	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 95	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 79	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 95	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 9	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 79	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 95	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 95	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 79	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 9	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 79	ND	ug/kg	No	Not Detected
Acetone	0 / 63	ND	ug/kg	No	Not Detected
Acrolein	0 / 79	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 79	ND	ug/kg	No	Not Detected
Benzene	0 / 79	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 95	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 95	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 79	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 79	ND	ug/kg	No	Not Detected

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Bromodichloromethane	0 / 79	ND	ug/kg	No	Not Detected
Bromoform	0 / 79	ND	ug/kg	No	Not Detected
Bromomethane	0 / 79	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 79	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 79	ND	ug/kg	No	Not Detected
Chloro methane	0 / 79	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 79	ND	ug/kg	No	Not Detected
Chloroethane	0 / 79	ND	ug/kg	No	Not Detected
Chloroform	0 / 79	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 79	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 79	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 8	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 79	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 79	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 79	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 79	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 95	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 8	ND	ug/kg	No	Not Detected
Isophorone	0 / 95	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 79	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 9	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 79	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 79	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 79	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 9	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 79	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 79	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 95	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 79	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 79	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 79	ND	ug/kg	No	Not Detected
Styrene	0 / 79	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 79	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 79	ND	ug/kg	No	Not Detected

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Toluene	0 / 79	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 79	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 79	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 79	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 79	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 79	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 79	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 9	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 9	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 95	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 95	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 94	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 95	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 95	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 95	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 95	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 95	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 95	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 95	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 95	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 95	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 95	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 94	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 95	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 95	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 95	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 95	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 95	430	ug/kg	Yes	Detected
4-Nitroaniline	0 / 95	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 95	ND	ug/kg	No	Not Detected
Acetophenone	0 / 9	ND	ug/kg	No	Not Detected
Atrazine	0 / 9	ND	ug/kg	No	Not Detected

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzaldehyde	0 / 9	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 94	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 95	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 95	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 95	640	ug/kg	Yes	Detected
Butylbenzylphthalate	1 / 95	630	ug/kg	Yes	Detected
Caprolactam	0 / 9	ND	ug/kg	No	Not Detected
Carbazole	0 / 9	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 95	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 95	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 95	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 95	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 95	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 95	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 95	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 95	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 95	ND	ug/kg	No	Not Detected
Phenol	0 / 95	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 94	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 95	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 95	ND	ug/kg	No	Not Detected
Acenaphthylene	1 / 95	6.8	ug/kg	Yes	Detected
Anthracene	2 / 95	17 - 22	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	12 / 95	5.6 - 1,000	ug/kg	No	Within Background
Benzo (a) pyrene ^d	11 / 95	5.9 - 550	ug/kg	No	Within Background
Benzo (b) fluoranthene ^d	16 / 95	5.1 - 840	ug/kg	No	Within Background
Benzo (ghi) perylene	13 / 95	5.3 - 40	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	13 / 95	5.9 - 360	ug/kg	No	Within Background
Chrysene ^d	19 / 95	5.2 - 1,100	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^d	2 / 95	13 - 17	ug/kg	No	Within Background
Fluoranthene	18 / 95	5.1 - 2,100	ug/kg	Yes	Detected
Fluorene	0 / 95	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^d	11 / 95	5.3 - 39	ug/kg	No	Within Background

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Naphthalene	0 / 95	ND	ug/kg	No	Not Detected
Phenanthrene	7 / 95	5.2 - 380	ug/kg	Yes	Detected
Pyrene	18 / 95	5.3 - 2,100	ug/kg	Yes	Detected
B(a)P Equivalent ^e	20 / 95	5.9 - 740	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 40	ND	ug/kg	No	Not Detected
4,4-DDE	3 / 40	2.6 - 4.4	ug/kg	Yes	Detected
4,4-DDT	1 / 40	3.0	ug/kg	Yes	Detected
Aldrin	0 / 40	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 40	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 40	ND	ug/kg	No	Not Detected
beta-BHC	0 / 40	ND	ug/kg	No	Not Detected
delta-BHC	0 / 40	ND	ug/kg	No	Not Detected
Dieldrin	0 / 40	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 40	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 40	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 40	ND	ug/kg	No	Not Detected
Endrin	0 / 40	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 40	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 9	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 40	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 40	ND	ug/kg	No	Not Detected
Heptachlor	0 / 40	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 40	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 40	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 95	ND	ug/kg	No	Not Detected
Toxaphene	0 / 40	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	3 / 39	33 - 52	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	18 / 94	10 - 630	mg/kg	Yes	Detected
TPH as gasoline	0 / 73	ND	mg/kg	No	Not Detected
TPH as motor oil	44 / 94	10 - 4,500	mg/kg	Yes	Detected

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Dioxins/Furans					
TEQ Human ^g	38 / 39	0.075 - 480	ng/kg	Yes	Above Background (HHRA Only)

Table AOC14-2.1d

Chemicals Included in the Risk Assessment: AOC 14 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-0.5	9 / 9	100	3000	9000	NA	NA	7156	7156	7700	3937778	1984	--	--	--	--		
Antimony	mg/kg	0-0.5	0 / 23	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	--		
Arsenic	mg/kg	0-0.5	22 / 23	96	1.5	6.8	0.5	0.5	4.245	4.083	4.65	2.178	1.476	--	--	--	--		
Barium	mg/kg	0-0.5	23 / 23	100	66	300	NA	NA	151	151	140	2736	52.31	--	--	--	--		
Beryllium	mg/kg	0-0.5	0 / 23	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	--		
Cadmium	mg/kg	0-0.5	1 / 23	4	1.4	1.4	0.5	0.5	1.4	0.539	1.4	NA	NA	--	--	--	--		
Chromium, hexavalent	mg/kg	0-0.5	10 / 40	25	0.26	5.8	0.1	0.255	1.696	0.499	0.685	4.162	2.04	X	0.498	KM H-UCL	0.558	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-0.5	40 / 40	100	9	74.9	NA	NA	19.92	19.92	16.55	125.2	11.19	--	--	--	--		
Cobalt	mg/kg	0-0.5	23 / 23	100	2.4	7.8	NA	NA	5.952	5.952	6.7	2.327	1.526	--	--	--	--		
Copper	mg/kg	0-0.5	40 / 40	100	2.2	44	NA	NA	10.81	10.81	9.6	51.35	7.166	X	12.7	95% H-UCL	11.5	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-0.5	0 / 9	0	NA	NA	0.05	0.5	NA	NA	NA	NA	NA	--	--	--	--		
Iron	mg/kg	0-0.5	9 / 9	100	6800	20000	NA	NA	15200	15200	16000	19860000	4456	--	--	--	--		
Lead	mg/kg	0-0.5	23 / 23	100	2.2	18	NA	NA	7.57	7.57	6.1	20.8	4.561	X	9.48	95% Adjusted Gamma UCL	8.86	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-0.5	9 / 9	100	120	290	NA	NA	235.6	235.6	260	3053	55.25	--	--	--	--		
Mercury	mg/kg	0-0.5	1 / 23	4	0.41	0.41	0.0495	0.05	0.41	0.0652	0.41	NA	NA	X	0.41	Max Detect	0.41	Max Detect	
Molybdenum	mg/kg	0-0.5	3 / 23	13	1.1	1.6	0.5	1	1.3	0.604	1.2	0.07	0.265	--	--	--	--		
Nickel	mg/kg	0-0.5	40 / 40	100	0.28	15.8	NA	NA	8.293	8.293	9.55	15.7	3.963	--	--	--	--		
Selenium	mg/kg	0-0.5	0 / 23	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	--		
Silver	mg/kg	0-0.5	0 / 23	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	--		
Thallium	mg/kg	0-0.5	0 / 23	0	NA	NA	1	2.05	NA	NA	NA	NA	NA	--	--	--	--		
Vanadium	mg/kg	0-0.5	23 / 23	100	13	32	NA	NA	25.61	25.61	27	22.16	4.707	--	--	--	--		
Zinc	mg/kg	0-0.5	40 / 40	100	11.3	243	NA	NA	40.39	40.39	34.75	1234	35.13	--	--	--	--		
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
1,3,5-Trimethylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Acetone	µg/kg	0-0.5	0 / 6	0	NA	NA	23	35	NA	NA	NA	NA	NA	--	--	--	--		
Bromomethane	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Chloro methane	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Chloroform	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Ethyl- benzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Isopropylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Methyl acetate	µg/kg	0-0.5	0 / 1	0	NA	NA	3.5	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Methyl ethyl ketone	µg/kg	0-0.5	0 / 6	0	NA	NA	23	35	NA	NA	NA	NA	NA	--	--	--	--		
Methylene chloride	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
N-Butylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
N-Propylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
sec-Butylbenzene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Toluene	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		
Xylene, m,p-	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--		

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Xylene, o-	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-0.5	0 / 6	0	NA	NA	2.3	3.5	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-0.5	1 / 21	5	430	430	165	1650	430	178.3	430	NA	NA	X	430	Max Detect	430	Max Detect
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	1 / 21	5	640	640	165	1650	640	188.8	640	NA	NA	X	640	Max Detect	640	Max Detect
Butylbenzylphthalate	µg/kg	0-0.5	0 / 21	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 21	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-0.5	0 / 21	0	NA	NA	165	1650	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-0.5	3 / 21	14	5.2	380	0	0	130.4	18.63	6	46725	216.2	X	380	Max Detect	380	Max Detect
PAH high molecular weight	µg/kg	0-0.5	10 / 21	48	7.7	8070	0	0	856.5	407.9	62	6425316	2535	X	4330	99% KM (Chebyshev) UCL	1171	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-0.5	0 / 20	0	NA	NA	2.5	12.5	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-0.5	5 / 21	24	5.8	1000	2.5	165	209.2	51.93	15	195461	442.1	X	375	97.5% KM (Chebyshev) UCL	162	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-0.5	4 / 21	19	6.1	550	2.5	165	143.5	29.55	8.9	73453	271	X	213	97.5% KM (Chebyshev) UCL	93.7	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-0.5	6 / 21	29	5.9	840	2.5	165	149.2	44.84	13	114548	338.4	X	230	95% KM (Chebyshev) UCL	132	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-0.5	6 / 21	29	5.3	11	2.5	165	8.517	4.624	8.85	4.414	2.101	X	6.04	95% KM (t) UCL	43.1	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-0.5	6 / 21	29	5.9	360	2.5	165	67.03	21.29	8.95	20604	143.5	X	100	95% KM (Chebyshev) UCL	70.9	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-0.5	9 / 21	43	5.2	1100	2.5	165	133.5	59.01	11	131407	362.5	X	294	95% KM (Chebyshev) UCL	177	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Fluoranthene	µg/kg	0-0.5	8 / 21	38	5.9	2100	2.5	165	273.3	105.9	11.1	544854	738.1	X	559	95% KM (Chebyshev) UCL	327	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	4 / 21	19	5.3	8.2	2.5	165	6.425	3.424	6.1	1.543	1.242	X	4.27	95% KM (t) UCL	42.1	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-0.5	0 / 21	0	NA	NA	2.3	12.5	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-0.5	3 / 21	14	5.2	380	2.5	165	130.4	20.8	6	46725	216.2	X	380	Max Detect	380	Max Detect
Pyrene	µg/kg	0-0.5	8 / 21	38	5.3	2100	2.5	165	272.7	105.7	11.7	545174	738.4	X	559	95% KM (Chebyshev) UCL	326	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-0.5	10 / 21	48	5.9	740	5.8	380	89.28	46.08	12.5	52536	229.2	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-0.5	1 / 15	7	2.9	2.9	1	1	2.9	1.127	2.9	NA	NA	X	2.9	Max Detect	2.9	Max Detect
4,4-DDT	µg/kg	0-0.5	1 / 15	7	3	3	1	1	3	1.133	3	NA	NA	X	3	Max Detect	3	Max Detect
Alpha-Chlordane	µg/kg	0-0.5	0 / 15	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-0.5	0 / 15	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-0.5	0 / 15	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-0.5	0 / 14	0	NA	NA	8.5	8.5	NA	NA	NA	NA	NA	--	--	--	--	--
Dioxins																		
TEQ Human	ng/kg	0-0.5	8 / 8	100	0.22	8.2	NA	NA	2.646	2.646	1.925	7.818	2.796	X	4.52	95% Student's-t UCL	2.64	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-0.5	8 / 8	100	0.32	5.3	NA	NA	1.816	1.816	1.55	2.896	1.702	X	2.96	95% Student's-t UCL	1.78	Bootstrap BCA 95UCL

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
TEQ Mammals	ng/kg	0-0.5	8 / 8	100	0.22	8.2	NA	NA	2.646	2.646	1.925	7.818	2.796	X	4.52	95% Student's-t UCL	2.65	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-0.5	1 / 8	13	0.18	0.18	0.011	0.08	0.18	0.0321	0.18	NA	NA	X	0.18	Max Detect	0.18	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	5 / 20	25	10	34.1	5	5	20.5	8.875	17	123.9	11.13	X	12.5	95% KM (t) UCL	11.9	Bootstrap BCA 95UCL
TPH as motor oil	mg/kg	0-0.5	10 / 20	50	10.9	252	5	5	77.9	41.45	44.15	6699	81.84	X	68.3	95% KM (t) UCL	72	Bootstrap BCA 95UCL
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	9 / 9	100	3000	9000	NA	NA	7156	7156	7700	3937778	1984	--	--	--	--	--
Antimony	mg/kg	0-3	2 / 24	8	1.77	19	1	1.02	10.39	1.782	10.39	148.4	12.18	X	19	Max Detect	19	Max Detect
Arsenic	mg/kg	0-3	24 / 24	100	0.833	14	NA	NA	4.882	4.882	4.865	7.331	2.708	--	--	--	--	--
Barium	mg/kg	0-3	24 / 24	100	67.7	410	NA	NA	162	162	150	4996	70.68	--	--	--	--	--
Beryllium	mg/kg	0-3	0 / 24	0	NA	NA	0.5	2.5	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-3	3 / 24	13	1.1	7.1	0.5	0.517	3.31	0.851	1.73	10.87	3.297	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-3	18 / 48	38	0.137	12	0.1	0.255	2.143	0.872	0.614	10.28	3.206	X	0.909	KM H-UCL	1.13	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	48 / 48	100	10.3	380	NA	NA	30.77	30.77	17.4	3017	54.93	--	--	--	--	--
Cobalt	mg/kg	0-3	24 / 24	100	2.4	17	NA	NA	6.623	6.623	6.485	6.832	2.614	--	--	--	--	--
Copper	mg/kg	0-3	48 / 48	100	1.8	1800	NA	NA	56.59	56.59	10.05	69886	264.4	X	223	95% Chebyshev (Mean, Sd) UCL	134	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-3	0 / 9	0	NA	NA	0.05	0.5	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-3	10 / 10	100	6800	23100	NA	NA	15990	15990	16500	23894333	4888	--	--	--	--	--
Lead	mg/kg	0-3	24 / 24	100	3	1600	NA	NA	74.93	74.93	6.48	105570	324.9	X	364	95% Chebyshev (Mean, Sd) UCL	208	Bootstrap BCA 95UCL
Manganese	mg/kg	0-3	9 / 9	100	120	290	NA	NA	235.6	235.6	260	3053	55.25	--	--	--	--	--
Mercury	mg/kg	0-3	2 / 24	8	0.117	60.3	0.0497	0.0517	30.21	2.563	30.21	1811	42.56	X	60.3	Max Detect	60.3	Max Detect
Molybdenum	mg/kg	0-3	6 / 24	25	0.833	21.3	0.5	2.5	7.006	2.135	1.415	84.23	9.178	--	--	--	--	--
Nickel	mg/kg	0-3	48 / 48	100	0.28	270	NA	NA	14.83	14.83	9.535	1492	38.63	--	--	--	--	--
Selenium	mg/kg	0-3	0 / 24	0	NA	NA	0.5	0.517	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-3	0 / 24	0	NA	NA	0.5	2.5	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-3	2 / 24	8	1.37	1.43	1	4.87	1.4	1.04	1.4	0.0018	0.0424	X	1.43	Max Detect	1.43	Max Detect
Vanadium	mg/kg	0-3	24 / 24	100	12.3	32	NA	NA	25.95	25.95	25.85	20.2	4.495	--	--	--	--	--
Zinc	mg/kg	0-3	48 / 48	100	8.08	2000	NA	NA	79.07	79.07	35	81237	285	--	--	--	--	--
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-3	0 / 16	0	NA	NA	20.5	50	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-3	0 / 9	0	NA	NA	2.05	4.45	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl ethyl ketone	µg/kg	0-3	0 / 22	0	NA	NA	20.5	50	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
N-Butylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-3	0 / 22	0	NA	NA	2.05	5	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-3	1 / 22	5	345	345	165	1530	345	174.5	345	NA	NA	X	345	Max Detect	345	Max Detect	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	1 / 22	5	482	482	165	14300	482	180.9	482	NA	NA	X	482	Max Detect	482	Max Detect	
Butylbenzylphthalate	µg/kg	0-3	0 / 22	0	NA	NA	165	14300	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 22	0	NA	NA	165	1530	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-3	0 / 22	0	NA	NA	165	1530	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-3	7 / 22	32	2.37	253	0	0	39.55	12.59	3.67	8862	94.14	X	133	99% KM (Chebyshev) UCL	35.7	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-3	13 / 22	59	15.2	5380	0	0	459.6	271.6	55.3	2186355	1479	X	2734	99% KM (Chebyshev) UCL	754	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-3	0 / 21	0	NA	NA	2.5	9.18	NA	NA	NA	NA	NA	--	--	--	--	--	
2-Methyl naphthalene	µg/kg	0-3	0 / 22	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthene	µg/kg	0-3	0 / 22	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthylene	µg/kg	0-3	1 / 22	5	3.97	3.97	2.5	165	3.97	2.577	3.97	NA	NA	X	3.97	Max Detect	3.97	Max Detect	
Anthracene	µg/kg	0-3	1 / 22	5	7.37	7.37	2.5	165	7.37	2.744	7.37	NA	NA	X	7.37	Max Detect	7.37	Max Detect	
Benzo (a) anthracene	µg/kg	0-3	8 / 22	36	3.53	668	2.5	165	91.33	35.07	9.585	54309	233	X	172	95% KM (Chebyshev) UCL	86.2	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-3	8 / 22	36	3.67	368	2.5	165	52.71	21.09	6.21	16258	127.5	X	96.4	95% KM (Chebyshev) UCL	58	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-3	10 / 22	45	4.77	561	2.5	165	65.46	31.73	10.45	30341	174.2	X	145	95% KM (Chebyshev) UCL	72.8	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-3	10 / 22	45	4.38	19.8	2.5	165	7.753	5.374	6.79	19.42	4.407	X	5.87	KM Student's t	46.5	Bootstrap BCA 95UCL	
Benzo (k) fluoranthene	µg/kg	0-3	10 / 22	45	4.77	241	2.5	165	31.51	16.19	7.04	5441	73.76	X	64.5	95% KM (Chebyshev) UCL	51.5	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-3	12 / 22	55	4.3	734	2.5	165	70.87	40.22	9.185	43628	208.9	X	187	95% KM (Chebyshev) UCL	88	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-3	0 / 22	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Fluoranthene	µg/kg	0-3	12 / 22	55	3.9	1400	2.5	165	126.8	70.59	10.11	160813	401	X	352	95% KM (Chebyshev) UCL	203	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-3	0 / 22	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	8 / 22	36	4.38	19.1	2.5	165	6.84	4.383	4.975	24.95	4.995	X	6.1	95% KM (BCA) UCL	47.5	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-3	0 / 22	0	NA	NA	2.38	9.18	NA	NA	NA	NA	NA	--	--	--	--	--	
Phenanthrene	µg/kg	0-3	6 / 22	27	4.07	254	2.5	165	46.12	14.47	4.6	10371	101.8	X	67.7	95% KM (Chebyshev) UCL	56.8	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-3	12 / 22	55	3.9	1400	2.5	165	126.2	70.29	9.435	160951	401.2	X	352	95% KM (Chebyshev) UCL	217	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-3	13 / 22	59	6	495	5.8	380	53.84	34.83	11.3	17834	133.5	--	--	--	--	--	
Pesticides																			
4,4-DDE	µg/kg	0-3	2 / 16	13	2.9	4.4	1	1.02	3.65	1.331	3.65	1.125	1.061	X	4.4	Max Detect	4.4	Max Detect	
4,4-DDT	µg/kg	0-3	1 / 16	6	3	3	1	1.05	3	1.125	3	NA	NA	X	3	Max Detect	3	Max Detect	
Alpha-Chlordane	µg/kg	0-3	0 / 16	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Dieldrin	µg/kg	0-3	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-3	0 / 16	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	--	--	

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-3	1 / 15	7	35	35	8.5	8.5	35	10.27	35	NA	NA	X	35	Max Detect	35	Max Detect	
Dioxins																			
TEQ Human	ng/kg	0-3	9 / 9	100	0.337	140	NA	NA	18.52	18.52	2.88	2082	45.63	X	140	UCL>Max: Max Detect	48.1	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-3	9 / 9	100	0.357	210	NA	NA	25.31	25.31	2.41	4799	69.27	X	210	UCL>Max: Max Detect	71.3	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-3	9 / 9	100	0.337	140	NA	NA	18.52	18.52	2.88	2082	45.63	X	140	UCL>Max: Max Detect	47.7	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-3	2 / 9	22	0.125	17	0.0213	0.258	8.563	1.921	8.563	142.4	11.93	X	17	Max Detect	17	Max Detect	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-3	7 / 21	33	9	213	5	5	44.14	18.05	13	5593	74.78	X	63.3	95% KM (Chebyshev) UCL	37.8	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-3	0 / 21	0	NA	NA	0.395	0.95	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-3	15 / 21	71	6.77	1500	5	5	146.5	106.1	25	142896	378	X	479	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	252	Bootstrap BCA 95UCL	
Miscellaneous																			
Chloride	mg/kg	0-3	1 / 1	100	223	223	NA	NA	223	NA	223	NA	NA	X	223	Max Detect	223	Max Detect	
Nitrate	mg/kg	0-3	1 / 1	100	17	17	NA	NA	17	NA	17	NA	NA	X	17	Max Detect	17	Max Detect	
Phosphate	mg/kg	0-3	1 / 1	100	64.2	64.2	NA	NA	64.2	NA	64.2	NA	NA	X	64.2	Max Detect	64.2	Max Detect	
Sulfate	mg/kg	0-3	1 / 1	100	585	585	NA	NA	585	NA	585	NA	NA	X	585	Max Detect	585	Max Detect	
Soil Depth Interval: 0-6 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-6	9 / 9	100	3000	9000	NA	NA	7156	7156	7700	3937778	1984	--	--	--	--	--	
Antimony	mg/kg	0-6	2 / 27	7	2.17	10	1	1.07	6.085	1.377	6.085	30.65	5.537	X	10	Max Detect	10	Max Detect	
Arsenic	mg/kg	0-6	27 / 27	100	1.02	10.9	NA	NA	4.74	4.74	4.37	5.746	2.397	--	--	--	--	--	
Barium	mg/kg	0-6	27 / 27	100	73.8	300	NA	NA	155.4	155.4	142	2427	49.27	--	--	--	--	--	
Beryllium	mg/kg	0-6	0 / 27	0	NA	NA	0.5	3.52	NA	NA	NA	NA	NA	--	--	--	--	--	
Cadmium	mg/kg	0-6	3 / 27	11	1.03	3.8	0.5	0.525	2.397	0.711	2.36	1.919	1.385	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-6	20 / 52	38	0.155	14.2	0.1	0.255	2.819	1.156	0.65	17.33	4.164	X	1.23	KM H-UCL	1.75	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-6	52 / 52	100	10.8	197	NA	NA	29.08	29.08	18.55	1306	36.14	--	--	--	--	--	
Cobalt	mg/kg	0-6	27 / 27	100	2.48	11.9	NA	NA	6.525	6.525	6.52	3.034	1.742	--	--	--	--	--	
Copper	mg/kg	0-6	52 / 52	100	2.2	910	NA	NA	40.71	40.71	9.615	23476	153.2	X	133	95% Chebyshev (Mean, Sd) UCL	89	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-6	0 / 9	0	NA	NA	0.05	0.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-6	11 / 11	100	425	23100	NA	NA	14575	14575	16000	43529375	6598	--	--	--	--	--	
Lead	mg/kg	0-6	27 / 27	100	2.95	803	NA	NA	38.49	38.49	5.27	23484	153.2	X	167	95% Chebyshev (Mean, Sd) UCL	97.5	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-6	9 / 9	100	120	290	NA	NA	235.6	235.6	260	3053	55.25	--	--	--	--	--	
Mercury	mg/kg	0-6	3 / 27	11	0.0783	102	0.0495	0.0533	34.08	3.83	0.15	3460	58.82	X	102	Max Detect	102	Max Detect	
Molybdenum	mg/kg	0-6	13 / 27	48	0.667	34	0.5	3.52	4.347	2.368	1.17	83.29	9.127	--	--	--	--	--	
Nickel	mg/kg	0-6	52 / 52	100	0.28	140	NA	NA	12.49	12.49	9.62	470.3	21.69	--	--	--	--	--	
Selenium	mg/kg	0-6	1 / 27	4	1.5	1.5	0.5	0.583	1.5	0.537	1.5	NA	NA	--	--	--	--	--	
Silver	mg/kg	0-6	0 / 27	0	NA	NA	0.5	3.52	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-6	2 / 27	7	1.75	1.85	1	7.1	1.8	1.067	1.8	0.005	0.0707	X	1.85	Max Detect	1.85	Max Detect	
Vanadium	mg/kg	0-6	27 / 27	100	12.2	34.7	NA	NA	26.19	26.19	26.8	22.87	4.783	--	--	--	--	--	
Zinc	mg/kg	0-6	52 / 52	100	4.46	1020	NA	NA	56.78	56.78	33.65	19582	139.9	--	--	--	--	--	

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	COPC/ COPEC?	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-6	0 / 20	0	NA	NA	20.9	925	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-6	0 / 25	0	NA	NA	2.09	92.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-6	0 / 25	0	NA	NA	2.09	92.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-6	0 / 25	0	NA	NA	2.09	92.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-6	0 / 9	0	NA	NA	2.05	4.45	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-6	0 / 25	0	NA	NA	20.9	925	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-6	0 / 25	0	NA	NA	2.09	92.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-6	0 / 25	0	NA	NA	2.09	92.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-6	0 / 25	0	NA	NA	2.09	4.63	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-6	1 / 25	4	263	263	165	2210	263	169.7	263	NA	NA	X	263	Max Detect	263	Max Detect	
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	1 / 25	4	323	323	165	21300	323	172.5	323	NA	NA	X	323	Max Detect	323	Max Detect	
Butylbenzylphthalate	µg/kg	0-6	0 / 25	0	NA	NA	165	21300	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-6	0 / 25	0	NA	NA	165	2210	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-6	0 / 25	0	NA	NA	165	2210	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-6	8 / 25	32	1.73	142	0	0	37.17	11.89	4.575	3635	60.29	X	47.5	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	18.3	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-6	15 / 25	60	8.67	2690	0	0	310	186	31.5	560391	748.6	X	1382	99% KM (Chebyshev) UCL	280	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-6	0 / 24	0	NA	NA	2.5	7.81	NA	NA	NA	NA	NA	--	--	--	--	--	
2-Methyl naphthalene	µg/kg	0-6	0 / 25	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthene	µg/kg	0-6	0 / 25	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthylene	µg/kg	0-6	1 / 25	4	4.68	4.68	2.5	165	4.68	2.599	4.68	NA	NA	X	4.68	Max Detect	4.68	Max Detect	
Anthracene	µg/kg	0-6	2 / 25	8	9.78	22	2.5	165	15.89	3.616	15.89	74.66	8.641	X	22	Max Detect	22	Max Detect	
Benzo (a) anthracene	µg/kg	0-6	11 / 25	44	3.63	335	2.5	165	52.27	24.59	6.67	11508	107.3	X	90.6	95% KM (Chebyshev) UCL	50.2	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-6	11 / 25	44	3.7	185	2.5	165	29.3	14.64	5	3224	56.78	X	49.9	95% KM (Chebyshev) UCL	41.6	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-6	13 / 25	52	3.63	282	2.5	165	37.45	21.24	8.52	6206	78.78	X	73.4	95% KM (Chebyshev) UCL	44.6	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-6	12 / 25	48	3.47	40	2.5	165	9.178	6.105	5.505	102.2	10.11	X	10.5	95% GROS Adjusted Gamma UCL	36.9	Bootstrap BCA 95UCL	
Benzo (k) fluoranthene	µg/kg	0-6	13 / 25	52	3.63	122	2.5	165	21.34	12.92	5.67	1360	36.88	X	38.5	95% KM (Chebyshev) UCL	40.3	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-6	15 / 25	60	3.4	368	2.5	165	45.38	28.53	9.3	10686	103.4	X	101	95% KM (Chebyshev) UCL	52	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-6	2 / 25	8	4.28	17	2.5	165	10.64	3.22	10.64	80.9	8.994	X	17	Max Detect	17	Max Detect	

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Fluoranthene	µg/kg	0-6	14 / 25	56	2.96	702	2.5	165	83.26	47.95	7.855	39997	200	X	183	95% KM (Chebyshev) UCL	70.7	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-6	0 / 25	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	11 / 25	44	3.47	39	2.5	165	8.439	5.429	4.44	109.1	10.44	X	6.31	KM H-UCL	36.8	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-6	0 / 25	0	NA	NA	2.2	5.87	NA	NA	NA	NA	NA	--	--	--	--	--	
Phenanthrene	µg/kg	0-6	7 / 25	28	3.57	128	2.5	165	38.82	13.13	4.93	3392	58.24	X	45.3	95% KM (Chebyshev) UCL	35.8	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-6	14 / 25	56	3.06	702	2.5	165	79.83	46.01	8.335	38543	196.3	X	179	95% KM (Chebyshev) UCL	67.5	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-6	15 / 25	60	5.93	251	5.8	380	36.32	25.28	9.72	4502	67.1	--	--	--	--	--	
Pesticides																			
4,4-DDE	µg/kg	0-6	3 / 16	19	1.29	2.9	1	1.03	2.307	1.245	2.73	0.782	0.885	X	2.9	Max Detect	2.9	Max Detect	
4,4-DDT	µg/kg	0-6	1 / 16	6	3	3	1	1.05	3	1.125	3	NA	NA	X	3	Max Detect	3	Max Detect	
Alpha-Chlordane	µg/kg	0-6	0 / 16	0	NA	NA	0.5	0.508	NA	NA	NA	NA	NA	--	--	--	--	--	
Dieldrin	µg/kg	0-6	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-6	0 / 16	0	NA	NA	0.5	0.508	NA	NA	NA	NA	NA	--	--	--	--	--	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-6	2 / 15	13	15.8	21.8	8.5	8.58	18.8	9.873	18.8	18	4.243	X	21.8	Max Detect	21.8	Max Detect	
Dioxins																			
TEQ Human	ng/kg	0-6	9 / 9	100	0.332	81.7	NA	NA	20.32	20.32	4.78	1026	32.02	X	81.7	UCL>Max: Max Detect	19.6	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-6	9 / 9	100	0.347	131	NA	NA	28.56	28.56	3.05	2645	51.43	X	131	UCL>Max: Max Detect	30.4	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-6	9 / 9	100	0.332	81.7	NA	NA	20.32	20.32	4.78	1026	32.02	X	81.7	UCL>Max: Max Detect	18.8	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-6	2 / 9	22	3.4	8.61	0.0227	0.39	6.005	1.352	6.005	13.57	3.684	X	8.61	Max Detect	8.61	Max Detect	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-6	8 / 24	33	7	329	5	5	53.88	21.29	14.6	12409	111.4	X	82.6	95% KM (Chebyshev) UCL	47.6	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-6	0 / 24	0	NA	NA	0.403	0.9	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-6	19 / 24	79	7.65	2340	5	5	168.2	134.2	28.6	279818	529	X	557	95% KM (Chebyshev) UCL	321	Bootstrap BCA 95UCL	
Miscellaneous																			
Chloride	mg/kg	0-6	2 / 2	100	223	3010	NA	NA	1617	1617	1617	3883685	1971	X	3010	Max Detect	3010	Max Detect	
Nitrate	mg/kg	0-6	2 / 2	100	17	29	NA	NA	23	23	23	72	8.485	X	29	Max Detect	29	Max Detect	
Phosphate	mg/kg	0-6	2 / 2	100	10.7	64.2	NA	NA	37.45	37.45	37.45	1431	37.83	X	64.2	Max Detect	64.2	Max Detect	
Sulfate	mg/kg	0-6	2 / 2	100	585	1630	NA	NA	1108	1108	1108	546013	738.9	X	1630	Max Detect	1630	Max Detect	
Soil Depth Interval: 0-10 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-10	9 / 9	100	3000	9000	NA	NA	7156	7156	7700	3937778	1984	--	--	--	--	--	
Antimony	mg/kg	0-10	2 / 28	7	1.71	6.44	1	1.06	4.075	1.22	4.075	11.19	3.345	X	6.44	Max Detect	6.44	Max Detect	
Arsenic	mg/kg	0-10	28 / 28	100	1.03	8.92	NA	NA	4.129	4.129	3.965	3.34	1.827	--	--	--	--	--	
Barium	mg/kg	0-10	28 / 28	100	85.4	256	NA	NA	146.9	146.9	140	1620	40.25	--	--	--	--	--	
Beryllium	mg/kg	0-10	0 / 28	0	NA	NA	0.5	2.94	NA	NA	NA	NA	NA	--	--	--	--	--	
Cadmium	mg/kg	0-10	3 / 28	11	1.06	2.48	0.5	0.515	1.72	0.631	1.62	0.512	0.715	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-10	20 / 53	38	0.133	9.64	0.1	0.255	2.233	0.912	0.595	8.32	2.884	X	1.02	KM H-UCL	1.23	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-10	53 / 53	100	11	127	NA	NA	25.64	25.64	18.3	551.6	23.49	--	--	--	--	--	
Cobalt	mg/kg	0-10	28 / 28	100	2.81	9.79	NA	NA	6.507	6.507	6.745	2.086	1.444	--	--	--	--	--	
Copper	mg/kg	0-10	53 / 53	100	2.2	553	NA	NA	28.97	28.97	9.7	8572	92.58	X	84.4	95% Chebyshev (Mean, Sd) UCL	59.3	Bootstrap BCA 95UCL	

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	COPC/ COPEC?	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Cyanide	mg/kg	0-10	0 / 9	0	NA	NA	0.05	0.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-10	11 / 11	100	425	23100	NA	NA	14575	14575	16000	43529375	6598	--	--	--	--	--	
Lead	mg/kg	0-10	28 / 28	100	2.59	484	NA	NA	24.8	24.8	4.47	8196	90.53	X	99.4	95% Chebyshev (Mean, Sd) UCL	57.8	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-10	9 / 9	100	120	290	NA	NA	235.6	235.6	260	3053	55.25	--	--	--	--	--	
Mercury	mg/kg	0-10	3 / 28	11	0.067	71.9	0.0496	0.0535	24.03	2.618	0.11	1719	41.46	X	71.9	Max Detect	71.9	Max Detect	
Molybdenum	mg/kg	0-10	13 / 28	46	0.9	22	0.5	2.94	3.262	1.796	1.36	32.93	5.738	--	--	--	--	--	
Nickel	mg/kg	0-10	53 / 53	100	0.28	87.8	NA	NA	11.06	11.06	9.4	177.3	13.31	--	--	--	--	--	
Selenium	mg/kg	0-10	2 / 28	7	0.61	1.47	0.5	0.7	1.04	0.539	1.04	0.37	0.608	--	--	--	--	--	
Silver	mg/kg	0-10	0 / 28	0	NA	NA	0.5	2.94	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-10	3 / 28	11	1.12	1.99	1	5.86	1.58	1.068	1.63	0.191	0.437	X	1.99	Max Detect	1.99	Max Detect	
Vanadium	mg/kg	0-10	28 / 28	100	13.6	33.5	NA	NA	26.37	26.37	27.5	19.71	4.439	--	--	--	--	--	
Zinc	mg/kg	0-10	53 / 53	100	11.3	629	NA	NA	49.8	49.8	34.1	7678	87.62	--	--	--	--	--	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-10	0 / 22	0	NA	NA	19.5	1280	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-10	0 / 26	0	NA	NA	2.19	128	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-10	0 / 26	0	NA	NA	2.19	128	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-10	0 / 26	0	NA	NA	2.19	128	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-10	0 / 9	0	NA	NA	2.05	4.45	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-10	0 / 26	0	NA	NA	21.9	1280	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-10	0 / 26	0	NA	NA	2.19	128	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-10	0 / 26	0	NA	NA	2.19	128	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-10	0 / 26	0	NA	NA	2.19	4.48	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-10	1 / 26	4	225	225	165	1390	225	167.7	225	NA	NA	X	225	Max Detect	225	Max Detect	
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	1 / 26	4	260	260	165	12900	260	169.3	260	NA	NA	X	260	Max Detect	260	Max Detect	
Butylbenzylphthalate	µg/kg	0-10	1 / 26	4	12900	12900	165	465	12900	654.8	12900	NA	NA	X	12900	Max Detect	12900	Max Detect	
Di-n-butyl phthalate	µg/kg	0-10	0 / 26	0	NA	NA	165	1390	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-10	0 / 26	0	NA	NA	165	1390	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-10	8 / 26	31	1.04	128	0	0	27.63	8.5	2.745	2304	48	X	66.9	99% KM (Chebyshev) UCL	15.2	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-10	15 / 26	58	5.2	1730	0	0	227	131	39.9	276781	526.1	X	943	99% KM (Chebyshev) UCL	192	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-10	0 / 25	0	NA	NA	2.5	5.72	NA	NA	NA	NA	NA	--	--	--	--	--	

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
2-Methyl naphthalene	µg/kg	0-10	0 / 26	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-10	0 / 26	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-10	1 / 26	4	3.83	3.83	2.5	165	3.83	2.558	3.83	NA	NA	X	3.83	Max Detect	3.83	Max Detect
Anthracene	µg/kg	0-10	2 / 26	8	6.89	20.1	2.5	165	13.5	3.38	13.5	87.25	9.341	X	20.1	Max Detect	20.1	Max Detect
Benzo (a) anthracene	µg/kg	0-10	11 / 26	42	3.2	202	2.5	165	37.67	17.86	5.42	5175	71.94	X	61.4	95% KM (Chebyshev) UCL	39.1	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-10	11 / 26	42	3.26	112	2.5	165	21.25	10.9	5.08	1360	36.88	X	33.8	95% KM (Chebyshev) UCL	37.8	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-10	13 / 26	50	3.19	170	2.5	165	26.49	14.99	6.72	2519	50.19	X	47.4	95% KM (Chebyshev) UCL	40.6	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-10	12 / 26	46	3.1	36.3	2.5	165	7.937	5.362	5.28	83.36	9.13	X	6.29	KM H-UCL	36.8	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-10	13 / 26	50	3.19	74.1	2.5	165	16.12	9.797	6.29	665	25.79	X	27.1	95% KM (Chebyshev) UCL	36.5	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-10	15 / 26	58	3.05	222	2.5	165	32.86	20.4	7.12	4955	70.39	X	67.9	95% KM (Chebyshev) UCL	43.7	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-10	2 / 26	8	6.72	15.6	2.5	165	11.16	3.271	11.16	39.43	6.279	X	15.6	Max Detect	15.6	Max Detect
Fluoranthene	µg/kg	0-10	14 / 26	54	3.19	538	2.5	165	67.01	37.37	6.995	25124	158.5	X	141	95% KM (Chebyshev) UCL	55.4	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-10	0 / 26	0	NA	NA	2.5	165	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	11 / 26	42	3.1	35.4	2.5	165	7.477	4.883	4.64	88.13	9.388	X	5.52	KM H-UCL	36.1	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-10	0 / 26	0	NA	NA	2.21	4.54	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-10	7 / 26	27	3.17	108	2.5	165	29.33	10.03	3.98	1967	44.35	X	33.4	95% KM (Chebyshev) UCL	34.4	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-10	14 / 26	54	3.07	422	2.5	165	55.86	31.35	7.345	16380	128	X	115	95% KM (Chebyshev) UCL	51.4	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-10	15 / 26	58	5.89	153	5.8	380	27.29	18.94	9.3	1997	44.68	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-10	3 / 17	18	1.34	2.9	1	1.02	2.1	1.194	2.06	0.61	0.781	X	2.9	Max Detect	2.9	Max Detect
4,4-DDT	µg/kg	0-10	1 / 17	6	3	3	1	1.05	3	1.118	3	NA	NA	X	3	Max Detect	3	Max Detect
Alpha-Chlordane	µg/kg	0-10	0 / 17	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-10	0 / 17	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-10	0 / 17	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-10	2 / 16	13	16.5	20.2	8.5	8.6	18.35	9.731	18.35	6.845	2.616	X	20.2	Max Detect	20.2	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-10	10 / 10	100	0.075	57.7	NA	NA	12.22	12.22	3.275	421.9	20.54	X	48.8	95% Adjusted Gamma UCL	12.2	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-10	10 / 10	100	0.12	89.1	NA	NA	16.77	16.77	2.22	1029	32.08	X	89.1	UCL>Max: Max Detect	19.4	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-10	10 / 10	100	0.075	57.7	NA	NA	12.22	12.22	3.275	421.9	20.54	X	48.8	95% Adjusted Gamma UCL	11.8	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-10	2 / 10	20	2.47	5.25	0.009	0.251	3.86	0.779	3.86	3.864	1.966	X	5.25	Max Detect	5.25	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-10	8 / 25	32	6.2	213	5	5	39.46	16.03	12.9	5010	70.78	X	16	KM H-UCL	31.6	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-10	0 / 25	0	NA	NA	0.421	0.88	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-10	19 / 25	76	6.59	1510	5	5	127.1	97.76	25.7	117327	342.5	X	143	KM H-UCL	208	Bootstrap BCA 95UCL

Table AOC14-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 14: (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Miscellaneous																			
Chloride	mg/kg	0-10	2 / 2	100	223	3010	NA	NA	1617	1617	1617	3883685	1971	X	3010	Max Detect	3010	Max Detect	
Nitrate	mg/kg	0-10	2 / 2	100	17	29	NA	NA	23	23	23	72	8.485	X	29	Max Detect	29	Max Detect	
Phosphate	mg/kg	0-10	2 / 2	100	10.7	64.2	NA	NA	37.45	37.45	37.45	1431	37.83	X	64.2	Max Detect	64.2	Max Detect	
Sulfate	mg/kg	0-10	2 / 2	100	585	1630	NA	NA	1108	1108	1108	546013	738.9	X	1630	Max Detect	1630	Max Detect	

Notes:
^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:
"---" = not applicable
AOC = area of concern
B(a)P equivalent = benzo(a)pyrene equivalent
BCA = Bias-corrected accelerated bootstrap method
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
EPC = exposure point concentration
FOD = frequency of detection
ft bgs = feet below ground surface
KM = Kaplan-Meier
µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
ng/kg = nanograms per kilogram
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls
PG&E = Pacific Gas and Electric Company
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = toxic equivalent
TPH = total petroleum hydrocarbons
UCL = upper confidence limit
X = COPC/COPEC in the exposure depth interval

Table AOC14-4.1

Summary of COPCs Evaluated in the HHRA for AOC 14: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Antimony	--	x	x	x
Chromium, Hexavalent	x	x	x	x
Copper	x	x	x	x
Lead	x	x	x	x
Mercury (inorganic)	x	x	x	x
Nitrate	--	x	x	x
Phosphate	--	x	x	x
Thallium	--	x	x	x
Semi-Volatile Organic Compounds				
4-Methylphenol	x	x	x	x
bis (2-ethylhexyl) phthalate	x	x	x	x
Butylbenzylphthalate	--	--	--	x
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	--	x	x	x
Anthracene	--	x	x	x
Benzo (ghi) perylene	x	x	x	x
Fluoranthene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
Pesticides				
4,4-DDE	x	x	x	x
4,4-DDT	x	x	x	x

Table AOC14-4.1

Summary of COPCs Evaluated in the HHRA for AOC 14: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Polychlorinated Biphenyls				
Total PCBs	--	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x
Dioxins/Furans				
TEQ Human	x	x	x	x

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	ND	6.4E+00	NA	NV	NA	NV
Chromium, Hexavalent	5.0E-01	1.0E+00	5.0E-07	NV	5.0E-07	NV
Copper	1.3E+01	8.4E+01	1.3E-05	NV	1.3E-05	NV
Lead	9.5E+00	9.9E+01	9.5E-06	NV	9.5E-06	NV
Mercury (inorganic)	4.1E-01	7.2E+01	4.1E-07	NV	4.1E-07	NV
Nitrate	NS	2.9E+01	NA	NV	NA	NV
Phosphate	NS	6.4E+01	NA	NV	NA	NV
Thallium	ND	2.0E+00	NA	NV	NA	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	4.3E-01	2.3E-01	4.3E-07	NV	4.3E-07	NV
bis (2-ethylhexyl) phthalate	6.4E-01	2.6E-01	6.4E-07	NV	6.4E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	ND	3.8E-03	NA	NV	NA	NV
Anthracene	ND	2.0E-02	NA	1.6E-07	NA	2.9E-08
Benzo (ghi) perylene	6.0E-03	6.3E-03	6.0E-09	NV	6.0E-09	NV
Fluoranthene	5.6E-01	1.4E-01	5.6E-07	NV	5.6E-07	NV
Phenanthrene	3.8E-01	3.3E-02	3.8E-07	NV	3.8E-07	NV
Pyrene	5.6E-01	1.2E-01	5.6E-07	1.9E-07	5.6E-07	3.5E-08
Pesticides						
4,4-DDE	2.9E-03	2.9E-03	2.9E-09	7.1E-09	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV	3.0E-09	NV

Table AOC14-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	ND	2.0E-02	NA	1.6E-07	NA	2.9E-08
Total Petroleum Hydrocarbons						
TPH as diesel	1.3E+01	1.6E+01	1.3E-05	3.3E-02	1.3E-05	6.0E-03
TPH as motor oil	6.8E+01	1.4E+02	6.8E-05	NV	6.8E-05	NV
Dioxins/Furans						
TEQ Human	4.5E-06	4.9E-05	4.5E-12	1.0E-10	4.5E-12	1.9E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	1.9E+01	6.4E+00	1.9E-05	NV	1.9E-05	NV
Chromium, Hexavalent	9.1E-01	1.0E+00	9.1E-07	NV	9.1E-07	NV
Copper	2.2E+02	8.4E+01	2.2E-04	NV	2.2E-04	NV
Lead	3.6E+02	9.9E+01	3.6E-04	NV	3.6E-04	NV
Mercury (inorganic)	6.0E+01	7.2E+01	6.0E-05	NV	6.0E-05	NV
Nitrate	1.7E+01	2.9E+01	1.7E-05	NV	1.7E-05	NV
Phosphate	6.4E+01	6.4E+01	6.4E-05	NV	6.4E-05	NV
Thallium	1.4E+00	2.0E+00	1.4E-06	NV	1.4E-06	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	3.5E-01	2.3E-01	3.5E-07	NV	3.5E-07	NV
bis (2-ethylhexyl) phthalate	4.8E-01	2.6E-01	4.8E-07	NV	4.8E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	4.0E-03	3.8E-03	4.0E-09	NV	4.0E-09	NV
Anthracene	7.4E-03	2.0E-02	7.4E-09	1.6E-07	7.4E-09	2.9E-08
Benzo (ghi) perylene	5.9E-03	6.3E-03	5.9E-09	NV	5.9E-09	NV
Fluoranthene	3.5E-01	1.4E-01	3.5E-07	NV	3.5E-07	NV
Phenanthrene	6.8E-02	3.3E-02	6.8E-08	NV	6.8E-08	NV
Pyrene	3.5E-01	1.2E-01	3.5E-07	1.9E-07	3.5E-07	3.5E-08
Pesticides						
4,4-DDE	4.4E-03	2.9E-03	4.4E-09	7.1E-09	4.4E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV	3.0E-09	NV

Table AOC14-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	3.5E-02	2.0E-02	3.5E-08	1.6E-07	3.5E-08	2.9E-08
Total Petroleum Hydrocarbons						
TPH as diesel	6.3E+01	1.6E+01	6.3E-05	3.3E-02	6.3E-05	6.0E-03
TPH as motor oil	4.8E+02	1.4E+02	4.8E-04	NV	4.8E-04	NV
Dioxins/Furans						
TEQ Human	1.4E-04	4.9E-05	1.4E-10	1.0E-10	1.4E-10	1.9E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	1.0E+01	6.4E+00	1.0E-05	NV	1.0E-05	NV
Chromium, Hexavalent	1.2E+00	1.0E+00	1.2E-06	NV	1.2E-06	NV
Copper	1.3E+02	8.4E+01	1.3E-04	NV	1.3E-04	NV
Lead	1.7E+02	9.9E+01	1.7E-04	NV	1.7E-04	NV
Mercury (inorganic)	1.0E+02	7.2E+01	1.0E-04	NV	1.0E-04	NV
Nitrate	2.9E+01	2.9E+01	2.9E-05	NV	2.9E-05	NV
Phosphate	6.4E+01	6.4E+01	6.4E-05	NV	6.4E-05	NV
Thallium	1.9E+00	2.0E+00	1.9E-06	NV	1.9E-06	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	2.6E-01	2.3E-01	2.6E-07	NV	2.6E-07	NV
bis (2-ethylhexyl) phthalate	3.2E-01	2.6E-01	3.2E-07	NV	3.2E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	4.7E-03	3.8E-03	4.7E-09	NV	4.7E-09	NV
Anthracene	2.2E-02	2.0E-02	2.2E-08	1.6E-07	2.2E-08	2.9E-08
Benzo (ghi) perylene	1.1E-02	6.3E-03	1.1E-08	NV	1.1E-08	NV
Fluoranthene	1.8E-01	1.4E-01	1.8E-07	NV	1.8E-07	NV
Phenanthrene	4.5E-02	3.3E-02	4.5E-08	NV	4.5E-08	NV
Pyrene	1.8E-01	1.2E-01	1.8E-07	1.9E-07	1.8E-07	3.5E-08
Pesticides						
4,4-DDE	2.9E-03	2.9E-03	2.9E-09	7.1E-09	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV	3.0E-09	NV

Table AOC14-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	2.2E-02	2.0E-02	2.2E-08	1.6E-07	2.2E-08	2.9E-08
Total Petroleum Hydrocarbons						
TPH as diesel	8.3E+01	1.6E+01	8.3E-05	3.3E-02	8.3E-05	6.0E-03
TPH as motor oil	5.6E+02	1.4E+02	5.6E-04	NV	5.6E-04	NV
Dioxins/Furans						
TEQ Human	8.2E-05	4.9E-05	8.2E-11	1.0E-10	8.2E-11	1.9E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Antimony	6.4E+00	6.4E-06	NV	6.4E-06	NV
Chromium, Hexavalent	1.0E+00	1.0E-06	NV	1.0E-06	NV
Copper	8.4E+01	8.4E-05	NV	8.4E-05	NV
Lead	9.9E+01	9.9E-05	NV	9.9E-05	NV
Mercury (inorganic)	7.2E+01	7.2E-05	NV	7.2E-05	NV
Nitrate	2.9E+01	2.9E-05	NV	2.9E-05	NV
Phosphate	6.4E+01	6.4E-05	NV	6.4E-05	NV
Thallium	2.0E+00	2.0E-06	NV	2.0E-06	NV
Semi-Volatile Organic Compounds					
4-Methylphenol	2.3E-01	2.3E-07	NV	2.3E-07	NV
bis (2-ethylhexyl) phthalate	2.6E-01	2.6E-07	NV	2.6E-07	NV
Butylbenzylphthalate	1.3E+01	1.3E-05	NV	1.3E-05	NV
Polycyclic Aromatic Hydrocarbons					
Acenaphthylene	3.8E-03	3.8E-09	NV	3.8E-09	NV
Anthracene	2.0E-02	2.0E-08	1.6E-07	2.0E-08	2.9E-08
Benzo (ghi) perylene	6.3E-03	6.3E-09	NV	6.3E-09	NV
Fluoranthene	1.4E-01	1.4E-07	NV	1.4E-07	NV
Phenanthrene	3.3E-02	3.3E-08	NV	3.3E-08	NV
Pyrene	1.2E-01	1.2E-07	1.9E-07	1.2E-07	3.5E-08
Pesticides					
4,4-DDE	2.9E-03	2.9E-09	7.1E-09	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-09	NV	3.0E-09	NV

Table AOC14-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 14 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls					
Total PCBs	2.0E-02	2.0E-08	1.6E-07	2.0E-08	2.9E-08
Total Petroleum Hydrocarbons					
TPH as diesel	1.6E+01	1.6E-05	3.3E-02	1.6E-05	6.0E-03
TPH as motor oil	1.4E+02	1.4E-04	NV	1.4E-04	NV
Dioxins/Furans					
TEQ Human	4.9E-05	4.9E-11	1.0E-10	4.9E-11	1.9E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Antimony	ND	6.4E+00	NA	NV	NA	NV	NA	NV	NA	NV
Chromium, Hexavalent	5.0E-01	1.0E+00	3.7E-10	NV	3.7E-10	NV	3.7E-10	NV	5.9E-07	NV
Copper	1.3E+01	8.4E+01	9.3E-09	NV	9.3E-09	NV	9.3E-09	NV	1.5E-05	NV
Lead	9.5E+00	9.9E+01	7.0E-09	NV	7.0E-09	NV	7.0E-09	NV	1.1E-05	NV
Mercury (inorganic)	4.1E-01	7.2E+01	3.0E-10	NV	3.0E-10	NV	3.0E-10	NV	4.8E-07	NV
Nitrate	NS	2.9E+01	NA	NV	NA	NV	NA	NV	NA	NV
Phosphate	NS	6.4E+01	NA	NV	NA	NV	NA	NV	NA	NV
Thallium	ND	2.0E+00	NA	NV	NA	NV	NA	NV	NA	NV
Semi-Volatile Organic Compounds										
4-Methylphenol	4.3E-01	2.3E-01	3.2E-10	NV	3.2E-10	NV	3.2E-10	NV	5.1E-07	NV
bis (2-ethylhexyl) phthalate	6.4E-01	2.6E-01	4.7E-10	NV	4.7E-10	NV	4.7E-10	NV	7.6E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV	NA	NV	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	3.8E-03	NA	NV	NA	NV	NA	NV	NA	NV
Anthracene	ND	2.0E-02	NA	3.1E-08	NA	3.1E-08	NA	3.1E-08	NA	3.1E-08
Benzo (ghi) perylene	6.0E-03	6.3E-03	4.4E-12	NV	4.4E-12	NV	4.4E-12	NV	7.1E-09	NV
Fluoranthene	5.6E-01	1.4E-01	4.1E-10	NV	4.1E-10	NV	4.1E-10	NV	6.6E-07	NV
Phenanthrene	3.8E-01	3.3E-02	2.8E-10	NV	2.8E-10	NV	2.8E-10	NV	4.5E-07	NV
Pyrene	5.6E-01	1.2E-01	4.1E-10	3.7E-08	4.1E-10	3.7E-08	4.1E-10	3.7E-08	6.6E-07	3.7E-08
Pesticides										
4,4-DDE	2.9E-03	2.9E-03	2.1E-12	1.4E-09	2.1E-12	1.4E-09	2.1E-12	1.4E-09	3.4E-09	1.4E-09
4,4-DDT	3.0E-03	3.0E-03	2.2E-12	NV	2.2E-12	NV	2.2E-12	NV	3.5E-09	NV

Table AOC14-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	ND	2.0E-02	NA	3.1E-08	NA	3.1E-08	NA	3.1E-08	NA	3.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	1.3E+01	1.6E+01	9.2E-09	6.5E-03	9.2E-09	6.5E-03	9.2E-09	6.5E-03	1.5E-05	6.5E-03
TPH as motor oil	6.8E+01	1.4E+02	5.0E-08	NV	5.0E-08	NV	5.0E-08	NV	8.1E-05	NV
Dioxins/Furans										
TEQ Human	4.5E-06	4.9E-05	3.3E-15	2.0E-11	3.3E-15	2.0E-11	3.3E-15	2.0E-11	5.3E-12	2.0E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC14-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Antimony	1.9E+01	6.4E+00	1.4E-08	NV	1.4E-08	NV	1.4E-08	NV	2.2E-05	NV
Chromium, Hexavalent	9.1E-01	1.0E+00	6.7E-10	NV	6.7E-10	NV	6.7E-10	NV	1.1E-06	NV
Copper	2.2E+02	8.4E+01	1.6E-07	NV	1.6E-07	NV	1.6E-07	NV	2.6E-04	NV
Lead	3.6E+02	9.9E+01	2.7E-07	NV	2.7E-07	NV	2.7E-07	NV	4.3E-04	NV
Mercury (inorganic)	6.0E+01	7.2E+01	4.4E-08	NV	4.4E-08	NV	4.4E-08	NV	7.1E-05	NV
Nitrate	1.7E+01	2.9E+01	1.3E-08	NV	1.3E-08	NV	1.3E-08	NV	2.0E-05	NV
Phosphate	6.4E+01	6.4E+01	4.7E-08	NV	4.7E-08	NV	4.7E-08	NV	7.6E-05	NV
Thallium	1.4E+00	2.0E+00	1.1E-09	NV	1.1E-09	NV	1.1E-09	NV	1.7E-06	NV
Semi-Volatile Organic Compounds										
4-Methylphenol	3.5E-01	2.3E-01	2.5E-10	NV	2.5E-10	NV	2.5E-10	NV	4.1E-07	NV
bis (2-ethylhexyl) phthalate	4.8E-01	2.6E-01	3.5E-10	NV	3.5E-10	NV	3.5E-10	NV	5.7E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV	NA	NV	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	4.0E-03	3.8E-03	2.9E-12	NV	2.9E-12	NV	2.9E-12	NV	4.7E-09	NV
Anthracene	7.4E-03	2.0E-02	5.4E-12	3.1E-08	5.4E-12	3.1E-08	5.4E-12	3.1E-08	8.7E-09	3.1E-08
Benzo (ghi) perylene	5.9E-03	6.3E-03	4.3E-12	NV	4.3E-12	NV	4.3E-12	NV	6.9E-09	NV
Fluoranthene	3.5E-01	1.4E-01	2.6E-10	NV	2.6E-10	NV	2.6E-10	NV	4.2E-07	NV
Phenanthrene	6.8E-02	3.3E-02	5.0E-11	NV	5.0E-11	NV	5.0E-11	NV	8.0E-08	NV
Pyrene	3.5E-01	1.2E-01	2.6E-10	3.7E-08	2.6E-10	3.7E-08	2.6E-10	3.7E-08	4.2E-07	3.7E-08
Pesticides										
4,4-DDE	4.4E-03	2.9E-03	3.2E-12	1.4E-09	3.2E-12	1.4E-09	3.2E-12	1.4E-09	5.2E-09	1.4E-09
4,4-DDT	3.0E-03	3.0E-03	2.2E-12	NV	2.2E-12	NV	2.2E-12	NV	3.5E-09	NV

Table AOC14-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	3.5E-02	2.0E-02	2.6E-11	3.1E-08	2.6E-11	3.1E-08	2.6E-11	3.1E-08	4.1E-08	3.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	6.3E+01	1.6E+01	4.7E-08	6.5E-03	4.7E-08	6.5E-03	4.7E-08	6.5E-03	7.5E-05	6.5E-03
TPH as motor oil	4.8E+02	1.4E+02	3.5E-07	NV	3.5E-07	NV	3.5E-07	NV	5.7E-04	NV
Dioxins/Furans										
TEQ Human	1.4E-04	4.9E-05	1.0E-13	2.0E-11	1.0E-13	2.0E-11	1.0E-13	2.0E-11	1.7E-10	2.0E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC14-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	ND	6.4E+00	NA	NV
Chromium, Hexavalent	5.0E-01	1.0E+00	3.7E-10	NV
Copper	1.3E+01	8.4E+01	9.3E-09	NV
Lead	9.5E+00	9.9E+01	7.0E-09	NV
Mercury (inorganic)	4.1E-01	7.2E+01	3.0E-10	NV
Nitrate	NS	2.9E+01	NA	NV
Phosphate	NS	6.4E+01	NA	NV
Thallium	ND	2.0E+00	NA	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	4.3E-01	2.3E-01	3.2E-10	NV
bis (2-ethylhexyl) phthalate	6.4E-01	2.6E-01	4.7E-10	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	ND	3.8E-03	NA	NV
Anthracene	ND	2.0E-02	NA	2.1E-08
Benzo (ghi) perylene	6.0E-03	6.3E-03	4.4E-12	NV
Fluoranthene	5.6E-01	1.4E-01	4.1E-10	NV
Phenanthrene	3.8E-01	3.3E-02	2.8E-10	NV
Pyrene	5.6E-01	1.2E-01	4.1E-10	2.4E-08
Pesticides				
4,4-DDE	2.9E-03	2.9E-03	2.1E-12	9.2E-10
4,4-DDT	3.0E-03	3.0E-03	2.2E-12	NV

Table AOC14-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	ND	2.0E-02	NA	2.0E-08
Total Petroleum Hydrocarbons				
TPH as diesel	1.3E+01	1.6E+01	9.2E-09	4.3E-03
TPH as motor oil	6.8E+01	1.4E+02	5.0E-08	NV
Dioxins/Furans				
TEQ Human	4.5E-06	4.9E-05	3.3E-15	1.3E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.9E+01	6.4E+00	1.4E-08	NV
Chromium, Hexavalent	9.1E-01	1.0E+00	6.7E-10	NV
Copper	2.2E+02	8.4E+01	1.6E-07	NV
Lead	3.6E+02	9.9E+01	2.7E-07	NV
Mercury (inorganic)	6.0E+01	7.2E+01	4.4E-08	NV
Nitrate	1.7E+01	2.9E+01	1.3E-08	NV
Phosphate	6.4E+01	6.4E+01	4.7E-08	NV
Thallium	1.4E+00	2.0E+00	1.1E-09	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	3.5E-01	2.3E-01	2.5E-10	NV
bis (2-ethylhexyl) phthalate	4.8E-01	2.6E-01	3.5E-10	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	4.0E-03	3.8E-03	2.9E-12	NV
Anthracene	7.4E-03	2.0E-02	5.4E-12	2.1E-08
Benzo (ghi) perylene	5.9E-03	6.3E-03	4.3E-12	NV
Fluoranthene	3.5E-01	1.4E-01	2.6E-10	NV
Phenanthrene	6.8E-02	3.3E-02	5.0E-11	NV
Pyrene	3.5E-01	1.2E-01	2.6E-10	2.4E-08
Pesticides				
4,4-DDE	4.4E-03	2.9E-03	3.2E-12	9.2E-10
4,4-DDT	3.0E-03	3.0E-03	2.2E-12	NV

Table AOC14-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	3.5E-02	2.0E-02	2.6E-11	2.0E-08
Total Petroleum Hydrocarbons				
TPH as diesel	6.3E+01	1.6E+01	4.7E-08	4.3E-03
TPH as motor oil	4.8E+02	1.4E+02	3.5E-07	NV
Dioxins/Furans				
TEQ Human	1.4E-04	4.9E-05	1.0E-13	1.3E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	ND	6.4E+00	NA	NV
Chromium, Hexavalent	5.6E-01	1.2E+00	5.6E-07	NV
Copper	1.2E+01	5.9E+01	1.2E-05	NV
Lead	8.9E+00	5.8E+01	8.9E-06	NV
Mercury (inorganic)	4.1E-01	7.2E+01	4.1E-07	NV
Nitrate	NS	2.9E+01	NA	NV
Phosphate	NS	6.4E+01	NA	NV
Thallium	ND	2.0E+00	NA	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	4.3E-01	2.3E-01	4.3E-07	NV
bis (2-ethylhexyl) phthalate	6.4E-01	2.6E-01	6.4E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	ND	3.8E-03	NA	NV
Anthracene	ND	2.0E-02	NA	2.9E-08
Benzo (ghi) perylene	4.3E-02	3.7E-02	4.3E-08	NV
Fluoranthene	3.3E-01	5.5E-02	3.3E-07	NV
Phenanthrene	3.8E-01	3.4E-02	3.8E-07	NV
Pyrene	3.3E-01	5.1E-02	3.3E-07	1.5E-08
Pesticides				
4,4-DDE	2.9E-03	2.9E-03	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV

Table AOC14-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	ND	2.0E-02	NA	2.9E-08
Total Petroleum Hydrocarbons				
TPH as diesel	1.2E+01	3.2E+01	1.2E-05	1.2E-02
TPH as motor oil	7.2E+01	2.1E+02	7.2E-05	NV
Dioxins/Furans				
TEQ Human	2.6E-06	1.2E-05	2.6E-12	4.7E-12

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.9E+01	6.4E+00	1.9E-05	NV
Chromium, Hexavalent	1.1E+00	1.2E+00	1.1E-06	NV
Copper	1.3E+02	5.9E+01	1.3E-04	NV
Lead	2.1E+02	5.8E+01	2.1E-04	NV
Mercury (inorganic)	6.0E+01	7.2E+01	6.0E-05	NV
Nitrate	1.7E+01	2.9E+01	1.7E-05	NV
Phosphate	6.4E+01	6.4E+01	6.4E-05	NV
Thallium	1.4E+00	2.0E+00	1.4E-06	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	3.5E-01	2.3E-01	3.5E-07	NV
bis (2-ethylhexyl) phthalate	4.8E-01	2.6E-01	4.8E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	4.0E-03	3.8E-03	4.0E-09	NV
Anthracene	7.4E-03	2.0E-02	7.4E-09	2.9E-08
Benzo (ghi) perylene	4.7E-02	3.7E-02	4.7E-08	NV
Fluoranthene	2.0E-01	5.5E-02	2.0E-07	NV
Phenanthrene	5.7E-02	3.4E-02	5.7E-08	NV
Pyrene	2.2E-01	5.1E-02	2.2E-07	1.5E-08
Pesticides				
4,4-DDE	4.4E-03	2.9E-03	4.4E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV

Table AOC14-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	3.5E-02	2.0E-02	3.5E-08	2.9E-08
Total Petroleum Hydrocarbons				
TPH as diesel	3.8E+01	3.2E+01	3.8E-05	1.2E-02
TPH as motor oil	2.5E+02	2.1E+02	2.5E-04	NV
Dioxins/Furans				
TEQ Human	4.8E-05	1.2E-05	4.8E-11	4.7E-12

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.0E+01	6.4E+00	1.0E-05	NV
Chromium, Hexavalent	1.8E+00	1.2E+00	1.8E-06	NV
Copper	8.9E+01	5.9E+01	8.9E-05	NV
Lead	9.8E+01	5.8E+01	9.8E-05	NV
Mercury (inorganic)	1.0E+02	7.2E+01	1.0E-04	NV
Nitrate	2.9E+01	2.9E+01	2.9E-05	NV
Phosphate	6.4E+01	6.4E+01	6.4E-05	NV
Thallium	1.9E+00	2.0E+00	1.9E-06	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	2.6E-01	2.3E-01	2.6E-07	NV
bis (2-ethylhexyl) phthalate	3.2E-01	2.6E-01	3.2E-07	NV
Butylbenzylphthalate	ND	1.3E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	4.7E-03	3.8E-03	4.7E-09	NV
Anthracene	2.2E-02	2.0E-02	2.2E-08	2.9E-08
Benzo (ghi) perylene	3.7E-02	3.7E-02	3.7E-08	NV
Fluoranthene	7.1E-02	5.5E-02	7.1E-08	NV
Phenanthrene	3.6E-02	3.4E-02	3.6E-08	NV
Pyrene	6.8E-02	5.1E-02	6.8E-08	1.5E-08
Pesticides				
4,4-DDE	2.9E-03	2.9E-03	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-03	3.0E-09	NV

Table AOC14-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.2E-02	2.0E-02	2.2E-08	2.9E-08
Total Petroleum Hydrocarbons				
TPH as diesel	4.8E+01	3.2E+01	4.8E-05	1.2E-02
TPH as motor oil	3.2E+02	2.1E+02	3.2E-04	NV
Dioxins/Furans				
TEQ Human	2.0E-05	1.2E-05	2.0E-11	4.7E-12

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Antimony	6.4E+00	6.4E-06	NV
Chromium, Hexavalent	1.2E+00	1.2E-06	NV
Copper	5.9E+01	5.9E-05	NV
Lead	5.8E+01	5.8E-05	NV
Mercury (inorganic)	7.2E+01	7.2E-05	NV
Nitrate	2.9E+01	2.9E-05	NV
Phosphate	6.4E+01	6.4E-05	NV
Thallium	2.0E+00	2.0E-06	NV
Semi-Volatile Organic Compounds			
4-Methylphenol	2.3E-01	2.3E-07	NV
bis (2-ethylhexyl) phthalate	2.6E-01	2.6E-07	NV
Butylbenzylphthalate	1.3E+01	1.3E-05	NV
Polycyclic Aromatic Hydrocarbons			
Acenaphthylene	3.8E-03	3.8E-09	NV
Anthracene	2.0E-02	2.0E-08	2.9E-08
Benzo (ghi) perylene	3.7E-02	3.7E-08	NV
Fluoranthene	5.5E-02	5.5E-08	NV
Phenanthrene	3.4E-02	3.4E-08	NV
Pyrene	5.1E-02	5.1E-08	1.5E-08
Pesticides			
4,4-DDE	2.9E-03	2.9E-09	1.3E-09
4,4-DDT	3.0E-03	3.0E-09	NV

Table AOC14-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 14 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls			
Total PCBs	2.0E-02	2.0E-08	2.9E-08
Total Petroleum Hydrocarbons			
TPH as diesel	3.2E+01	3.2E-05	1.2E-02
TPH as motor oil	2.1E+02	2.1E-04	NV
Dioxins/Furans			
TEQ Human	1.2E-05	1.2E-11	4.7E-12

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC14-4.4

Human Health Risk and Hazard Estimate Summary at AOC 14 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	5E-08	1E-02
	Shallow	2E-07	6E-01
	Subsurface I	2E-07	7E-01
	Subsurface II	1E-07	5E-01
Long-Term Maintenance Worker	Surface	4E-07	3E-03
	Shallow	2E-06	1E-01
	Subsurface I	2E-06	2E-01
	Subsurface II	1E-06	1E-01
Recreational User - Camper	Surface	7E-08	4E-03
	Shallow	7E-07	2E-01
Recreational User - Hiker	Surface	1E-07	9E-03
	Shallow	1E-06	5E-01
Recreational User - Hunter	Surface	2E-08	1E-03
	Shallow	2E-07	2E-02
Recreational User - OHV Rider	Surface	2E-07	2E-03
	Shallow	1E-06	8E-02
Tribal User	Surface	1E-09	9E-05
	Shallow	1E-09	1E-04

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC14-4.5

Human Health Risk and Hazard Estimate Summary at AOC 14 for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Long-Term Maintenance Worker	Surface	4E-07	3E-03
	Shallow	1E-06	1E-01
	Subsurface I	1E-06	2E-01
	Subsurface II	9E-07	1E-01

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC14-5.1
Summary of COPECs Evaluated in the ERA for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Antimony	X
Chromium, hexavalent	X
Copper	X
Lead	X
Mercury	X
Thallium	X
Semi-Volatile Organic Compounds	
4-Methylphenol	X
Bis (2-ethylhexyl) phthalate	X
Polycyclic Aromatic Hydrocarbons	
PAH Low molecular weight	X
PAH High molecular weight	X
Pesticides	
4,4-DDT	X
4,4-DDE	X
Polychlorinated Biphenyls	
Total PCBs	X
Dioxins	
TEQ Avian	X
TEQ Mammals	X
2,3,7,8-TCDD	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Note:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, polycyclic aromatic hydrocarbons, and dioxins. All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC 14 for details.

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
ERA = ecological risk assessment
ft bgs = feet below ground surface
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
TPH = total petroleum hydrocarbon
X = COPEC in that exposure depth interval

Table AOC14-5.2

Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs		
	All AOCs		All AOCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Note:

^a EPCs for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and spatially-weighted 95% UCL, as relevant for this exposure area. See Section 5 of Appendix AOC 14 for details.

Abbreviations:

95% UCL = 95% upper confidence limit

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

X = representative EPC for the pathway/receptor

Table AOC14-5.3
Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations					Biota Exposure Point Concentrations ^{a,b}					
		0-0.5 ft bgs		0-3 ft bgs		0-6 ft bgs		Plants			Insects	Mammals
								0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics												
Antimony	mg/kg	--	nd	1.90E+01	m	1.00E+01	m	--	6.24E-01	3.42E-01	--	0.00E+00
Chromium, hexavalent	mg/kg	4.98E-01		9.09E-01		1.23E+00		2.04E-02	3.73E-02	5.04E-02	1.52E-01	1.39E-01
Copper	mg/kg	1.27E+01		2.23E+02		1.33E+02		5.31E+00	1.64E+01	1.34E+01	6.54E+00	1.11E+01
Lead	mg/kg	9.48E+00		3.64E+02		1.67E+02		9.36E-01	7.24E+00	4.68E+00	4.94E+00	2.92E+00
Mercury	mg/kg	4.10E-01	m	6.03E+01	m	1.02E+02	m	2.27E-01	3.44E+00	4.57E+00	6.85E-01	7.87E-02
Thallium	mg/kg	--	nd	1.43E+00	m	1.85E+00	m	--	5.72E-03	7.40E-03	--	--
Semi-Volatile Organic Compounds												
4-Methylphenol	mg/kg	4.30E-01	m	3.45E-01	m	2.63E-01	m	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bis (2-ethylhexyl) phthalate	mg/kg	6.40E-01	m	4.82E-01	m	3.23E-01	m	0.00E+00	0.00E+00	0.00E+00	1.28E+00	0.00E+00
Polycyclic Aromatic Hydrocarbons												
PAH Low molecular weight	mg/kg	3.80E-01	m	1.33E-01		4.75E-02		1.72E-01	1.07E-01	6.69E-02	1.16E+00	0.00E+00
PAH High molecular weight	mg/kg	4.33E+00		2.73E+00		1.38E+00		7.30E-01	4.72E-01	2.48E-01	1.13E+01	0.00E+00
Pesticides												
4,4-DDT	mg/kg	3.00E-03	m	3.00E-03	m	3.00E-03	m	1.03E-03	1.03E-03	1.03E-03	5.38E-02	3.90E-01
4,4-DDE	mg/kg	2.90E-03		4.40E-03	m	2.90E-03	m	1.00E-03	1.37E-03	1.00E-03	6.95E-02	6.89E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	--	nd	3.50E-02	m	2.18E-02	m	--	3.50E-04	2.18E-04	--	0.00E+00
Dioxins												
TEQ Avian	ng/kg	2.96E+00		2.10E+02		1.31E+02		1.66E-02	1.18E+00	7.34E-01	9.99E+00	1.88E+00
TEQ Mammals	ng/kg	4.52E+00		1.40E+02		8.17E+01		2.53E-02	7.84E-01	4.58E-01	1.65E+01	3.00E+00
2,3,7,8-TCDD	ng/kg	0.18	m	17	m	8.61	m	--	--	--	--	--

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b Biota EPCs equal to 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC14-5.4
Baseline Scenario Area-Weighted Exposure Point Concentrations for Soil and Biota for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations					Biota Exposure Point Concentrations ^{a,b}					
		0-0.5 ft bgs		0-3 ft bgs		0-6 ft bgs		Plants			Insects	Mammals
								0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics												
Antimony	mg/kg	--	nd	1.90E+01	m	1.00E+01	m	--	6.24E-01	3.42E-01	--	0.00E+00
Chromium, hexavalent	mg/kg	5.58E-01		1.13E+00		1.75E+00		2.29E-02	4.63E-02	7.18E-02	1.71E-01	1.51E-01
Copper	mg/kg	1.15E+01		1.34E+02		8.90E+01		5.11E+00	1.34E+01	1.14E+01	5.92E+00	1.10E+01
Lead	mg/kg	8.86E+00		2.08E+02		9.75E+01		9.01E-01	5.29E+00	3.46E+00	4.68E+00	2.83E+00
Mercury	mg/kg	4.10E-01	m	6.03E+01	m	1.02E+02	m	2.27E-01	3.44E+00	4.57E+00	6.85E-01	7.87E-02
Thallium	mg/kg	--	nd	1.43E+00	m	1.85E+00	m	--	5.72E-03	7.40E-03	--	--
Semi-Volatile Organic Compounds												
4-Methylphenol	mg/kg	4.30E-01	m	3.45E-01	m	2.63E-01	m	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bis (2-ethylhexyl) phthalate	mg/kg	6.40E-01	m	4.82E-01	m	3.23E-01	m	0.00E+00	0.00E+00	0.00E+00	1.28E+00	0.00E+00
Polycyclic Aromatic Hydrocarbons												
PAH Low molecular weight	mg/kg	3.80E-01	m	3.57E-02		1.83E-02		1.72E-01	5.87E-02	4.33E-02	1.16E+00	0.00E+00
PAH High molecular weight	mg/kg	1.17E+00		7.54E-01		2.80E-01		2.12E-01	1.39E-01	5.46E-02	3.04E+00	0.00E+00
Pesticides												
4,4-DDT	mg/kg	3.00E-03	m	3.00E-03	m	3.00E-03	m	1.03E-03	1.03E-03	1.03E-03	5.38E-02	3.90E-01
4,4-DDE	mg/kg	2.90E-03	m	4.40E-03	m	2.90E-03	m	1.00E-03	1.37E-03	1.00E-03	6.95E-02	6.89E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	--	nd	3.50E-02	m	2.18E-02	m	--	3.50E-04	2.18E-04	--	0.00E+00
Dioxins												
TEQ Avian	ng/kg	1.78E+00		7.13E+01		3.04E+01		9.97E-03	3.99E-01	1.70E-01	5.47E+00	1.08E+00
TEQ Mammals	ng/kg	2.65E+00		4.77E+01		1.88E+01		1.48E-02	2.67E-01	1.05E-01	8.76E+00	1.67E+00
2,3,7,8-TCDD	ng/kg	0.18	m	17	m	8.61	m	--	--	--	--	--

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC14-5.5a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs								
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																			
Antimony	4E+00	ND	--	--	--	--	--	--	2E+00	2E-01	--	--	--	--	--	--	--	--	
Chromium, hexavalent	1E+00	1E+00	2E-03	2E-04	1E-02	1E-03	4E-03	9E-04	7E-04	2E-04	--	--	--	--	--	--	--	--	
Copper	3E+00	2E-01	2E-01	6E-02	3E-01	1E-01	1E-01	9E-02	2E-01	1E-01	3E-01	1E-02	6E-01	3E-02	5E-01	2E-03	7E-01	3E-03	
Lead	3E+00	6E-03	2E-01	1E-01	7E-01	3E-01	2E-01	1E-01	3E-01	1E-01	2E+01	4E-02	8E+01	1E-01	1E+00	4E-03	1E+00	5E-03	
Mercury	3E+02	4E+00	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01	
Thallium	2E+00	ND	8E-04	8E-05	--	--	--	--	9E-03	3E-03	--	--	--	--	--	--	9E-03	3E-03	
Semi-Volatile Organic Compounds																			
4-Methylphenol	4E-02	5E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bis (2-ethylhexyl) phth	3E-03	3E-03	2E-03	2E-04	2E-01	2E-02	1E-02	1E-03	7E-05	7E-06	--	--	--	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH Low molecular weight	4E-02	1E-02	4E-04	4E-05	1E-02	1E-03	4E-03	7E-04	2E-04	5E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04	
PAH High molecular weight	4E+00	2E-01	5E-03	5E-04	2E-01	2E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	7E-02	5E-02	2E-03	
Pesticides																			
4,4-DDT	3E-03	3E-01	2E-04	2E-05	4E-02	4E-03	7E-02	1E-02	6E-04	1E-04	6E-03	3E-05	1E+00	7E-03	1E-02	7E-04	1E-04	6E-06	
4,4-DDE	5E-03	3E-01	3E-04	3E-05	6E-02	6E-03	1E-01	2E-02	8E-04	2E-04	7E-03	1E-04	1E+00	2E-02	2E-02	9E-04	2E-04	8E-06	
Polychlorinated Biphenyls																			
Total PCBs	9E-04	ND	1E-04	1E-05	--	--	--	--	3E-04	8E-05	1E-04	1E-05	--	--	--	--	3E-04	8E-05	
Dioxins																			
2,3,7,8-TCDD	No SL	2E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	--	--	4E-03	4E-04	1E-01	1E-02	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	--	--	--	--	--	--	3E+00	3E-01	3E-01	3E-02	--	--	--	--	--	--	--	--	

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TRV = toxicity reference value

Table AOC14-5.5b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.08		SUF = 0.6		SUF = 1		SUF = 1		SUF = 0.08		SUF = 0.6		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Antimony	--	--	--	--	--	--	2E+00	2E-01	--	--	--	--	--	--	--	--
Chromium, hexavalent	1E-04	1E-05	9E-03	9E-04	4E-03	9E-04	7E-04	2E-04	--	--	--	--	--	--	--	--
Copper	1E-02	5E-03	2E-01	7E-02	1E-01	9E-02	2E-01	1E-01	2E-02	1E-03	4E-01	2E-02	5E-01	2E-03	7E-01	3E-03
Lead	2E-02	8E-03	4E-01	2E-01	2E-01	1E-01	3E-01	1E-01	2E+00	3E-03	5E+01	7E-02	1E+00	4E-03	1E+00	5E-03
Mercury	4E-01	8E-02	2E+00	4E-01	6E-01	4E-02	2E+00	1E-01	4E-01	8E-02	2E+00	4E-01	6E-01	4E-02	2E+00	1E-01
Thallium	7E-05	7E-06	--	--	--	--	9E-03	3E-03	--	--	--	--	--	--	9E-03	3E-03
Semi-Volatile Organic Compounds																
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	2E-04	2E-05	1E-01	1E-02	1E-02	1E-03	7E-05	7E-06	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	3E-05	3E-06	6E-03	6E-04	4E-03	7E-04	2E-04	5E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04
PAH High molecular weight	4E-04	4E-05	1E-01	1E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	7E-02	5E-02	2E-03
Pesticides																
4,4-DDT	2E-05	2E-06	3E-02	3E-03	7E-02	1E-02	6E-04	1E-04	5E-04	3E-06	7E-01	4E-03	1E-02	7E-04	1E-04	6E-06
4,4-DDE	2E-05	2E-06	3E-02	3E-03	1E-01	2E-02	8E-04	2E-04	6E-04	9E-06	9E-01	1E-02	2E-02	9E-04	2E-04	8E-06
Polychlorinated Biphenyls																
Total PCBs	1E-05	9E-07	--	--	--	--	3E-04	8E-05	1E-05	9E-07	--	--	--	--	3E-04	8E-05
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	3E-04	3E-05	8E-02	8E-03	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	3E+00	3E-01	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table AOC14-5.6a

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; SUF = 1, Selected TRVs and BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs								
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																			
Antimony	4E+00	ND	--	--	--	--	--	--	2E+00	2E-01	--	--	--	--	--	--	--	--	
Chromium, hexavalent	2E+00	1E+00	2E-03	2E-04	2E-02	2E-03	4E-03	1E-03	1E-03	2E-04	--	--	--	--	--	--	--	--	
Copper	2E+00	1E-01	1E-01	5E-02	3E-01	1E-01	1E-01	8E-02	2E-01	9E-02	2E-01	1E-02	6E-01	2E-02	5E-01	2E-03	5E-01	2E-03	
Lead	2E+00	5E-03	1E-01	7E-02	6E-01	3E-01	2E-01	1E-01	2E-01	1E-01	2E+01	3E-02	7E+01	1E-01	1E+00	4E-03	8E-01	4E-03	
Mercury	3E+02	4E+00	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01	
Thallium	2E+00	ND	8E-04	8E-05	--	--	--	--	9E-03	3E-03	--	--	--	--	--	--	9E-03	3E-03	
Semi-Volatile Organic Compounds																			
4-Methylphenol	4E-02	5E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bis (2-ethylhexyl) phth	3E-03	3E-03	2E-03	2E-04	2E-01	2E-02	1E-02	1E-03	7E-05	7E-06	--	--	--	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH Low molecular weight	4E-02	1E-02	4E-04	4E-05	1E-02	1E-03	4E-03	7E-04	2E-04	5E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04	
PAH High molecular weight	1E+00	7E-02	1E-03	1E-04	6E-02	6E-03	1E+00	2E-01	3E-02	6E-03	--	--	--	--	5E-01	2E-02	2E-02	6E-04	
Pesticides																			
4,4-DDT	3E-03	3E-01	2E-04	2E-05	4E-02	4E-03	7E-02	1E-02	6E-04	1E-04	6E-03	3E-05	1E+00	7E-03	1E-02	7E-04	1E-04	6E-06	
4,4-DDE	5E-03	3E-01	3E-04	3E-05	6E-02	6E-03	1E-01	2E-02	8E-04	2E-04	7E-03	1E-04	1E+00	2E-02	2E-02	9E-04	2E-04	8E-06	
Polychlorinated Biphenyls																			
Total PCBs	9E-04	ND	1E-04	1E-05	--	--	--	--	3E-04	8E-05	1E-04	1E-05	--	--	--	--	3E-04	8E-05	
Dioxins																			
2,3,7,8-TCDD	No SL	2E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	--	--	2E-03	2E-04	7E-02	7E-03	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	--	--	--	--	--	--	2E+00	2E-01	1E-01	1E-02	--	--	--	--	--	--	--	--	

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TRV = toxicity reference value

Table AOC14-5.6b

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.08		SUF = 0.6		SUF = 1		SUF = 1		SUF = 0.08		SUF = 0.6		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Antimony	--	--	--	--	--	--	2E+00	2E-01	--	--	--	--	--	--	--	--
Chromium, hexavalent	2E-04	2E-05	1E-02	1E-03	4E-03	1E-03	1E-03	2E-04	--	--	--	--	--	--	--	--
Copper	1E-02	4E-03	2E-01	6E-02	1E-01	8E-02	2E-01	9E-02	2E-02	9E-04	3E-01	1E-02	5E-01	2E-03	5E-01	2E-03
Lead	1E-02	6E-03	4E-01	2E-01	2E-01	1E-01	2E-01	1E-01	1E+00	2E-03	4E+01	7E-02	1E+00	4E-03	8E-01	4E-03
Mercury	4E-01	8E-02	2E+00	4E-01	6E-01	4E-02	2E+00	1E-01	4E-01	8E-02	2E+00	4E-01	6E-01	4E-02	2E+00	1E-01
Thallium	7E-05	7E-06	--	--	--	--	9E-03	3E-03	--	--	--	--	--	--	9E-03	3E-03
Semi-Volatile Organic Compounds																
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phtha	2E-04	2E-05	1E-01	1E-02	1E-02	1E-03	7E-05	7E-06	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	3E-05	3E-06	6E-03	6E-04	4E-03	7E-04	2E-04	5E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04
PAH High molecular weight	1E-04	1E-05	3E-02	3E-03	1E+00	2E-01	3E-02	6E-03	--	--	--	--	5E-01	2E-02	2E-02	6E-04
Pesticides																
4,4-DDT	2E-05	2E-06	3E-02	3E-03	7E-02	1E-02	6E-04	1E-04	5E-04	3E-06	7E-01	4E-03	1E-02	7E-04	1E-04	6E-06
4,4-DDE	2E-05	2E-06	3E-02	3E-03	1E-01	2E-02	8E-04	2E-04	6E-04	9E-06	9E-01	1E-02	2E-02	9E-04	2E-04	8E-06
Polychlorinated Biphenyls																
Total PCBs	1E-05	9E-07	--	--	--	--	3E-04	8E-05	1E-05	9E-07	--	--	--	--	3E-04	8E-05
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	1E-04	1E-05	4E-02	4E-03	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	2E+00	2E-01	1E-01	1E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table AOC14-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs						Baseline HQs based on Selected TRVs																						
	Plants			Soil Invertebrates			Gambel's Quail					Cactus Wren					Desert Shrew					Merriam's Kangaroo Rat							
	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a			
							SUF = 0.1		SUF = 0.1			SUF = 0.6		SUF = 0.6			SUF = 1		SUF = 1			SUF = 1		SUF = 1					
							NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL						
Inorganics																													
Antimony	4E+00	4E+00	Unlikely	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2E+00	2E-01	2E+00	2E-01	HQ ≤ 1			
Chromium, hexavalent	1E+00	2E+00	Unlikely	1E+00	1E+00	HQ ≤ 1	1E-04	1E-05	2E-04	2E-05	HQ ≤ 1	9E-03	9E-04	1E-02	1E-03	HQ ≤ 1	4E-03	9E-04	4E-03	1E-03	HQ ≤ 1	7E-04	2E-04	1E-03	2E-04	HQ ≤ 1			
Copper	3E+00	2E+00	Unlikely	2E-01	1E-01	HQ ≤ 1	1E-02	5E-03	1E-02	4E-03	HQ ≤ 1	2E-01	7E-02	2E-01	6E-02	HQ ≤ 1	1E-01	9E-02	1E-01	8E-02	HQ ≤ 1	2E-01	1E-01	2E-01	9E-02	HQ ≤ 1			
Lead	3E+00	2E+00	Unlikely	6E-03	5E-03	HQ ≤ 1	2E-02	8E-03	1E-02	6E-03	HQ ≤ 1	4E-01	2E-01	4E-01	2E-01	HQ ≤ 1	2E-01	1E-01	2E-01	1E-01	HQ ≤ 1	3E-01	1E-01	2E-01	1E-01	HQ ≤ 1			
Mercury	3E+02	3E+02	Unlikely	4E+00	4E+00	Unlikely	4E-01	8E-02	4E-01	8E-02	HQ ≤ 1	2E+00	4E-01	2E+00	4E-01	HQ ≤ 1	6E-01	4E-02	6E-01	4E-02	HQ ≤ 1	2E+00	1E-01	2E+00	1E-01	HQ ≤ 1			
Thallium	2E+00	2E+00	Unlikely	ND	ND	--	7E-05	7E-06	7E-05	7E-06	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	9E-03	3E-03	9E-03	3E-03	HQ ≤ 1			
Semi-Volatile Organic Compounds																													
4-Methylphenol	4E-02	4E-02	HQ ≤ 1	5E+00	5E+00	Unlikely	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Bis (2-ethylhexyl) phthalate	3E-03	3E-03	HQ ≤ 1	3E-03	3E-03	HQ ≤ 1	2E-04	2E-05	2E-04	2E-05	HQ ≤ 1	1E-01	1E-02	1E-01	1E-02	HQ ≤ 1	1E-02	1E-03	1E-02	1E-03	HQ ≤ 1	7E-05	7E-06	7E-05	7E-06	HQ ≤ 1			
Polycyclic Aromatic Hydrocarbons																													
PAH Low molecular weight	4E-02	4E-02	HQ ≤ 1	1E-02	1E-02	HQ ≤ 1	3E-05	3E-06	3E-05	3E-06	HQ ≤ 1	6E-03	6E-04	6E-03	6E-04	HQ ≤ 1	4E-03	7E-04	4E-03	7E-04	HQ ≤ 1	2E-04	5E-05	2E-04	5E-05	HQ ≤ 1			
PAH High molecular weight	4E+00	1E+00	HQ ≤ 1	2E-01	7E-02	HQ ≤ 1	4E-04	4E-05	1E-04	1E-05	HQ ≤ 1	1E-01	1E-02	3E-02	3E-03	HQ ≤ 1	4E+00	8E-01	1E+00	2E-01	HQ ≤ 1	1E-01	2E-02	3E-02	6E-03	HQ ≤ 1			
Pesticides																													
4,4-DDT	3E-03	3E-03	HQ ≤ 1	3E-01	3E-01	HQ ≤ 1	2E-05	2E-06	2E-05	2E-06	HQ ≤ 1	3E-02	3E-03	3E-02	3E-03	HQ ≤ 1	7E-02	1E-02	7E-02	1E-02	HQ ≤ 1	6E-04	1E-04	6E-04	1E-04	HQ ≤ 1			
4,4-DDE	5E-03	5E-03	HQ ≤ 1	3E-01	3E-01	HQ ≤ 1	2E-05	2E-06	2E-05	2E-06	HQ ≤ 1	3E-02	3E-03	3E-02	3E-03	HQ ≤ 1	1E-01	2E-02	1E-01	2E-02	HQ ≤ 1	8E-04	2E-04	8E-04	2E-04	HQ ≤ 1			
Polychlorinated Biphenyls																													
Total PCBs	9E-04	9E-04	HQ ≤ 1	ND	ND	--	1E-05	9E-07	1E-05	9E-07	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	3E-04	8E-05	3E-04	8E-05	HQ ≤ 1			
Dioxins																													
2,3,7,8-TCDD	No SL	No SL	--	2E-05	2E-05	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
TEQ Avian	--	--	--	--	--	--	3E-04	3E-05	1E-04	1E-05	HQ ≤ 1	8E-02	8E-03	4E-02	4E-03	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--			
TEQ Mammals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3E+00	3E-01	2E+00	2E-01	HQ ≤ 1	3E-01	3E-02	1E-01	1E-02	HQ ≤ 1			

Notes:
^a WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using area-weighted EPCs, and 2.) supporting LOE

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:
-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
HQ = hazard quotient
LOE = line of evidence
LOAEL = lowest observed adverse effect level
ND = not detected
NOAEL = no-observed adverse effect level
no SL = no screening level available
TEQ = toxic equivalent
WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table AOC14-6.2
Risk Conclusions and Lines of Evidence Summary for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Area-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC 14	Plants	Antimony	4E+00	--	--	Yes	BG NA	NE (2 detects)	NC		--	Low	--	No	Unlikely		No
	Plants	Chromium, Hexavalent ^h	2E+00	--	--	No	8 / 52	3	8E-01		--	Low	--	No	Unlikely		No
	Plants	Copper	2E+00	--	--	No	6 / 48	2	2E-01		--	Robust	--	No	Unlikely		No
	Plants	Lead	2E+00	--	--	No	9 / 24	1	7E-02		--	Robust	--	No	Unlikely		No
	Plants	Mercury	3E+02	--	--	Yes	BG NA	NE (3 detects) (1 >> RL)i	NC		--	Low	--	No	Unlikely		No
	Plants	Thallium	2E+00	--	--	Yes	BG NA	BG NA	NC		--	Low	--	No	Unlikely		No
	Plants	HMW PAH	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Mercury	4E+00	--	--	Yes	BG NA	NE (1 detect)	NC		--	Low	--	No	Unlikely		No
	Soil Invertebrates	4-methylphenol	5E+00	--	--	Yes	BG NA	NE (1 detect)	NC		--	Low	--	No	Unlikely		No
	Merriam's Kangaroo Rat	Antimony	--	2E+00	2E-01	Yes	BG NA	NE (2 detects)	NC	NC	NE	Low	High	No	Unlikely	Not expected	No
	Merriam's Kangaroo Rat	Mercury	--	2E+00	1E-01	Yes	BG NA	NE (1 detect)	NC	NC	NE	Moderate	High	No	Unlikely	Not expected	No
	Desert Shrew	HMW PAH	--	1E+00	2E-01	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	TEQ Mammals	--	2E+00	2E-01	No	1 / 8	0	5E-01	5E-02	High	Moderate	High	No	Unlikely	Not expected	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
Cactus Wren	Mercury	--	2E+00	4E-01	Yes	BG NA	NE (1 detect)	NC	NC	NE	Moderate	High	No	Unlikely	Not expected	No	

- Notes:**
- a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
- b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
- c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
- d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
- e Applicable to wildlife, unless noted.
- f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
- g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.
- h Depth-weighted EPC resulted in an HQ or NOAEL-based HQ less than 1, and is less than the area-weighted HQ or NOAEL-based HQ.
- i Although a BTV is not available, concentrations were at or below the reporting limit except for the number of locations noted.

--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

- Abbreviations:**
- "--" = not applicable

AOC = area of concern

BAF = bioaccumulation factor

BCW = Bat Cave Wash

BG NA = background value not available

BTV = background threshold value

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

FOD = frequency of detection

HQ = hazard quotient

LOAEL = lowest observed adverse effect limit
- LOE = line of evidence

MDC = maximum depth-weighted concentration

NC = not calculated

NE = line of evidence not evaluated

NOAEL = no observed adverse effect limit

SL = screening level

SWMU 1 = solid waste management unit 1

T&E = threatened and endangered

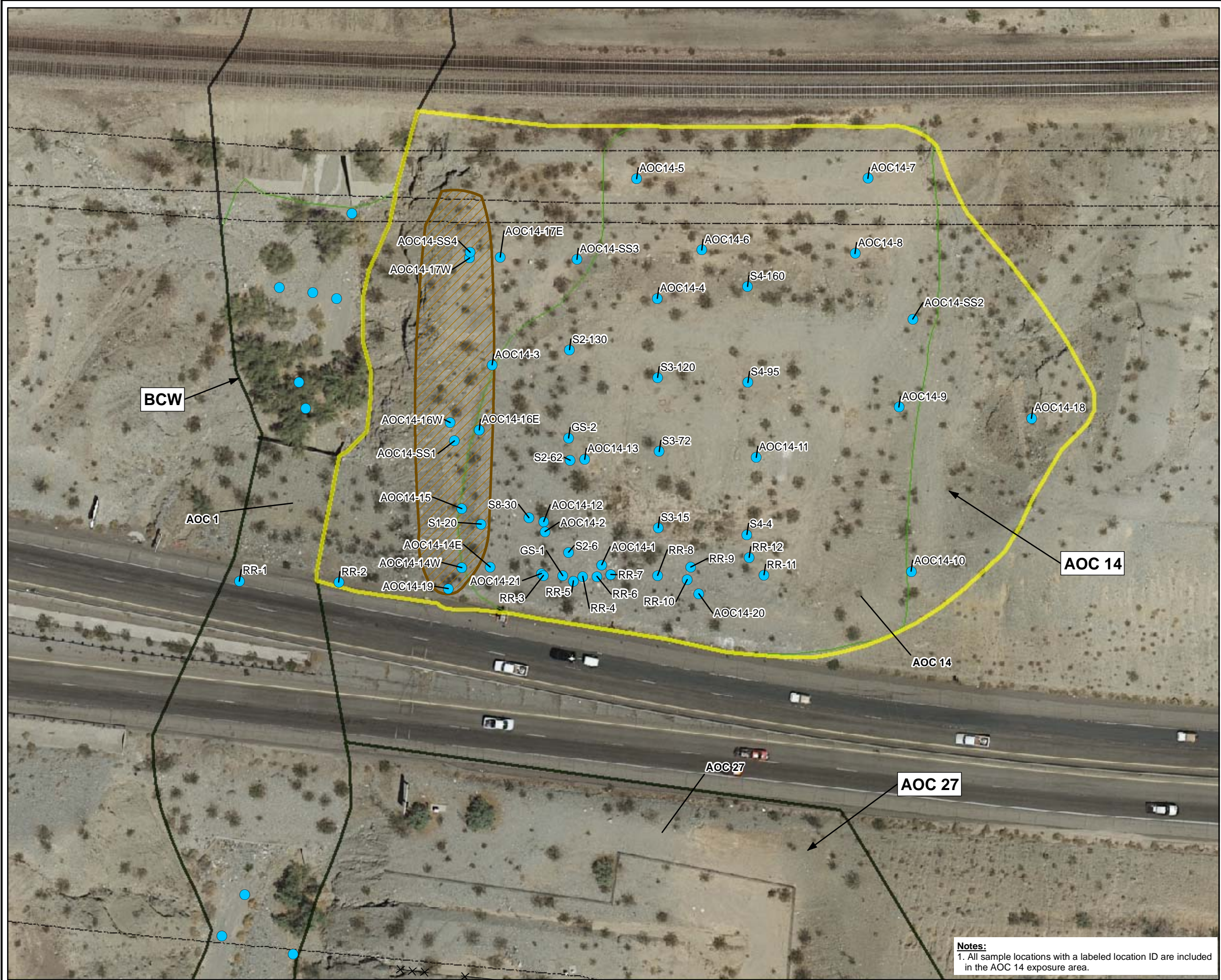
TCS-4= Topock Compressor Station Well #4

TEQ = toxic equivalent

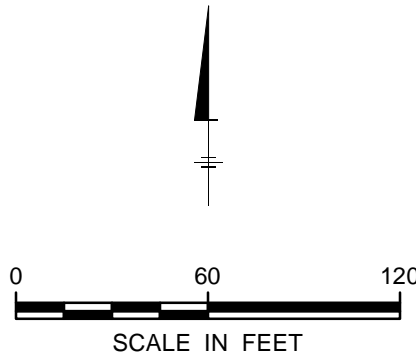
TRV = toxicity reference value

FIGURE





- Legend:**
- Soil Sampling Location
 - Area of Concern
 - ▨ Potential Burning Related Location
 - AOC 14 Exposure Area
 - Exposure Area
 - Property Boundaries
 - xxx Fencing
 - Inside the Topock Compressor Station boundary, as defined by current fenceline
 - BCW Label for Exposure Area
 - AOC 1 Label for Area of Concern



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

SOIL SAMPLING LOCATIONS
AOC 14 EXPOSURE AREA



FIGURE
AOC14-1.1

Notes:
1. All sample locations with a labeled location ID are included in the AOC 14 exposure area.

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the AOC
14 HHERA



Attachment AOC14-A
Dataset and Exposure Point Concentration Calculations for the AOC 14 HHERA

Attachment AOC14-A1

Table AOC14-A1 Dataset for AOC 14 HHERA

Attachment AOC14-A2 (provided separately as excel files)

Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-005
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-005_BaPTCDDupdate
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-03
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-03_BaPTCDDupdate
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-06
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-06_BaPTCDDupdate
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-10
 Table AOC14-A2 Depth-Weighting Files: InputSamplesFor_AOC14_Baseline_0-10_BaPTCDDupdate

Table AOC14-A2 ProUCL Input: AOC14_0-005_ForProUCL
 Table AOC14-A2 ProUCL Input: AOC14_0-005_ForProUCL_BaPTCDDupdate
 Table AOC14-A2 ProUCL Input: AOC14_0-03_ForProUCL
 Table AOC14-A2 ProUCL Input: AOC14_0-03_ForProUCL_BaPTCDDupdate
 Table AOC14-A2 ProUCL Input: AOC14_0-06_ForProUCL
 Table AOC14-A2 ProUCL Input: AOC14_0-06_ForProUCL_BaPTCDDupdate
 Table AOC14-A2 ProUCL Input: AOC14_0-10_ForProUCL
 Table AOC14-A2 ProUCL Input: AOC14_0-10_ForProUCL_BaPTCDDupdate

Table AOC14-A2 ProUCL Output: AOC14_0-005_UCL
 Table AOC14-A2 ProUCL Output: AOC14_0-03_UCL
 Table AOC14-A2 ProUCL Output: AOC14_0-06_UCL
 Table AOC14-A2 ProUCL Output: AOC14_0-10_UCL
 Table AOC14-A2 ProUCL Output: AOC14_UCLs_BaPTCDDupdate

Attachment AOC14-A3 (Tables provided separately as excel files)

AOC14-A3 Tables AOC14_Input Samples Area-Weighted
 AOC14_Output Area-Weighted UCL-BCA

AOC14-A3 Figures Figures List Provided at Start of: AOC14_Figures_ThiessenAreaWeighting

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-11	AOC14-11	AOC14-11	AOC14-12	AOC14-12
	SAMPLE	AOC14-1-8001	AOC14-1-8002	AOC14-1-8003	AOC14-1-8004	AOC14-1-8005	AOC14-10-8050	AOC14-10-8051	AOC14-10-8052	AOC14-10-8053	AOC14-10-8054	AOC14-10-8055	AOC14-11-8056	AOC14-11-8057	AOC14-11-8058	AOC14-12-8059	AOC14-12-8060
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	9/30/2008	9/30/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	9	14	0	2	5	5	9	14	5	9	14	5	9
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	4.8	4.8	2.2	2.3	2.7	3.6	2.9	3.3	--	5	7.1	5.5	2.4	4	3.2	2.3
Barium	mg/kg	190 J	220	180	160	140	69	65	110	--	81	110	140	140	80	190	150
Beryllium	mg/kg	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	4 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.84	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.4 U	--	0.4 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Chromium, total	mg/kg	25	25	27	17	18	10	11	12	--	11	9.8	15	18	20	27	17
Cobalt	mg/kg	7.2	8.4	8.5	7.4	8.6	2.4	2.4	2.9	--	4.5	4 U	5.9	8.4	8.5	7.5	7.4
Copper	mg/kg	11	8.5	9.5	8.2	12	3.5	3.1	4.6	--	7.1	8.1 U	7.3	13	9	8.4	7.7
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	18	8.7	2.3	2.7	2.1	3.5	2.9	3.4	--	5.9	2.6	4.2	2	3	3.2	3
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	2 U	2 U	1.6	1 U	1 U	1 U	1 U	1 U	--	1 U	4 U	1	1 U	1 U	2.4	1 U
Nickel	mg/kg	11	11	12	11	11	4.2	3.9	5.2	--	8.7	4.6	9.9	12	14	9.8	11
Selenium	mg/kg	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1.5	1.2
Silver	mg/kg	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	4 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	4 U	4.1 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2.2	8.1 U	2 U	2 U	2 U	2 U	2 U
Vanadium	mg/kg	30	36	34	31	29	13	11	14	--	21	13	28	34	35	29	29
Zinc	mg/kg	70	47	38	34	34	14	14	17	--	28	13	28	37	39	36	37
Metals CLP																	
Aluminum	mg/kg	8700	--	--	--	--	3000	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	48000	--	--	--	--	11000	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-11	AOC14-11	AOC14-11	AOC14-12	AOC14-12
	SAMPLE	AOC14-1-8001	AOC14-1-8002	AOC14-1-8003	AOC14-1-8004	AOC14-1-8005	AOC14-10-8050	AOC14-10-8051	AOC14-10-8052	AOC14-10-8053	AOC14-10-8054	AOC14-10-8055	AOC14-11-8056	AOC14-11-8057	AOC14-11-8058	AOC14-12-8059	AOC14-12-8060
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	9/30/2008	9/30/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	9	14	0	2	5	5	9	14	5	9	14	5	9
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Iron	mg/kg	20000	--	--	--	--	6800	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	8500	--	--	--	--	2600	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	270	--	--	--	--	120	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	2700	--	--	--	--	690	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	850	--	--	--	--	210	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.1 U	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	51 U	--	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	--	--	--	--	33 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	8.5 U	--	--	--	--	8.5 U	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Anthracene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	22	5.1 U
B(a)P Equivalent	ug/kg	11	5.9 U	5.9 U	5.8 U	5.9 U	5.8 U	5.8 U	5.8 U	--	5.9 U	5.9 U	5.9 U	5.9 U	5.9 U	130	5.9 U
Benzo (a) anthracene	ug/kg	5.8	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	180	5.1 U
Benzo (a) pyrene	ug/kg	6.1	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	84	5.1 U
Benzo (b) fluoranthene	ug/kg	8.2	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	110	5.1 U
Benzo (ghi) perylene	ug/kg	10	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	40	5.1 U
Benzo (k) fluoranthene	ug/kg	8.1	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	82	5.1 U
Chrysene	ug/kg	9.6	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	210	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	17	5.1 U
Fluoranthene	ug/kg	9.2	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	350	5.1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-11	AOC14-11	AOC14-11	AOC14-12	AOC14-12
	SAMPLE	AOC14-1-8001	AOC14-1-8002	AOC14-1-8003	AOC14-1-8004	AOC14-1-8005	AOC14-10-8050	AOC14-10-8051	AOC14-10-8052	AOC14-10-8053	AOC14-10-8054	AOC14-10-8055	AOC14-11-8056	AOC14-11-8057	AOC14-11-8058	AOC14-12-8059	AOC14-12-8060
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	9/30/2008	9/30/2008
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	5	9	14	5	9	14	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
SAMPLE TYPE										Field Duplicate							
ANALYTE	UNITS																
Fluorene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	39	5.1 U
Naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.1 U	5.1 U	4.8 U
PAH High molecular weight	ug/kg	71.7	0	0	0	0	0	0	0	--	0	0	0	0	0	1420	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	--	0	0	0	0	0	142	0
Phenanthrene	ug/kg	5.1 U	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	120	5.1 U
Pyrene	ug/kg	9.4	5.1 U	5.1 U	5 U	5.1 U	5 U	5 U	5 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	310	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Chlorophenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Methylphenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,4-Dimethylphenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,6-Dinitrotoluene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Bromophenyl phenyl ether	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Chloro-3-methylphenol	ug/kg	670 U	680 U	670 U	660 U	670 U	660 U	660 U	660 U	--	670 U	670 U	670 U	670 U	670 U	680 U	670 U
4-Chloroaniline	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Methylphenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	710 U	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	670 U	680 U	670 U	660 U	670 U	660 U	660 U	660 U	--	670 U	670 U	670 U	670 U	670 U	680 U	670 U
bis (2-chloroethoxy) methane	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Butylbenzylphthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Caprolactam	ug/kg	330 U	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	330 U	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Di-n-octyl phthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Dibenzofuran	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Diethyl phthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Dimethyl phthalate	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Hexachlorobenzene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Hexachloroethane	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
N-nitrosodiphenylamine	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Phenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-11	AOC14-11	AOC14-11	AOC14-12	AOC14-12
	SAMPLE	AOC14-1-8001	AOC14-1-8002	AOC14-1-8003	AOC14-1-8004	AOC14-1-8005	AOC14-10-8050	AOC14-10-8051	AOC14-10-8052	AOC14-10-8053	AOC14-10-8054	AOC14-10-8055	AOC14-11-8056	AOC14-11-8057	AOC14-11-8058	AOC14-12-8059	AOC14-12-8060
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	9/30/2008	9/30/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	9	14	0	2	5	5	9	14	5	9	14	5	9
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 UJ	10 U	10 U	10 UJ	10 U	10 U
TPH as gasoline	mg/kg	--	1 U	1.2 U	1.3 U	1.3 U	--	0.99 U	0.86 U	--	1.1 U	0.8 U	0.95 U	0.83 U	1.2 U	1.4 U	1.1 U
TPH as motor oil	mg/kg	30.8 J	13.5	28.6	10 U	10 U	10 U	10 U	--	23.3	10 U	10 UJ	23	10 U	10 UJ	33	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1-Dichloroethene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1-Dichloropropene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1,1-Trichloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1,1,2-Tetrachloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1,2-Trichloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,1,2,2-Tetrachloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2-Dibromo-3-chloropropane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2-Dibromoethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2-Dichlorobenzene	ug/kg	330 U	6.7 U	6.6 U	10 U	6.4 U	330 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2-Dichloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2-Dichloropropane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2,3-Trichlorobenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2,3-Trichloropropane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2,4-Trichlorobenzene	ug/kg	330 U	6.7 U	6.6 U	10 U	6.4 U	330 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,2,4-Trimethylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,3-Dichlorobenzene	ug/kg	330 U	6.7 U	6.6 U	10 U	6.4 U	330 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,3-Dichloropropane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,3,5-Trimethylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,4-Dichlorobenzene	ug/kg	330 U	6.7 U	6.6 U	10 U	6.4 U	330 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
1,4-Dioxane	ug/kg	330 U	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
2-Hexanone	ug/kg	--	67 U	--	--	--	--	47 U	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	340 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Acetone	ug/kg	--	--	66 U	--	--	--	--	44 U	--	46 U	48 U	44 U	46 U	56 U	--	--
Acrolein	ug/kg	--	130 U	130 U	200 U	130 UJ	--	94 U	88 U	--	92 U	95 U	88 U	91 U	110 U	140 U	97 U
Acrylonitrile	ug/kg	--	67 U	66 U	100 U	64 U	--	47 U	44 U	--	46 U	48 U	44 U	46 U	56 U	72 U	48 U
Benzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
bis (2-chloroethyl) ether	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	340 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	340 U	330 U	330 U
Bromobenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Bromochloromethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Bromodichloromethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Bromoform	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 UJ	4.4 UJ	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Bromomethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Carbon disulfide	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Carbon tetrachloride	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Chloro methane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Chlorobenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Chloroethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Chloroform	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
cis-1,2-Dichloroethene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
cis-1,3-Dichloropropene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Cyclohexane	ug/kg	--	6.7 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-1	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-10	AOC14-11	AOC14-11	AOC14-11	AOC14-12	AOC14-12
	SAMPLE	AOC14-1-8001	AOC14-1-8002	AOC14-1-8003	AOC14-1-8004	AOC14-1-8005	AOC14-10-8050	AOC14-10-8051	AOC14-10-8052	AOC14-10-8053	AOC14-10-8054	AOC14-10-8055	AOC14-11-8056	AOC14-11-8057	AOC14-11-8058	AOC14-12-8059	AOC14-12-8060
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	9/30/2008	9/30/2008
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	5	9	14	5	9	14	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	6	10	15	6	10	15	6	10
SAMPLE TYPE										Field Duplicate							
ANALYTE	UNITS																
Dibromomethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Dichlorodifluoromethane	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Ethyl- benzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Hexachlorobutadiene	ug/kg	330 U	6.7 U	6.6 U	10 U	6.4 U	330 U	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Hexachlorocyclopentadiene	ug/kg	670 U	--	--	--	--	660 U	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	340 U	330 U	330 U
Isopropylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Methyl acetate	ug/kg	--	6.7 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	67 U	66 U	100 U	64 U	--	47 U	44 U	--	46 U	48 U	44 U	46 U	56 U	72 U	48 U
Methyl isobutyl ketone	ug/kg	--	67 U	66 U	100 U	64 U	--	47 U	44 U	--	46 U	48 U	44 U	46 U	56 U	72 U	48 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Methylcyclohexane	ug/kg	--	6.7 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
N-Butylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
N-Propylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Nitrobenzene	ug/kg	330 U	340 U	330 U	330 U	340 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	340 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
sec-Butylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Styrene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
tert-Butylbenzene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Tetrachloroethene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Toluene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
trans-1,2-Dichloroethene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
trans-1,3-Dichloropropene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Trichloroethene	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Vinyl chloride	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Xylene, m,p-	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Xylene, o-	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U
Xylenes, total	ug/kg	--	6.7 U	6.6 U	10 U	6.4 U	--	4.7 U	4.4 U	--	4.6 U	4.8 U	4.4 U	4.6 U	5.6 U	7.2 U	4.8 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-12	AOC14-13	AOC14-13	AOC14-13	AOC14-13	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W
	SAMPLE	AOC14-12-8061	AOC14-13-8062	AOC14-13-8063	AOC14-13-8064	AOC14-13-8065	AOC14-14E-8127	AOC14-14E-8128	AOC14-14E-8129	AOC14-14E-8130	AOC14-14E-8131	AOC14-14E-8132	AOC14-14W-8100	AOC14-14W-8101	AOC14-14W-8102	AOC14-14W-8103	AOC14-14W-8104
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016
	SAMPLE TOP DEPTH (FT)	14	5	9	14	14	0	2	2	5	6	9	0	2	5	6	9
	SAMPLE BOTTOM DEPTH (FT)	15	6	10	15	15	1	3	3	5.5	7	10	1	3	5.5	7	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	15	6	10	15	15	0.5	3	3	5.5	7	10	0.5	3	5.5	7	10
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	160 J	510	--	800	72	240	84	15	3700	490	260
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	15	--	35	140	9.1 J	23	9.3 J	3 J	1700	150	12 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	1.3 U	--	0.72 U	4.2 J	0.29 U	0.7 U	0.74 U	0.37 U	130	6.2 J	0.59 J
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	2.2 J	0.44 U	--	4 U	0.43 U	0.21 U	0.12 U	0.37 J	350 U	16	0.59 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	1.4 U	2.7 J	--	12 J	0.74 U	1.8 U	0.87 J	0.22 U	140	8.1 J	1.5 J
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	4.1 J	--	9.1 J	22	1.5 J	4.6 J	3 J	0.37 U	260	16	2.8 J
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	0.81 U	0.43 U	--	3.9 U	0.42 U	0.58 J	0.38 U	0.19 U	380	16	0.58 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	0.22 U	0.9 J	--	2.1 J	0.16 J	0.42 U	0.51 J	0.13 U	110 U	5.6 U	0.44 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	0.47 U	0.3 U	--	0.34 U	0.63 U	0.19 U	0.31 U	0.093 U	210	9.8 J	0.51 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	2.2 U	3.5 J	--	9.3 J	0.69 J	1.9 J	1.6 U	0.16 U	220	9.6 J	1.2 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	0.2 U	0.52 U	--	4.6 U	0.5 U	0.24 U	0.14 U	0.22 U	83	4.3 J	0.69 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	20 U	--	82 U	260 U	15 U	38 U	22 U	12 U	640	19	26 U
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	0.64 U	--	0.39 J	1.3 U	0.66 U	0.2 U	0.35 U	0.19 U	490	18	0.76 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	0.16 U	--	0.12 U	0.13 U	0.071 U	0.049 U	0.18 J	0.031 U	20	1.4 J	0.13 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	0.21 U	--	0.18 U	0.15 U	0.14 U	0.16 U	0.24 U	0.2 J	17 U	0.22 U	0.44 J
OCDD	ng/kg	--	--	--	--	--	2200	5900	--	8300	880	3300	880	150	16000	4900	3300
OCDF	ng/kg	--	--	--	--	--	27	94	--	380	34	64	21 J	8.2 J	740	120	62
TEQ Avian	ng/kg	--	--	--	--	--	2.6	7.4	--	21	1.8	3.5	2.5	1.1	780	33	3.4
TEQ Human	ng/kg	--	--	--	--	--	4.6	14	--	32	2.5	6.6	3.5	1.1	480	27	6
TEQ Mammals	ng/kg	--	--	--	--	--	4.6	14	--	32	2.5	6.6	3.5	1.1	480	27	6
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	9.1	8.7	--	8.6	8.4	8.4	9.2	8.3	8.7	8.3	8.2
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2 U	2 U
Arsenic	mg/kg	3.2	3.3	1.9	3.2	--	3.2	3.3	--	2.6	3.2	3.4	2.5	2	5.9	3.4	2.5
Barium	mg/kg	140	130	140	110	--	140	--	87 J	98	77	110	150	120	160	160	95
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1.4	1 U	1.9	1.3	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.4 U	0.41 U	0.41 U	0.41 U	--	0.27	--	0.35	0.8	0.2 U	0.2 U	0.33	0.2 U	6.7	2.7	0.66
Chromium, total	mg/kg	20	22	16	16	--	16	30	--	27	19	20	16	13	420	65	15
Cobalt	mg/kg	7.7	5.8	7.7	--	7.5	7.2	8.5	--	7.8	8.3	7.4	7.2	7.1	7.3	7.7	7
Copper	mg/kg	9.8	11	7.2	--	13	11	13	--	9.8	9.9	8	12	12	170	80	9.7
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	2.8	3.6	2.1	--	2.4	7.2	--	3.5	2.1	2.1	2.6	15	3.4	160	70	2.6
Mercury	mg/kg	0.1 U	0.099 U	0.1 U	0.1 U	--	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.22	0.1 U	0.1 U
Molybdenum	mg/kg	1.2	2	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	4.5	2.8	1 U
Nickel	mg/kg	13	9	10	11	--	10	17	--	11	13	11	11	8.9	27	16	10
Selenium	mg/kg	1 U	1 U	1.6	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 U	2 U	2 U	2 U	--	2 U	2.1	--	2.2	2.1 U	2.6	2 U	2 U	2.1 U	2 U	2 U
Vanadium	mg/kg	29	21	28	29	--	27	--	34	29	33	29	30	30	58	27	29
Zinc	mg/kg	35	30	34	33	--	44	--	43	38	38	39	65	32	310	260	34
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-12	AOC14-13	AOC14-13	AOC14-13	AOC14-13	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W
	SAMPLE	AOC14-12-8061	AOC14-13-8062	AOC14-13-8063	AOC14-13-8064	AOC14-13-8065	AOC14-14E-8127	AOC14-14E-8128	AOC14-14E-8129	AOC14-14E-8130	AOC14-14E-8131	AOC14-14E-8132	AOC14-14W-8100	AOC14-14W-8101	AOC14-14W-8102	AOC14-14W-8103	AOC14-14W-8104
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016
	SAMPLE TOP DEPTH (FT)	14	5	9	14	14	0	2	2	5	6	9	0	2	5	6	9
	SAMPLE BOTTOM DEPTH (FT)	15	6	10	15	15	1	3	3	5.5	7	10	1	3	5.5	7	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	15	6	10	15	15	0.5	3	3	5.5	7	10	0.5	3	5.5	7	10
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
4,4-DDE	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
4,4-DDT	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Aldrin	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-BHC	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-Chlordane	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
beta-BHC	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
delta-BHC	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dieldrin	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Endo sulfan I	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Endo sulfan II	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Endosulfan sulfate	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Endrin	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Endrin aldehyde	ug/kg	--	--	--	--	--	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
gamma-Chlordane	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Heptachlor	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Heptachlor Epoxide	ug/kg	--	--	--	--	--	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methoxy chlor	ug/kg	--	--	--	--	--	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Toxaphene	ug/kg	--	--	--	--	--	51 U	51 U	--	51 U	51 U	51 U	51 U	51 U	52 U	51 U	51 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	--	--	--	--	33 U	34 U	--	33 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	52	33	17 U
Aroclor 1260	ug/kg	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	8.5 U	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	52	33	8.5 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Anthracene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	5.8 U	5.8 U	5.9 U	5.9 U	--	14	5.9 U	--	6.1	6 U	5.9 U	740	5.9 U	6 U	5.9	5.9 U
Benzo (a) anthracene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	10	5.1 U	--	5.1 U	5.2 U	5.1 U	1000	5.1 U	5.2 U	5.1 U	5.1 U
Benzo (a) pyrene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	7.8	5.1 U	--	5.1 U	5.2 U	5.1 U	550	5.1 U	5.2 U	5.1 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	15	5.1 U	--	5.1	5.2 U	5.1 U	840	5.1 U	5.2 U	5.1 U	5.1 U
Benzo (ghi) perylene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	8.1	5.1 U	--	5.1 U	5.2 U	5.1 U	9.6	5.1 U	5.2 U	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	6.4	5.1 U	--	5.1 U	5.2 U	5.1 U	360	5.1 U	5.2 U	5.1 U	5.1 U
Chrysene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	8.8	5.1 U	--	5.1 U	5.2 U	5.1 U	1100	5.1 U	5.2 U	5.1 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Fluoranthene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	13	5.1 U	--	5.1 U	5.2 U	5.1 U	2100	5.1 U	5.2 U	390	5.1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-12	AOC14-13	AOC14-13	AOC14-13	AOC14-13	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W
	SAMPLE	AOC14-12-8061	AOC14-13-8062	AOC14-13-8063	AOC14-13-8064	AOC14-13-8065	AOC14-14E-8127	AOC14-14E-8128	AOC14-14E-8129	AOC14-14E-8130	AOC14-14E-8131	AOC14-14E-8132	AOC14-14W-8100	AOC14-14W-8101	AOC14-14W-8102	AOC14-14W-8103	AOC14-14W-8104
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016
	SAMPLE TOP DEPTH (FT)	14	5	9	14	14	0	2	2	5	6	9	0	2	5	6	9
	SAMPLE BOTTOM DEPTH (FT)	15	6	10	15	15	1	3	3	5.5	7	10	1	3	5.5	7	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	15	6	10	15	15	0.5	3	3	5.5	7	10	0.5	3	5.5	7	10
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Fluorene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	6.1	5.1 U	--	5.1 U	5.2 U	5.1 U	8.2	5.1 U	5.2 U	5.1 U	5.1 U
Naphthalene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	4.6 U	5.1 U	5.2 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	0	0	0	--	89.2	0	--	5.1	0	0	8070	0	0	390	0
PAH Low molecular weight	ug/kg	0	0	0	0	--	0	0	--	0	0	0	380	0	0	0	0
Phenanthrene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	5.1 U	5.1 U	--	5.1 U	5.2 U	5.1 U	380	5.1 U	5.2 U	5.1 U	5.1 U
Pyrene	ug/kg	5 U	5 U	5.1 U	5.1 U	--	14	5.1 U	--	5.1 U	5.2 U	5.1 U	2100	5.1 U	5.2 U	5.1 U	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	330 U	340 U	--	670 U	670 U	--	670 U	680 U	670 U	670 U	680 U	6900 U	680 U	670 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	670 U	670 U	--	670 U	670 U	--	670 U	680 U	670 U	670 U	680 U	690 U	680 U	670 U
4-Chloroaniline	ug/kg	330 U	330 U	330 U	340 U	--	670 U	670 U	--	670 U	680 U	670 U	670 U	680 U	690 U	680 U	670 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	660 U	670 U	670 U	670 U	--	670 U	670 U	--	670 U	680 U	670 U	670 U	680 U	690 U	680 U	670 U
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	3400 U	340 U	340 U
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	3400 U	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Dibenzofuran	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-12	AOC14-13	AOC14-13	AOC14-13	AOC14-13	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W
	SAMPLE	AOC14-12-8061	AOC14-13-8062	AOC14-13-8063	AOC14-13-8064	AOC14-13-8065	AOC14-14E-8127	AOC14-14E-8128	AOC14-14E-8129	AOC14-14E-8130	AOC14-14E-8131	AOC14-14E-8132	AOC14-14W-8100	AOC14-14W-8101	AOC14-14W-8102	AOC14-14W-8103	AOC14-14W-8104
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016
	SAMPLE TOP DEPTH (FT)	14	5	9	14	14	0	2	2	5	6	9	0	2	5	6	9
	SAMPLE BOTTOM DEPTH (FT)	15	6	10	15	15	1	3	3	5.5	7	10	1	3	5.5	7	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	15	6	10	15	15	0.5	3	3	5.5	7	10	0.5	3	5.5	7	10
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	--	10 U	10 U	--	10 U	10 U	10 U	10 U	10 U	53	29	10 U
TPH as gasoline	mg/kg	0.87 U	1.4 U	1.3 U	--	0.92 U	--	1.1 U	--	1.2 U	1.2 U	1.1 U	--	1.1 U	1.6 U	1.5 U	1.3 U
TPH as motor oil	mg/kg	10 U	28	10 U	10 U	--	10 U	10 U	--	10 U	10 U	10 U	19	10 U	460	240	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1-Dichloroethene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1-Dichloropropene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1,1-Trichloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1,1,2-Tetrachloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1,2-Trichloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,1,2,2-Tetrachloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2-Dibromo-3-chloropropane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2-Dibromoethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2-Dichlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	330 U	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2-Dichloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2-Dichloropropane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2,3-Trichlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2,3-Trichloropropane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2,4-Trichlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	330 U	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,2,4-Trimethylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,3-Dichlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	330 U	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,3-Dichloropropane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,3,5-Trimethylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,4-Dichlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	330 U	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Acetone	ug/kg	--	--	--	--	--	--	51 U	--	58 U	59 U	62 U	46 UJ	60 UJ	76 UJ	67 UJ	63 UJ
Acrolein	ug/kg	100 UJ	140 U	200 U	120 UJ	--	--	100 U	--	120 U	120 U	120 U	93 U	120 U	150 U	130 U	130 U
Acrylonitrile	ug/kg	52 U	68 U	99 U	58 U	--	--	51 U	--	58 U	59 U	62 U	46 U	60 U	76 U	67 U	63 U
Benzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Bromobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Bromochloromethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Bromodichloromethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Bromoform	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Bromomethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Carbon disulfide	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Carbon tetrachloride	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Chloro methane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Chlorobenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Chloroethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Chloroform	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
cis-1,2-Dichloroethene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
cis-1,3-Dichloropropene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-12	AOC14-13	AOC14-13	AOC14-13	AOC14-13	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14E	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W	AOC14-14W
	SAMPLE	AOC14-12-8061	AOC14-13-8062	AOC14-13-8063	AOC14-13-8064	AOC14-13-8065	AOC14-14E-8127	AOC14-14E-8128	AOC14-14E-8129	AOC14-14E-8130	AOC14-14E-8131	AOC14-14E-8132	AOC14-14W-8100	AOC14-14W-8101	AOC14-14W-8102	AOC14-14W-8103	AOC14-14W-8104
	DATE	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016	2/16/2016
	SAMPLE TOP DEPTH (FT)	14	5	9	14	14	0	2	2	5	6	9	0	2	5	6	9
	SAMPLE BOTTOM DEPTH (FT)	15	6	10	15	15	1	3	3	5.5	7	10	1	3	5.5	7	10
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	15	6	10	15	15	0.5	3	3	5.5	7	10	0.5	3	5.5	7	10
	SAMPLE TYPE					Field Duplicate			Field Duplicate								
ANALYTE	UNITS																
Dibromomethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Dichlorodifluoromethane	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Ethyl- benzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Hexachlorobutadiene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	670 U	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	52 U	68 U	99 U	58 U	--	--	51 U	--	58 U	59 U	62 U	46 UJ	60 UJ	76 UJ	67 UJ	63 UJ
Methyl isobutyl ketone	ug/kg	52 U	68 U	99 U	58 U	--	--	51 U	--	58 U	59 U	62 U	46 U	60 U	76 U	67 U	63 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
N-Butylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
N-Propylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Nitrobenzene	ug/kg	330 U	330 U	330 U	340 U	--	330 U	340 U	--	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
sec-Butylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Styrene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
tert-Butylbenzene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Tetrachloroethene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Toluene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
trans-1,2-Dichloroethene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
trans-1,3-Dichloropropene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Trichloroethene	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Vinyl chloride	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Xylene, m,p-	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Xylene, o-	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U
Xylenes, total	ug/kg	5.2 U	6.8 U	9.9 U	5.8 U	--	--	5.1 U	--	5.8 U	5.9 U	6.2 U	4.6 U	6 U	7.6 U	6.7 U	6.3 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-15	AOC14-15	AOC14-15	AOC14-15	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-17E	AOC14-17W
	SAMPLE	AOC14-15-8105	AOC14-15-8106	AOC14-15-8108	AOC14-15-8109	AOC14-16E-8133	AOC14-16E-8134	AOC14-16E-8135	AOC14-16E-8136	AOC14-16W-8111	AOC14-16W-8112	AOC14-16W-8113	AOC14-16W-8114	AOC14-16W-8115	AOC14-16W-8116	AOC14-17E-8137	AOC14-17W-8117
	DATE	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/23/2016	2/23/2016	2/23/2016	2/23/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/24/2016	2/24/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	7	0	2	5	9	0	2	5	7	9	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	8	1	3	6	10	1	3	6	8	10	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	8	0.5	3	6	10	0.5	3	6	8	10	10	10	0.5
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	94	180	140	16	220	140	26	3.8 J	5.6 J	230	44	62	0.45 U	--	0.23 J	14
1,2,3,4,6,7,8-HpCDF	ng/kg	16	28	19	1.8 J	0.099 U	0.15 U	1.6 J	0.29 J	0.9 J	27	8.1 U	19	--	0.059 U	0.088 J	1.7 J
1,2,3,4,7,8-HxCDD	ng/kg	0.52 U	1.1 U	0.57 U	0.12 U	1.1 J	0.42 U	0.13 U	0.047 U	0.06 U	4.5 U	0.6 U	1.3 J	0.066 U	--	0.02 U	0.18 U
1,2,3,4,7,8-HxCDF	ng/kg	0.13 U	0.21 U	0.11 U	0.27 U	0.32 U	0.36 U	0.25 J	0.053 U	0.044 U	5 U	0.38 U	0.48 U	--	0.075 U	0.026 U	0.16 U
1,2,3,4,7,8,9-HpCDF	ng/kg	1.4 J	1.4 U	1.5 J	0.18 U	1.9 J	0.76 U	0.27 U	0.12 U	0.11 U	2.6 U	0.34 U	0.98 U	--	0.07 U	0.062 U	0.13 U
1,2,3,6,7,8-HxCDD	ng/kg	3.1 J	5.1 J	3.9 J	0.44 J	5.8 J	2.5 J	0.69 U	0.03 U	0.13 U	4.5 U	0.43 U	2 J	--	0.051 U	0.02 U	0.47 U
1,2,3,6,7,8-HxCDF	ng/kg	0.5 U	0.59 U	0.37 U	0.13 U	5.6 U	0.35 U	0.082 U	0.053 U	0.043 U	4.9 U	0.73 U	0.94 U	--	0.073 U	0.032 U	0.15 U
1,2,3,7,8-PeCDD	ng/kg	0.34 U	0.76 U	0.49 U	0.12 U	0.55 J	0.12 U	0.067 U	0.02 U	0.044 U	3 U	0.22 U	0.39 U	--	0.029 U	0.066 U	0.083 U
1,2,3,7,8-PeCDF	ng/kg	1.7 U	0.22 U	0.45 U	0.062 U	0.32 U	0.21 U	0.051 U	0.068 U	0.054 U	1.4 U	0.23 U	0.19 U	--	0.042 U	0.034 U	0.11 U
1,2,3,7,8,9-HxCDD	ng/kg	1.1 U	2 J	2.1 J	0.14 U	2.4 J	1.3 J	0.44 J	0.074 U	0.16 J	4.3 U	0.41 U	0.83 U	0.064 U	--	0.019 U	0.39 U
1,2,3,7,8,9-HxCDF	ng/kg	0.35 U	0.25 U	0.29 U	0.15 U	0.38 U	0.42 U	0.061 U	0.037 U	0.051 U	5.9 U	0.52 U	0.56 U	--	0.087 U	0.053 U	0.18 U
2,3,4,6,7,8-HxCDF	ng/kg	20 U	44 U	26 U	3.6 U	66 U	27 U	15 U	0.71 U	1 U	21 U	5.5 U	10 U	--	0.28 U	0.23 U	1.7 U
2,3,4,7,8-PeCDF	ng/kg	0.14 U	0.23 U	0.33 U	0.11 U	0.29 U	0.17 U	0.054 U	0.053 U	0.056 U	1.5 U	0.25 U	0.41 U	--	0.044 U	0.036 U	0.11 U
2,3,7,8-TCDD	ng/kg	0.055 U	0.14 U	0.15 U	0.039 U	0.022 U	0.099 U	0.022 U	0.013 U	0.024 U	1.5 U	0.13 U	0.1 U	--	0.018 U	0.018 U	0.049 U
2,3,7,8-TCDF	ng/kg	0.3 U	0.17 U	0.4 U	0.11 J	0.24 U	0.25 U	0.16 U	0.087 U	0.16 J	1.2 U	0.35 U	0.3 U	--	0.046 U	0.07 U	0.073 U
OCDD	ng/kg	740	1500	1500	140	2500	1400	270	30	52	1800	370	650	--	4.7 J	1.9 J	110
OCDF	ng/kg	49	98	57	4.5 J	98	20 J	5 J	0.92 U	2.2 J	42 U	9.8 J	17 J	--	0.18 U	0.15 U	2.9 J
TEQ Avian	ng/kg	2	3.8	2.8	0.52	5.3	2.2	1.1	0.15	0.32	6.6	1	1.7	0.17	--	0.12	0.34
TEQ Human	ng/kg	3	6.1	4.4	0.59	8.2	3.8	1.3	0.13	0.22	8.2	1.3	2.3	0.11	--	0.075	0.44
TEQ Mammals	ng/kg	3	6.1	4.4	0.59	8.2	3.8	1.3	0.13	0.22	8.2	1.3	2.3	0.11	--	0.075	0.44
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	9	8.9	9.4	8.7	8.7	8.3	8	9.3	8.4	8.5	8.8	8.5	--	8.6	8.5	8.8
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 UJ	3.3	2.2 U	2 U	2 U	--	2 U	2 U
Arsenic	mg/kg	4	3	2.9	3.9	2	2.3	1.7	1.3	2.1	19	4.3	2.8	1.4	--	1.4	2.6
Barium	mg/kg	140	190	170	150	120	150	110	97	140 J	100	130	140	110	--	92	66
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.2	1.1 U	1 U	1 U	--	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.2 U	0.21	0.2 U	0.2 U	0.26	0.21 U	0.22	0.21 U	0.2 U	20	3	0.96	0.2 U	--	0.2 U	0.2 U
Chromium, total	mg/kg	14	16	11	16	20	12	12	15	13	360	50	23	13	--	11	9
Cobalt	mg/kg	7.8	6.5	6.3	6.9	7.6	7.1	5.7	7	6.2	11	7.7	7.6	7.5	--	6.4	3.3
Copper	mg/kg	11	12	9.7	8.9	9.6	9	6.7	9	7.3	1300	100	35	8.7	--	7.8	4.7
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	2.2	4.6	3.1	2.5	5.9	3	3	1.6	2.7	110	28	14	2.3	--	2.7	3.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.41	180	72	17	0.1 U	--	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	63	14	1 U	1 U	--	1 U	1 U
Nickel	mg/kg	12	9.9	8.9	12	12	8.6	7.6	10	8.4	170	17	11	9	--	9.1	5
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Thallium	mg/kg	2 U	2.3	2.2	2.2	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Vanadium	mg/kg	29	26	24	30	32	31	23	27	27 J	26	30	31	32	--	27	17
Zinc	mg/kg	36	40	34	33	62	33	30	31	27	110	61	45	31	--	31	21
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-15	AOC14-15	AOC14-15	AOC14-15	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-17E	AOC14-17W
	SAMPLE	AOC14-15-8105	AOC14-15-8106	AOC14-15-8108	AOC14-15-8109	AOC14-16E-8133	AOC14-16E-8134	AOC14-16E-8135	AOC14-16E-8136	AOC14-16W-8111	AOC14-16W-8112	AOC14-16W-8113	AOC14-16W-8114	AOC14-16W-8115	AOC14-16W-8116	AOC14-17E-8137	AOC14-17W-8117
	DATE	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/23/2016	2/23/2016	2/23/2016	2/23/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/24/2016	2/24/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	7	0	2	5	9	0	2	5	7	9	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	8	1	3	6	10	1	3	6	8	10	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	8	0.5	3	6	10	0.5	3	6	8	10	10	10	0.5
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
4,4-DDE	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.6	2 U	2 U	--	2 U	2 U
4,4-DDT	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 UJ	2.1 UJ	2 UJ	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Aldrin	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
alpha-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
alpha-Chlordane	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
beta-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
delta-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Dieldrin	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Endo sulfan I	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Endo sulfan II	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Endosulfan sulfate	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 UJ	2.1 UJ	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Endrin	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 UJ	2.1 UJ	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Endrin aldehyde	ug/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.2 U	2 U	2 U	--	2 U	2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
gamma-Chlordane	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Heptachlor	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Heptachlor Epoxide	ug/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1 U
Methoxy chlor	ug/kg	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.2 U	5.1 UJ	5.2 UJ	5.1 UJ	5.1 U	5.5 U	5.1 U	5.1 U	--	5.1 U	5.1 U
Toxaphene	ug/kg	51 U	51 U	50 U	51 U	51 U	52 U	51 UJ	52 UJ	51 U	51 U	55 U	51 U	51 U	--	51 UJ	51 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1221	ug/kg	34 U	33 U	33 U	33 U	34 U	34 U	34 U	34 U	34 U	34 U	36 U	34 U	33 U	--	33 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	--	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	9 U	8.5 U	8.5 U	--	8.5 U	8.5 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Acenaphthene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Anthracene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	5.9 U	5.9 U	8.2 U	8.2 U	58	17	5.9 U	6 U	59 U	290 U	61 U	5.9 U	56 U	--	59 U	5.9 U
Benzo (a) anthracene	ug/kg	5.1 U	5.1 U	51 U	51 U	15	17	5.1 U	5.2 U	51 U	26 U	5.5 U	5.1 U	5 U	--	51 U	5.1 U
Benzo (a) pyrene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	10	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	17	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Benzo (ghi) perylene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	8.3	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	12 J	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Chrysene	ug/kg	5.1 U	5.1 U	51 U	51 U	15	15	5.1 U	5.2 U	51 U	26 U	5.5 U	5.1 U	5 U	--	51 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	5.2 U	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Fluoranthene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	22	38	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-15	AOC14-15	AOC14-15	AOC14-15	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-17E	AOC14-17W
	SAMPLE	AOC14-15-8105	AOC14-15-8106	AOC14-15-8108	AOC14-15-8109	AOC14-16E-8133	AOC14-16E-8134	AOC14-16E-8135	AOC14-16E-8136	AOC14-16W-8111	AOC14-16W-8112	AOC14-16W-8113	AOC14-16W-8114	AOC14-16W-8115	AOC14-16W-8116	AOC14-17E-8137	AOC14-17W-8117
	DATE	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/23/2016	2/23/2016	2/23/2016	2/23/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/24/2016	2/24/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	7	0	2	5	9	0	2	5	7	9	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	8	1	3	6	10	1	3	6	8	10	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	8	0.5	3	6	10	0.5	3	6	8	10	10	10	0.5
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
Fluorene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	51 U	6.2	5.1 U	5.2 U	51 U	260 U	55 U	5.1 U	50 U	--	51 U	5.1 U
Naphthalene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	7.4 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	0	0	0	72	157	0	0	0	0	0	0	0	--	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	7.3	0	0	0	0	0	0	0	--	0	0
Phenanthrene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	7.3	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Pyrene	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	20	33	5.1 U	5.2 U	5.1 U	26 U	5.5 U	5.1 U	5 U	--	5.1 U	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2-Chlorophenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2-Methylphenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
2-Nitrophenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2,6-Dinitrotoluene	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	670 U	670 U	660 U	670 U	670 U	680 U	670 U	690 U	670 U	170000 U	730 U	670 U	670 U	--	670 U	670 U
4-Bromophenyl phenyl ether	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
4-Chloro-3-methylphenol	ug/kg	670 U	670 U	660 U	670 U	670 U	680 U	670 U	690 U	670 U	17000 U	730 U	670 U	670 U	--	670 U	670 U
4-Chloroaniline	ug/kg	670 U	670 U	660 U	670 U	670 U	680 U	670 U	690 U	670 U	17000 U	730 U	670 U	670 U	--	670 U	670 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
4-Methylphenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
Benzyl alcohol	ug/kg	670 U	670 U	660 U	670 U	670 U	680 U	670 U	690 U	670 U	17000 U	730 U	670 U	670 U	--	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	85000 U	360 U	330 U	330 U	--	330 U	340 U
Butylbenzylphthalate	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	85000 U	360 U	330 U	630	--	330 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Di-n-octyl phthalate	ug/kg	340 U	330 U	3300 U	3300 U	340 U	340 U	340 U	340 U	340 U	8500 U	3600 U	330 U	330 U	--	330 U	340 U
Dibenzofuran	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Diethyl phthalate	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Dimethyl phthalate	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Hexachlorobenzene	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Hexachloroethane	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
N-nitrosodiphenylamine	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	43000 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
Phenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-15	AOC14-15	AOC14-15	AOC14-15	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-17E	AOC14-17W
	SAMPLE	AOC14-15-8105	AOC14-15-8106	AOC14-15-8108	AOC14-15-8109	AOC14-16E-8133	AOC14-16E-8134	AOC14-16E-8135	AOC14-16E-8136	AOC14-16W-8111	AOC14-16W-8112	AOC14-16W-8113	AOC14-16W-8114	AOC14-16W-8115	AOC14-16W-8116	AOC14-17E-8137	AOC14-17W-8117
	DATE	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/23/2016	2/23/2016	2/23/2016	2/23/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/24/2016	2/24/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	7	0	2	5	9	0	2	5	7	9	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	8	1	3	6	10	1	3	6	8	10	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	8	0.5	3	6	10	0.5	3	6	8	10	10	10	0.5
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	630	76	37	10 U	--	10 U	10 U
TPH as gasoline	mg/kg	--	1.2 U	1.1 UJ	1.1 U	--	1.2 U	1.3 U	1.2 U	--	1.6 U	1.5 U	1.3 U	1.2 U	--	1.2 U	--
TPH as motor oil	mg/kg	10 U	10 U	10 U	10 U	10 U	13	10 U	10 U	10 U	4500	540	230	10 U	--	10 U	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1-Dichloroethene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1-Dichloropropene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1,1-Trichloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1,1,2-Tetrachloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1,2-Trichloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,1,2,2-Tetrachloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2-Dibromo-3-chloropropane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2-Dibromoethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2-Dichlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2-Dichloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2-Dichloropropane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2,3-Trichlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2,3-Trichloropropane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2,4-Trichlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,2,4-Trimethylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,3-Dichlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,3-Dichloropropane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,3,5-Trimethylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,4-Dichlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
2,4,5-Trichlorophenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
2,4,6-Trichlorophenol	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
4-Isopropyltoluene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Acetone	ug/kg	66 U	53 U	56 U	60 U	70 U	62 U	56 U	59 U	54 U	74 U	67 U	52 U	58 U	--	58 U	52 U
Acrolein	ug/kg	130 U	110 U	110 U	120 U	140 U	120 U	110 U	120 U	110 U	150 U	130 U	100 U	120 U	--	120 U	100 U
Acrylonitrile	ug/kg	66 U	53 U	56 U	60 U	70 U	62 U	56 U	59 U	54 U	74 U	67 U	52 U	58 U	--	58 U	52 U
Benzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
bis (2-chloroethyl) ether	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Bromobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Bromochloromethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Bromodichloromethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Bromoform	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Bromomethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Carbon disulfide	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Carbon tetrachloride	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Chloro methane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Chlorobenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Chloroethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Chloroform	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
cis-1,2-Dichloroethene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
cis-1,3-Dichloropropene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-15	AOC14-15	AOC14-15	AOC14-15	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16E	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-16W	AOC14-17E	AOC14-17W
	SAMPLE	AOC14-15-8105	AOC14-15-8106	AOC14-15-8108	AOC14-15-8109	AOC14-16E-8133	AOC14-16E-8134	AOC14-16E-8135	AOC14-16E-8136	AOC14-16W-8111	AOC14-16W-8112	AOC14-16W-8113	AOC14-16W-8114	AOC14-16W-8115	AOC14-16W-8116	AOC14-17E-8137	AOC14-17W-8117
	DATE	2/18/2016	2/18/2016	2/18/2016	2/18/2016	2/23/2016	2/23/2016	2/23/2016	2/23/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/22/2016	2/24/2016	2/24/2016
	SAMPLE TOP DEPTH (FT)	0	2	5	7	0	2	5	9	0	2	5	7	9	9	9	0
	SAMPLE BOTTOM DEPTH (FT)	1	3	6	8	1	3	6	10	1	3	6	8	10	10	10	1
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	8	0.5	3	6	10	0.5	3	6	8	10	10	10	0.5
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
Dibromomethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Dichlorodifluoromethane	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Ethyl- benzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Hexachlorobutadiene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
Isopropylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	66 U	53 U	56 U	60 U	70 U	62 U	56 U	59 U	54 U	74 U	67 U	52 U	58 U	--	58 U	52 U
Methyl isobutyl ketone	ug/kg	66 U	53 U	56 U	60 U	70 U	62 U	56 U	59 U	54 U	74 U	67 U	52 U	58 U	--	58 U	52 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
N-Butylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
N-Propylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Nitrobenzene	ug/kg	340 U	330 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	8500 U	360 U	330 U	330 U	--	330 U	340 U
p-Chlorotoluene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
sec-Butylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Styrene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
tert-Butylbenzene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Tetrachloroethene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Toluene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
trans-1,2-Dichloroethene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
trans-1,3-Dichloropropene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Trichloroethene	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Vinyl chloride	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Xylene, m,p-	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Xylene, o-	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U
Xylenes, total	ug/kg	6.6 U	5.3 U	5.6 U	6 U	7 U	6.2 U	5.6 U	5.9 U	5.4 U	7.4 U	6.7 U	5.2 U	5.8 U	--	5.8 U	5.2 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-18	AOC14-18	AOC14-18	AOC14-19	AOC14-19	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2
	SAMPLE	AOC14-17W-8118	AOC14-17W-8119	AOC14-17W-8120	AOC14-17W-8121	AOC14-18-8122	AOC14-18-8123	AOC14-18-8124	AOC14-19-8125	AOC14-19-8126	AOC14-2-8006	AOC14-2-8007	AOC14-2-8008	AOC14-2-8009	AOC14-2-8010	AOC14-2-8011	AOC14-2-8088
	DATE	2/24/2016	2/24/2016	2/24/2016	2/24/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008
SAMPLE TOP DEPTH (FT)	2	5	9	1	0	2	5	2	3	0	2	5	9	9	14	14	3
SAMPLE BOTTOM DEPTH (FT)	3	6	10	2	1	3	6	3	4	0.5	3	6	10	10	15	15	3.25
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	2	0.5	3	6	3	4	0.5	3	6	10	10	15	15	3.25
	SAMPLE TYPE														Field Duplicate		
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	14	0.44 U	1.1 U	35	--	--	--	610	15	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	1 U	0.16 U	0.16 U	3.2 J	--	--	--	390	0.48 U	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.15 U	0.029 U	0.039 U	0.43 U	--	--	--	29	0.9 U	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.063 U	0.049 U	0.047 U	0.14 U	--	--	--	110	0.3 U	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.16 U	0.071 U	0.19 U	0.3 U	--	--	--	23	0.57 U	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.39 U	0.03 U	0.043 U	1 U	--	--	--	60	0.43 U	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.062 U	0.058 U	0.046 U	0.12 U	--	--	--	110	1.3 U	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.065 U	0.029 U	0.021 U	0.24 U	--	--	--	49 U	0.91 U	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.083 U	0.059 U	0.11 U	0.12 U	--	--	--	92	0.11 U	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.42 U	0.028 U	0.038 U	0.78 J	--	--	--	52	0.41 U	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.11 U	0.055 U	0.055 U	0.046 U	--	--	--	11 U	1.1 U	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	1.3 U	0.041 U	0.31 U	3.4 U	--	--	--	220	1 U	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.088 U	0.062 U	0.12 U	0.12 U	--	--	--	190 U	0.12 U	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.087 U	0.086 U	0.037 U	0.049 U	--	--	--	17	0.43 U	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.11 U	0.19 U	0.2 J	0.043 U	--	--	--	5.8 U	0.66 U	--	--	--	--	--	--	--
OCDD	ng/kg	120	2 J	6.1 J	270	--	--	--	1800	43	--	--	--	--	--	--	--
OCDF	ng/kg	2.4 J	0.089 U	0.28 U	6.3 J	--	--	--	79	1.3 U	--	--	--	--	--	--	--
TEQ Avian	ng/kg	0.31	0.2	0.32	0.61	--	--	--	210	1.3	--	--	--	--	--	--	--
TEQ Human	ng/kg	0.4	0.096	0.11	0.97	--	--	--	140	1.2	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.4	0.096	0.11	0.97	--	--	--	140	1.2	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	8.7	8.2	7.8	8	--	--	--	9.6	9.5	--	--	--	--	--	--	8.88 J
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	19	2.1 U	2 U	2.1 U	2.1 U	2 U	--	2 U	2.3 U
Arsenic	mg/kg	2.7	3.1	4.1	3.4	4	3.8	4.5	14	2.3	5.8	11	8.5	2.6	--	3.1	15
Barium	mg/kg	130	180	110	90	250	280	86	410	190	190	130	150	180	--	120	120
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	11 U	5.2 U	1 U	--	1 U	11 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	7.1 J	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1.1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.043	--	--	--	--
Chromium, Hexavalent	mg/kg	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.77	1	1.3	--	0.4 U	0.41 U	2.2
Chromium, total	mg/kg	13	12	12	12	14	13	13	380 J	13	28	42	42	21	--	15	26
Cobalt	mg/kg	6.4	5	6.2	4.8	7.1	7.8	8	17	6.7	6.8	11 U	6.6	8.5	--	7.2	11 U
Copper	mg/kg	7.7	10	8.6	9.2	13	12	12	1800	19	44	21 U	19	16 J	--	9.1	23 U
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	0.044 J	--	--	--	--
Lead	mg/kg	3.7	3.4	2.6	8.5	14	3.5	4.4	1600 J	6.3	18	7.6	21	--	1.9	2.1	1.1 U
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.1 U	--	0.1 U	0.11 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	3	16	1 U	2 U	11 U	5.2 U	1 U	--	1 U	11 U
Nickel	mg/kg	8	7.3	8	7.9	9.6	9.5	12	270	9.7	12	12	13	11	--	11	4.5
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1.1 U	1 U	1 U	--	1 U	1.1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	11 U	5.2 U	1 U	--	1 U	11 U
Thallium	mg/kg	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	4.1 U	21 U	10 U	2 U	--	2 U	23 U
Vanadium	mg/kg	27	24	33	18	30	30	33	24 J	27	28	25	27	--	33	28	13
Zinc	mg/kg	29	24	29	26	41	34	36	2000 J	41	49	34	51	--	41	35	11 U
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	8500	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	37000	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-18	AOC14-18	AOC14-18	AOC14-19	AOC14-19	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2
	SAMPLE	AOC14-17W-8118	AOC14-17W-8119	AOC14-17W-8120	AOC14-17W-8121	AOC14-18-8122	AOC14-18-8123	AOC14-18-8124	AOC14-19-8125	AOC14-19-8126	AOC14-2-8006	AOC14-2-8007	AOC14-2-8008	AOC14-2-8009	AOC14-2-8010	AOC14-2-8011	AOC14-2-8088
	DATE	2/24/2016	2/24/2016	2/24/2016	2/24/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008
SAMPLE TOP DEPTH (FT)		2	5	9	1	0	2	5	2	3	0	2	5	9	9	14	3
SAMPLE BOTTOM DEPTH (FT)		3	6	10	2	1	3	6	3	4	0.5	3	6	10	10	15	3.25
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	2	0.5	3	6	3	4	0.5	3	6	10	10	15	3.25
SAMPLE TYPE															Field Duplicate		
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	--	--	--	--	--	19000	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	7200	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	270	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	2600	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	630	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
4,4-DDE	ug/kg	2 U	2 U	2 U	2 U	--	--	--	4.4	2.1 U	2.9	--	--	--	--	--	--
4,4-DDT	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	3	--	--	--	--	--	--
Aldrin	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
alpha-BHC	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
beta-BHC	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
delta-BHC	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
Dieldrin	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
Endo sulfan I	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
Endo sulfan II	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
Endrin	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2 U	2 U	2 U	2 U	--	--	--	2.1 U	2.1 U	2 U	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	2 U	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
Heptachlor	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1 U	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	--	--	--	--	--	--
Toxaphene	ug/kg	51 U	51 UJ	51 UJ	51 UJ	--	--	--	52 U	52 U	51 U	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	--	--	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	34 U	34 U	34 U	--	--	--	34 U	34 U	34 U	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	--	--	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	--	--	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	--	--	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	--	--	--	35	17 U	17 U	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	--	--	--	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--
Total PCBs	ug/kg	8.5 U	8.5 U	8.5 U	8.5 U	--	--	--	35	8.5 U	8.5 U	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
2-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Acenaphthene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Acenaphthylene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Anthracene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
B(a)P Equivalent	ug/kg	22	5.9 U	5.9 U	5.9 U	--	--	--	59	6 U	5.9	6.2 U	14	5.8 U	--	5.9 U	6.6 U
Benzo (a) anthracene	ug/kg	20	5.1 U	5.1 U	5.1 U	--	--	--	12	5.2 U	5.1 U	5.4 U	9.5	5 U	--	5.1 U	5.7 UJ
Benzo (a) pyrene	ug/kg	14	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	5.1 U	5.4 U	8.7	5 U	--	5.1 U	5.7 UJ
Benzo (b) fluoranthene	ug/kg	25	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	5.1 U	5.4 U	12	5 U	--	5.1 U	5.7 UJ
Benzo (ghi) perylene	ug/kg	9.4	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	11	5.4 U	12	5 U	--	5.1 U	5.7 UJ
Benzo (k) fluoranthene	ug/kg	15 J	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	5.1 U	5.4 U	12	5 U	--	5.1 U	5.7 UJ
Chrysene	ug/kg	21	5.1 U	5.1 U	5.1 U	--	--	--	16	5.2 U	5.1 U	5.4 U	12	5 U	--	5.1 U	5.7 UJ
Dibenzo (a,h) anthracene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Fluoranthene	ug/kg	39	5.1 U	5.1 U	5.1 U	--	--	--	17	5.2 U	5.9	5.4 U	12	5 U	--	5.1 U	5.7 UJ

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-18	AOC14-18	AOC14-18	AOC14-19	AOC14-19	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2
	SAMPLE	AOC14-17W-8118	AOC14-17W-8119	AOC14-17W-8120	AOC14-17W-8121	AOC14-18-8122	AOC14-18-8123	AOC14-18-8124	AOC14-19-8125	AOC14-19-8126	AOC14-2-8006	AOC14-2-8007	AOC14-2-8008	AOC14-2-8009	AOC14-2-8010	AOC14-2-8011	AOC14-2-8088
	DATE	2/24/2016	2/24/2016	2/24/2016	2/24/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008
SAMPLE TOP DEPTH (FT)		2	5	9	1	0	2	5	2	3	0	2	5	9	9	14	3
SAMPLE BOTTOM DEPTH (FT)		3	6	10	2	1	3	6	3	4	0.5	3	6	10	10	15	3.25
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	2	0.5	3	6	3	4	0.5	3	6	10	10	15	3.25
SAMPLE TYPE															Field Duplicate		
ANALYTE	UNITS																
Fluorene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Indeno (1,2,3-cd) pyrene	ug/kg	8.1	5.1 U	5.1 U	5.1 U	--	--	--	52 U	5.2 U	5.1 U	5.4 U	7.6	5 U	--	5.1 U	5.7 UJ
Naphthalene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.1 U	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
PAH High molecular weight	ug/kg	184	0	0	0	--	--	--	63	0	22.8	0	98.8	0	--	0	0
PAH Low molecular weight	ug/kg	7.1	0	0	0	--	--	--	0	0	5.2	0	0	0	--	0	0
Phenanthrene	ug/kg	7.1	5.1 U	5.1 U	5.1 U	--	--	--	5.2 U	5.2 U	5.2	5.4 U	5.2 U	5 U	--	5.1 U	5.7 UJ
Pyrene	ug/kg	32	5.1 U	5.1 U	5.1 U	--	--	--	18	5.2 U	5.9	5.4 U	13	5 U	--	5.1 U	5.7 UJ
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2-Chlorophenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2-Methylphenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2-Nitroaniline	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
2-Nitrophenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2,4-Dimethylphenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2,4-Dinitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
2,4-Dinitrotoluene	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
2,6-Dinitrotoluene	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
3-Nitroaniline	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
3,3-Dichlorobenzidene	ug/kg	670 UJ	680 U	680 U	670 U	--	--	--	690 U	690 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
4-Bromophenyl phenyl ether	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
4-Chloro-3-methylphenol	ug/kg	670 UJ	680 U	680 U	670 U	--	--	--	690 U	690 U	670 U	710 U	690 U	670 U	--	670 U	750 UJ
4-Chloroaniline	ug/kg	670 UJ	680 U	680 U	670 U	--	--	--	690 U	690 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
4-Chlorophenyl phenyl ether	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
4-Methylphenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	430	350 U	340 U	330 U	--	340 U	370 UJ
4-Nitroaniline	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
4-Nitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
4,6-Dinitro-2-methylphenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1900 UJ
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1900 UJ
Benzyl alcohol	ug/kg	670 UJ	680 U	680 U	670 U	--	--	--	690 U	690 U	670 U	710 U	690 U	670 U	--	670 U	750 UJ
bis (2-chloroethoxy) methane	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
bis (2-ethylhexyl) phthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Butylbenzylphthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Di-n-octyl phthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	3400 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Dibenzofuran	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Diethyl phthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Dimethyl phthalate	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Hexachlorobenzene	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Hexachloroethane	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
n-Nitroso-di-n-propylamine	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
N-nitrosodiphenylamine	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Pentachlorophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	--	--	1700 U	1700 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
Phenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-18	AOC14-18	AOC14-18	AOC14-19	AOC14-19	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2
	SAMPLE	AOC14-17W-8118	AOC14-17W-8119	AOC14-17W-8120	AOC14-17W-8121	AOC14-18-8122	AOC14-18-8123	AOC14-18-8124	AOC14-19-8125	AOC14-19-8126	AOC14-2-8006	AOC14-2-8007	AOC14-2-8008	AOC14-2-8009	AOC14-2-8010	AOC14-2-8011	AOC14-2-8088
	DATE	2/24/2016	2/24/2016	2/24/2016	2/24/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008
SAMPLE TOP DEPTH (FT)		2	5	9	1	0	2	5	2	3	0	2	5	9	9	14	3
SAMPLE BOTTOM DEPTH (FT)		3	6	10	2	1	3	6	3	4	0.5	3	6	10	10	15	3.25
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	2	0.5	3	6	3	4	0.5	3	6	10	10	15	3.25
SAMPLE TYPE																Field Duplicate	
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	--	--	--	13	47	34.1	14.1	10 U	10 U	--	10 U	10 UJ
TPH as gasoline	mg/kg	1.2 U	1.4 U	1.4 UJ	1.3 U	--	--	--	1.9 U	1.7 UJ	--	1.4 U	1.5 U	0.92 U	--	1.6 U	--
TPH as motor oil	mg/kg	10 U	10 U	10 U	10 U	--	--	--	79	410	252	64.1	164	26.2	--	10 U	10 UJ
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1-Dichloroethene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1-Dichloropropene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1,1-Trichloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1,1,2-Tetrachloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1,2-Trichloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,1,2,2-Tetrachloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2-Dibromo-3-chloropropane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2-Dibromoethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2-Dichlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	340 U	8.9 U	6.5 U	--	5.9 U	8.6 U	370 UJ
1,2-Dichloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2-Dichloropropane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2,3-Trichlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2,3-Trichloropropane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,2,4-Trichlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	340 U	8.9 U	6.5 U	--	5.9 U	8.6 U	370 UJ
1,2,4-Trimethylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,3-Dichlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	340 U	8.9 U	6.5 U	--	5.9 U	8.6 U	370 UJ
1,3-Dichloropropane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,3,5-Trimethylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
1,4-Dichlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	340 U	8.9 U	6.5 U	--	5.9 U	8.6 U	370 UJ
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	89 U	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
2,4,5-Trichlorophenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	1600 U	1700 U	1700 U	1600 U	--	1600 U	1800 UJ
2,4,6-Trichlorophenol	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
4-Isopropyltoluene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Acetone	ug/kg	63 U	65 U	62 U	62 U	--	--	--	100 UJ	3600 U	--	--	--	--	--	--	--
Acrolein	ug/kg	130 U	130 U	120 U	120 U	--	--	--	200 U	7300 U	--	180 U	130 U	--	120 U	170 UJ	--
Acrylonitrile	ug/kg	63 U	65 U	62 U	62 U	--	--	--	100 U	3600 U	--	89 U	65 U	--	59 U	86 U	--
Benzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
bis (2-chloroethyl) ether	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
bis (2-chloroisopropyl) ether	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Bromobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Bromochloromethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Bromodichloromethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Bromoform	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Bromomethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Carbon disulfide	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Carbon tetrachloride	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Chloro methane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Chlorobenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Chloroethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Chloroform	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
cis-1,2-Dichloroethene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
cis-1,3-Dichloropropene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	8.9 U	--	--	--	--	--
Dibromochloromethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-17W	AOC14-18	AOC14-18	AOC14-18	AOC14-19	AOC14-19	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2	AOC14-2
	SAMPLE	AOC14-17W-8118	AOC14-17W-8119	AOC14-17W-8120	AOC14-17W-8121	AOC14-18-8122	AOC14-18-8123	AOC14-18-8124	AOC14-19-8125	AOC14-19-8126	AOC14-2-8006	AOC14-2-8007	AOC14-2-8008	AOC14-2-8009	AOC14-2-8010	AOC14-2-8011	AOC14-2-8088
	DATE	2/24/2016	2/24/2016	2/24/2016	2/24/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	2/17/2016	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	9/30/2008	10/1/2008
SAMPLE TOP DEPTH (FT)		2	5	9	1	0	2	5	2	3	0	2	5	9	9	14	3
SAMPLE BOTTOM DEPTH (FT)		3	6	10	2	1	3	6	3	4	0.5	3	6	10	10	15	3.25
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	2	0.5	3	6	3	4	0.5	3	6	10	10	15	3.25
SAMPLE TYPE															Field Duplicate		
ANALYTE	UNITS																
Dibromomethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Dichlorodifluoromethane	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Ethyl- benzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Hexachlorobutadiene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	340 U	8.9 U	6.5 U	--	5.9 U	8.6 U	370 UJ
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	670 U	--	--	--	--	--	--
Isophorone	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
Isopropylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	8.9 U	--	--	--	--	--
Methyl ethyl ketone	ug/kg	63 U	65 U	62 U	62 U	--	--	--	100 UJ	3600 U	--	89 U	65 U	--	59 U	86 U	--
Methyl isobutyl ketone	ug/kg	63 U	65 U	62 U	62 U	--	--	--	100 U	3600 U	--	89 U	65 U	--	59 U	86 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	8.9 U	--	--	--	--	--
Methylene chloride	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
N-Butylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
N-Propylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Nitrobenzene	ug/kg	330 UJ	340 U	340 U	340 U	--	--	--	340 U	340 U	340 U	350 U	340 U	330 U	--	340 U	370 UJ
p-Chlorotoluene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
sec-Butylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Styrene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
tert-Butylbenzene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Tetrachloroethene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Toluene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
trans-1,2-Dichloroethene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
trans-1,3-Dichloropropene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Trichloroethene	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Vinyl chloride	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	360 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Xylene, m,p-	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Xylene, o-	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--
Xylenes, total	ug/kg	6.3 U	6.5 U	6.2 U	6.2 U	--	--	--	10 U	8.5 U	--	8.9 U	6.5 U	--	5.9 U	8.6 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-20	AOC14-20	AOC14-20	AOC14-20	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-4	AOC14-4
	SAMPLE	AOC14-20-8138	AOC14-20-8139	AOC14-20-8140	AOC14-20-8141	AOC14-21-8142	AOC14-21-8143	AOC14-21-8144	AOC14-21-8145	AOC14-21-8146	AOC14-3-8012	AOC14-3-8013	AOC14-3-8014	AOC14-3-8015	AOC14-3-8016	AOC14-4-8017	AOC14-4-8018
	DATE	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	8	0	2	2	5	9	0	2	5	9	14	0	2
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	SAMPLE TYPE							Field Duplicate									
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	6.1 J	3.6 J	8.7 J	1.8 U	12 J	--	89	1.3 U	4.1 J	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.79 U	0.64 U	0.73 U	0.61 U	2.5 J	--	8.6 J	0.25 U	0.61 U	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.19 U	0.18 U	0.14 U	0.21 U	0.25 J	0.63 J	--	0.12 U	0.061 U	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.21 U	0.11 U	0.18 U	0.1 U	0.38 J	--	0.48 J	0.067 U	0.047 U	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.3 J	0.12 U	0.14 U	0.32 U	0.25 U	--	0.69 J	0.094 U	0.027 U	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.49 U	0.18 U	0.073 U	0.13 U	0.88 U	--	2.9 J	0.14 U	0.061 U	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.27 U	0.11 U	0.18 U	0.23 U	0.35 J	--	0.75 J	0.17 U	0.045 U	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.089 U	0.15 U	0.1 U	0.34 U	0.45 U	0.57 J	--	0.15 U	0.1 U	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.2 U	0.16 U	0.33 J	0.25 U	0.19 U	--	0.47 J	0.053 U	0.13 U	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.58 J	0.31 U	0.28 U	0.43 U	0.61 U	--	1.2 J	0.14 U	0.067 U	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.22 U	0.15 U	0.076 U	0.13 U	0.11 U	--	0.14 U	0.1 U	0.053 U	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	1.1 U	1.3 U	1.5 U	0.97 U	3.1 U	17 U	--	0.43 U	0.75 U	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.2 U	0.13 U	0.17 U	0.082 U	0.13 U	0.34 U	--	0.053 U	0.14 U	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.042 U	0.044 U	0.056 U	0.07 U	0.1 U	--	0.073 U	0.064 U	0.052 U	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.045 U	0.094 U	0.53 J	0.061 U	0.32 J	--	0.085 U	0.047 U	0.11 U	--	--	--	--	--	--	--
OCDD	ng/kg	40	22 J	66	15 J	82	--	780	10 U	39	--	--	--	--	--	--	--
OCDF	ng/kg	1.2 J	1.1 J	1.4 U	1.2 U	3.7 U	23 J	--	0.43 U	1.8 J	--	--	--	--	--	--	--
TEQ Avian	ng/kg	0.37	0.33	0.86	0.4	1.1	--	2.2	0.21 U	0.27	--	--	--	--	--	--	--
TEQ Human	ng/kg	0.36	0.29	0.4	0.35	0.85	--	3.2	0.19 U	0.22	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.36	0.29	0.4	0.35	0.85	--	3.2	0.19 U	0.22	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 UJ	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	1.5	1 U	1.6	1 U	1 U	--	1.5	1.1	1	3.7	3.3	3.4	2.1	2.7	4.5	4.5
Barium	mg/kg	120	140	130	68	140	130	--	60	98	140	90	130	140	110	99	130
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.4 U	0.41 U	0.88	0.4 U	0.4 U	0.4 U	0.41 U
Chromium, total	mg/kg	14	12	14	9.9	15	--	17	13	14	31	26	32	19	17	13	16
Cobalt	mg/kg	6.7	5.8	6.8	5.7	7	7.9	--	5.7	6.7	7.5	8.1	6.6	7.5	7.6	4.3	4.4
Copper	mg/kg	9	7.1	11	6.5	10	--	12	40	8.1	12	13	11	7.1	12	7.3	6.2
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	5.6	3.4	2.6	1.1	11	--	9.8	1.4	2	8.4	6.4	9	2	2.2	7.2	3.5
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1.6	1 U	2.1	1 U	1 U	1 U	1.5
Nickel	mg/kg	9	7.6	9	7.1	9	9.7	--	8	9.2	11	13	11	10	11	7.1	7.6
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vanadium	mg/kg	25	25	26	23	26	29	--	24	25	30	34	26	30	29	20	21
Zinc	mg/kg	37	31	29	24	41	45	--	39	30	52	46	40	33	32	31	23
Metals CLP																	
Aluminum	mg/kg	7700	--	--	--	--	--	--	--	--	8800	--	--	--	--	5400	--
Calcium	mg/kg	21000	--	--	--	--	--	--	--	--	20000	--	--	--	--	12000	--
Cyanide	mg/kg	0.1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-20	AOC14-20	AOC14-20	AOC14-20	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-4	AOC14-4
	SAMPLE	AOC14-20-8138	AOC14-20-8139	AOC14-20-8140	AOC14-20-8141	AOC14-21-8142	AOC14-21-8143	AOC14-21-8144	AOC14-21-8145	AOC14-21-8146	AOC14-3-8012	AOC14-3-8013	AOC14-3-8014	AOC14-3-8015	AOC14-3-8016	AOC14-4-8017	AOC14-4-8018
	DATE	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	8	0	2	2	5	9	0	2	5	9	14	0	2
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	SAMPLE TYPE							Field Duplicate									
ANALYTE	UNITS																
Iron	mg/kg	16000	--	--	--	--	--	--	--	--	20000	--	--	--	--	11000	--
Magnesium	mg/kg	6700	--	--	--	--	--	--	--	--	7200	--	--	--	--	4300	--
Manganese	mg/kg	230	--	--	--	--	--	--	--	--	290	--	--	--	--	170	--
Potassium	mg/kg	2700	--	--	--	--	--	--	--	--	2800 J	--	--	--	--	1600	--
Sodium	mg/kg	190	--	--	--	--	--	--	--	--	350	--	--	--	--	340	--
Pesticides																	
4,4-DDD	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
4,4-DDE	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
4,4-DDT	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Aldrin	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
alpha-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
alpha-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
beta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
delta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
Dieldrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Endo sulfan I	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
Endo sulfan II	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Endrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Endrin aldehyde	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
Endrin ketone	ug/kg	2 U	--	--	--	--	--	--	--	--	2 U	--	--	--	--	2 U	--
gamma-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
gamma-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
Heptachlor	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	--	--	--	--	1 U	--	--	--	--	1 U	--
Methoxy chlor	ug/kg	5 U	--	--	--	--	--	--	--	--	5 U	--	--	--	--	5 U	--
Toxaphene	ug/kg	50 U	--	--	--	--	--	--	--	--	50 U	--	--	--	--	50 U	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	33 U	--	--	--	--	33 U	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	17 U	--	--	--	--	17 U	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	8.5 U	--	--	--	--	8.5 U	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
2-Methyl naphthalene	ug/kg	330 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Acenaphthene	ug/kg	330 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Acenaphthylene	ug/kg	330 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Anthracene	ug/kg	330 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
B(a)P Equivalent	ug/kg	380 U	--	--	--	--	--	--	--	--	16	6.1	6.1	5.8 U	5.9 U	5.8 U	5.9 U
Benzo (a) anthracene	ug/kg	330 U	--	--	--	--	--	--	--	--	15	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Benzo (a) pyrene	ug/kg	330 U	--	--	--	--	--	--	--	--	10	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Benzo (b) fluoranthene	ug/kg	330 U	--	--	--	--	--	--	--	--	15	5.2	5.5	5 U	5.1 U	5 U	5.1 U
Benzo (ghi) perylene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	7.1	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Benzo (k) fluoranthene	ug/kg	330 U	--	--	--	--	--	--	--	--	12	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Chrysene	ug/kg	330 U	--	--	--	--	--	--	--	--	18	6.1	5.4	5 U	5.1 U	5 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Fluoranthene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	22	5 U	6.6	5 U	5.1 U	5 U	5.1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-20	AOC14-20	AOC14-20	AOC14-20	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-4	AOC14-4
	SAMPLE	AOC14-20-8138	AOC14-20-8139	AOC14-20-8140	AOC14-20-8141	AOC14-21-8142	AOC14-21-8143	AOC14-21-8144	AOC14-21-8145	AOC14-21-8146	AOC14-3-8012	AOC14-3-8013	AOC14-3-8014	AOC14-3-8015	AOC14-3-8016	AOC14-4-8017	AOC14-4-8018
	DATE	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	8	0	2	2	5	9	0	2	5	9	14	0	2
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	SAMPLE TYPE							Field Duplicate									
ANALYTE	UNITS																
Fluorene	ug/kg	330 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	6.1	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Naphthalene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	5 U	5 U	5 U	4.5 U	4.9 U	5 U	4.6 U
PAH High molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	125	16.9	24.6	0	0	0	0
PAH Low molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	6	0	0	0	0	0	0
Phenanthrene	ug/kg	330 U	--	--	--	--	--	--	--	--	6	5 U	5 U	5 U	5.1 U	5 U	5.1 U
Pyrene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	20	5.6	7.1	5 U	5.1 U	5 U	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	700 UJ	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
1,2,4,5-Tetrachlorobenzene	ug/kg	700 UJ	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
2-Chloro naphthalene	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	700 UJ	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
2,4-Dichlorophenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dimethylphenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1700 R	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	330 UJ	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	660 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Bromophenyl phenyl ether	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	660 U	--	--	--	--	--	--	--	--	660 U	670 U	660 U	670 U	670 U	660 U	670 U
4-Chloroaniline	ug/kg	660 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	1700 UJ	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 R	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	700 UJ	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
Atrazine	ug/kg	700 U	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
Benzaldehyde	ug/kg	700 UJ	--	--	--	--	--	--	--	--	700 U	--	--	--	--	700 U	--
Benzoic acid	ug/kg	1700 R	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	660 U	--	--	--	--	--	--	--	--	660 U	670 U	660 U	670 U	670 U	660 U	670 U
bis (2-chloroethoxy) methane	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	640	330 U	330 U	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	330 UJ	--	--	--	--	--	--	--	--	330 U	--	--	--	--	330 U	--
Carbazole	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	--	--	--	--	330 U	--
Di-n-butyl phthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Dibenzofuran	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	330 UJ	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1700 UJ	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Phenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-20	AOC14-20	AOC14-20	AOC14-20	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-4	AOC14-4
	SAMPLE	AOC14-20-8138	AOC14-20-8139	AOC14-20-8140	AOC14-20-8141	AOC14-21-8142	AOC14-21-8143	AOC14-21-8144	AOC14-21-8145	AOC14-21-8146	AOC14-3-8012	AOC14-3-8013	AOC14-3-8014	AOC14-3-8015	AOC14-3-8016	AOC14-4-8017	AOC14-4-8018
	DATE	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	0	2	5	8	0	2	2	5	9	0	2	5	9	14	0	2
	SAMPLE BOTTOM DEPTH (FT)	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
	SAMPLE TYPE							Field Duplicate									
ANALYTE	UNITS																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	1 U	0.91 U	1.1 U	1.1 UJ	--	0.94 U
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	10.9	10 U	11.6	10 U	10 UJ	10 U	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1-Dichloroethene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1-Dichloropropene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1,1-Trichloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1,1,2-Tetrachloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1,2-Trichloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,1,2,2-Tetrachloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2-Dibromo-3-chloropropane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2-Dibromoethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2-Dichlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	330 U	5.1 U	5.1 U	4.5 U	4.9 U	330 U	4.6 U
1,2-Dichloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2-Dichloropropane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2,3-Trichlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2,3-Trichloropropane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,2,4-Trichlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	330 U	5.1 U	5.1 U	4.5 U	4.9 U	330 U	4.6 U
1,2,4-Trimethylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,3-Dichlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	330 U	5.1 U	5.1 U	4.5 U	4.9 U	330 U	4.6 U
1,3-Dichloropropane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,3,5-Trimethylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
1,4-Dichlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	330 U	5.1 U	5.1 U	4.5 U	4.9 U	330 U	4.6 U
1,4-Dioxane	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	--	--	--	--	330 U	--
2-Chlorotoluene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
2-Hexanone	ug/kg	70 UJ	--	--	--	--	--	--	--	--	--	5.1 U	--	--	--	--	46 U
2,2-Dichloropropane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
2,4,5-Trichlorophenol	ug/kg	330 U	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Acetone	ug/kg	65 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	130 U	--	--	--	--	--	--	--	--	--	100 U	100 U	89 U	98 U	--	93 U
Acrylonitrile	ug/kg	65 U	--	--	--	--	--	--	--	--	--	51 U	51 U	45 U	49 U	--	46 U
Benzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
bis (2-chloroethyl) ether	ug/kg	330 UJ	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Bromochloromethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Bromodichloromethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Bromoform	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Bromomethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Carbon disulfide	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Carbon tetrachloride	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Chloro methane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Chlorobenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Chloroethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Chloroform	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
cis-1,2-Dichloroethene	ug/kg	6.5 UJ	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
cis-1,3-Dichloropropene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.1 U	--	--	--	--	4.6 U
Dibromochloromethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-20	AOC14-20	AOC14-20	AOC14-20	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-21	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-3	AOC14-4	AOC14-4
	SAMPLE	AOC14-20-8138	AOC14-20-8139	AOC14-20-8140	AOC14-20-8141	AOC14-21-8142	AOC14-21-8143	AOC14-21-8144	AOC14-21-8145	AOC14-21-8146	AOC14-3-8012	AOC14-3-8013	AOC14-3-8014	AOC14-3-8015	AOC14-3-8016	AOC14-4-8017	AOC14-4-8018
	DATE	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	4/26/2017	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	2	5	9	0	2	5	9	14	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	9	0.5	3	3	6	10	0.5	3	6	10	15	0.5	3
SAMPLE TYPE								Field Duplicate									
ANALYTE	UNITS																
Dibromomethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Dichlorodifluoromethane	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Ethyl- benzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Hexachlorobutadiene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	330 U	5.1 U	5.1 U	4.5 U	4.9 U	330 U	4.6 U
Hexachlorocyclopentadiene	ug/kg	660 R	--	--	--	--	--	--	--	--	660 U	--	--	--	--	660 U	--
Isophorone	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Methyl acetate	ug/kg	7 UJ	--	--	--	--	--	--	--	--	--	5.1 U	--	--	--	--	4.6 U
Methyl ethyl ketone	ug/kg	65 U	--	--	--	--	--	--	--	--	--	51 U	51 U	45 U	49 U	--	46 U
Methyl isobutyl ketone	ug/kg	65 U	--	--	--	--	--	--	--	--	--	51 U	51 U	45 U	49 U	--	46 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Methylcyclohexane	ug/kg	7 UJ	--	--	--	--	--	--	--	--	--	5.1 U	--	--	--	--	4.6 U
Methylene chloride	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
N-Butylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
N-Propylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Nitrobenzene	ug/kg	330 U	--	--	--	--	--	--	--	--	330 U	330 U	330 U	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
sec-Butylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Styrene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
tert-Butylbenzene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Tetrachloroethene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Toluene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
trans-1,2-Dichloroethene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
trans-1,3-Dichloropropene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Trichloroethene	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Vinyl chloride	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Xylene, m,p-	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Xylene, o-	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U
Xylenes, total	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	5.1 U	5.1 U	4.5 U	4.9 U	--	4.6 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-4	AOC14-4	AOC14-4	AOC14-4	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-7
	SAMPLE	AOC14-4-8019	AOC14-4-8020	AOC14-4-8021	AOC14-4-8022	AOC14-5-8023	AOC14-5-8024	AOC14-5-8025	AOC14-5-8026	AOC14-5-8027	AOC14-6-8028	AOC14-6-8029	AOC14-6-8030	AOC14-6-8031	AOC14-6-8032	AOC14-6-8033	AOC14-7-8034
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	5	9	9	14	0	2	5	9	14	0	2	5	9	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	SAMPLE TYPE			Field Duplicate											Field Duplicate		
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U
Arsenic	mg/kg	4.1	--	3.1	3.4	6.8	9	3.2	2.8	3.2	5	6	3.4	--	2.8	3.3	5
Barium	mg/kg	110	--	96	130	300	240	240	110	90	120	210	140	120	--	110	160
Beryllium	mg/kg	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	--	1 U	1 U
Cadmium	mg/kg	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.4 U	0.4 U	--	0.41 U	0.4 U	0.41 U	0.4 U	0.4 U	0.41 U	0.4 U	0.4 U	0.41 U	0.41 U	--	0.4 U	0.4 U
Chromium, total	mg/kg	16	8.2	--	15	15	17	15	15	16	11	23	18	18	--	16	15
Cobalt	mg/kg	4.4	3.4	--	6.4	6.8	6.1	7.3	7.6	6.8	4	7.8	7.7	--	8.4	5.9	4.7
Copper	mg/kg	5.3	2.9	--	7.9	9.6	16	7.9	9.5	7.3	6.1	9.5	9.1	--	9.7	7.2	7.4
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	3.5	--	2.9	2.2	5.3	16	2.7	2.3	2.2	7.4	3.3	2.3	2.4	--	2.2	6.1
Mercury	mg/kg	0.1 U	0.1 U	--	0.1 U	0.099 U	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U	0.099 U	0.1 U	--	0.1 U	0.099 U
Molybdenum	mg/kg	1.5	1.2	--	1 U	2 U	2 U	1 U	1 U	1 U	1.2	2.4	1 U	1 U	--	1 U	1 U
Nickel	mg/kg	7.3	4.8	--	10	10	13	10	10	12	7	11	11	12	--	9.3	9.6
Selenium	mg/kg	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Silver	mg/kg	1 U	1 U	--	1 U	2 U	2 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	--	1 U	1 U
Thallium	mg/kg	2 U	2 U	--	2 U	4 U	4 U	2 U	2 U	2 U	2 U	4 U	2 U	2 U	--	2 U	2 U
Vanadium	mg/kg	21	19	--	27	29	28	28	30	28	20	34	31	33	--	25	25
Zinc	mg/kg	23	16	--	29	35	46	35	35	30	35	37	35	39	--	28	31
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	9000	--	--	--	--	--	--	--	--	--	--	6800
Calcium	mg/kg	--	--	--	--	31000	--	--	--	--	--	--	--	--	--	--	23000
Cyanide	mg/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-4	AOC14-4	AOC14-4	AOC14-4	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-7
	SAMPLE	AOC14-4-8019	AOC14-4-8020	AOC14-4-8021	AOC14-4-8022	AOC14-5-8023	AOC14-5-8024	AOC14-5-8025	AOC14-5-8026	AOC14-5-8027	AOC14-6-8028	AOC14-6-8029	AOC14-6-8030	AOC14-6-8031	AOC14-6-8032	AOC14-6-8033	AOC14-7-8034
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	5	9	9	14	0	2	5	9	14	0	2	5	9	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	SAMPLE TYPE			Field Duplicate											Field Duplicate		
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	17000	--	--	--	--	--	--	--	--	--	--	13000
Magnesium	mg/kg	--	--	--	--	7000	--	--	--	--	--	--	--	--	--	--	6100
Manganese	mg/kg	--	--	--	--	260	--	--	--	--	--	--	--	--	--	--	250
Potassium	mg/kg	--	--	--	--	2500	--	--	--	--	--	--	--	--	--	--	1500
Sodium	mg/kg	--	--	--	--	390	--	--	--	--	--	--	--	--	--	--	600
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
4,4-DDE	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
4,4-DDT	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Aldrin	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
alpha-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
alpha-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
beta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
delta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
Dieldrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Endo sulfan I	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
Endo sulfan II	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Endosulfan sulfate	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Endrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Endrin aldehyde	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
Endrin ketone	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	2 U
gamma-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
gamma-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
Heptachlor	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
Heptachlor Epoxide	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	1 U
Methoxy chlor	ug/kg	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--	5.1 U
Toxaphene	ug/kg	--	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	51 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1221	ug/kg	--	--	--	--	33 U	--	--	--	--	--	--	--	--	--	--	33 U
Aroclor 1232	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1242	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1248	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1254	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1260	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1262	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Aroclor 1268	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	17 U
Total PCBs	ug/kg	--	--	--	--	8.5 U	--	--	--	--	--	--	--	--	--	--	8.5 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
2-Methyl naphthalene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Acenaphthene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Acenaphthylene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Anthracene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
B(a)P Equivalent	ug/kg	5.8 U	5.8 U	--	5.9 U	5.8 U	17	5.8 U	5.8 U	5.9 U	6.2	5.8 U	5.8 U	5.9 U	--	5.8 U	5.9
Benzo (a) anthracene	ug/kg	5 U	5 U	--	5.1 U	5 U	5.6	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Benzo (a) pyrene	ug/kg	5 U	5 U	--	5.1 U	5 U	9.5	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5 U	5 U	--	5.1 U	5 U	31	5 U	5 U	5.1 U	5.9 J	5 U	5 U	5.1 U	--	5 U	5.1 U
Benzo (ghi) perylene	ug/kg	5 U	5 U	--	5.1 U	5 U	14	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5 U	5 U	--	5.1 U	5 U	22	5 U	5 U	5.1 U	5.9 J	5 U	5 U	5.1 U	--	5 U	5.1 U
Chrysene	ug/kg	5 U	5 U	--	5.1 U	5 U	24	5 U	5 U	5.1 U	5.2 J	5 U	5 U	5.1 U	--	5 U	7.7
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Fluoranthene	ug/kg	5 U	5 U	--	5.1 U	5 U	27	5 U	5 U	5.1 U	5.9 J	5 U	5 U	5.1 U	--	5 U	5.1 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-4	AOC14-4	AOC14-4	AOC14-4	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-7
	SAMPLE	AOC14-4-8019	AOC14-4-8020	AOC14-4-8021	AOC14-4-8022	AOC14-5-8023	AOC14-5-8024	AOC14-5-8025	AOC14-5-8026	AOC14-5-8027	AOC14-6-8028	AOC14-6-8029	AOC14-6-8030	AOC14-6-8031	AOC14-6-8032	AOC14-6-8033	AOC14-7-8034
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	5	9	9	14	0	2	5	9	14	0	2	5	9	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	SAMPLE TYPE			Field Duplicate											Field Duplicate		
ANALYTE	UNITS																
Fluorene	ug/kg	5 U	5 U	--	5.1 U	5 U	5 U	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5 U	--	5.1 U	5 U	12	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Naphthalene	ug/kg	4.5 U	3.9 U	--	4.5 U	5 U	4.6 U	4.9 U	4.2 U	4 U	5 U	4.6 U	5 U	--	4.2 U	4.3 U	5.1 U
PAH High molecular weight	ug/kg	0	0	--	0	0	166	0	0	0	28.2	0	0	0	--	0	7.7
PAH Low molecular weight	ug/kg	0	0	--	0	0	11	0	0	0	0	0	0	0	--	0	0
Phenanthrene	ug/kg	5 U	5 U	--	5.1 U	5 U	11	5 U	5 U	5.1 U	5 U	5 U	5 U	5.1 U	--	5 U	5.1 U
Pyrene	ug/kg	5 U	5 U	--	5.1 U	5 U	21	5 U	5 U	5.1 U	5.3 J	5 U	5 U	5.1 U	--	5 U	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
2-Chloro naphthalene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2-Chlorophenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2-Methylphenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2-Nitroaniline	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
2-Nitrophenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
2,4-Dichlorophenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
2,4-Dinitrotoluene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
3-Nitroaniline	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Chloro-3-methylphenol	ug/kg	660 U	--	660 U	670 U	660 U	1700 U	660 U	660 U	670 U	660 U	660 U	670 U	670 U	--	660 U	1700 U
4-Chloroaniline	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Methylphenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Nitroaniline	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
4-Nitrophenol	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	--	1700 U	1700 U	4100 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	4200 U
Acetophenone	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
Atrazine	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
Benzaldehyde	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	1800 U
Benzoic acid	ug/kg	1700 U	1700 U	--	1700 U	1700 U	4100 U	1700 UJ	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	4200 U
Benzyl alcohol	ug/kg	660 U	--	660 U	670 U	660 U	1700 U	660 U	660 U	670 U	660 U	660 U	670 U	670 U	--	660 U	1700 U
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Butylbenzylphthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Caprolactam	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	830 U
Carbazole	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	830 U
Di-n-butyl phthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Dibenzofuran	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Diethyl phthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Dimethyl phthalate	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Hexachlorobenzene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Hexachloroethane	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Pentachlorophenol	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
Phenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-4	AOC14-4	AOC14-4	AOC14-4	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-7
	SAMPLE	AOC14-4-8019	AOC14-4-8020	AOC14-4-8021	AOC14-4-8022	AOC14-5-8023	AOC14-5-8024	AOC14-5-8025	AOC14-5-8026	AOC14-5-8027	AOC14-6-8028	AOC14-6-8029	AOC14-6-8030	AOC14-6-8031	AOC14-6-8032	AOC14-6-8033	AOC14-7-8034
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	5	9	9	14	0	2	5	9	14	0	2	5	9	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
	SAMPLE TYPE			Field Duplicate											Field Duplicate		
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	--	10 UJ	10 U	10 U	10 U	10 U	10 J	17	10 U	10 U	10 U	--	10 J	10 U
TPH as gasoline	mg/kg	0.95 U	--	0.83 U	1 U	--	0.88 U	0.98 U	0.79 U	0.95 U	--	1.1 U	0.92 U	0.82 U	--	1 U	--
TPH as motor oil	mg/kg	10 U	10 U	--	10 UJ	10 U	10.3	10 U	10 U	10 J	67.4	10.6	10 U	10 U	--	10 J	21.1
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1-Dichloroethene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1-Dichloropropene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1,1-Trichloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1,1,2-Tetrachloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1,2-Trichloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,1,2,2-Tetrachloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2-Dibromo-3-chloropropane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2-Dibromoethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2-Dichlorobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	330 U	4.6 U	4.9 U	4.2 U	4 U	330 U	4.6 U	5.3 U	--	4.2 U	4.3 U	830 U
1,2-Dichloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2-Dichloropropane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2,3-Trichlorobenzene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2,3-Trichloropropane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,2,4-Trichlorobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	330 U	4.6 U	4.9 U	4.2 U	4 U	330 U	4.6 U	5.3 U	--	4.2 U	4.3 U	830 U
1,2,4-Trimethylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,3-Dichlorobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	330 U	4.6 U	4.9 U	4.2 U	4 U	330 U	4.6 U	5.3 U	--	4.2 U	4.3 U	830 U
1,3-Dichloropropane	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,3,5-Trimethylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
1,4-Dichlorobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	330 U	4.6 U	4.9 U	4.2 U	4 U	330 U	4.6 U	5.3 U	--	4.2 U	4.3 U	830 U
1,4-Dioxane	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	830 U
2-Chlorotoluene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
2-Hexanone	ug/kg	--	--	--	--	--	46 U	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	--	1600 U	1600 U	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	4000 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
4-Isopropyltoluene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Acetone	ug/kg	--	39 U	--	45 U	--	46 U	49 U	42 U	40 U	--	46 U	53 U	--	42 U	43 U	--
Acrolein	ug/kg	90 UJ	78 U	--	90 U	--	93 U	98 U	85 U	80 U	--	91 U	110 U	--	83 U	86 U	--
Acrylonitrile	ug/kg	45 UJ	39 U	--	45 U	--	46 U	49 U	42 U	40 U	--	46 U	53 U	--	42 U	43 U	--
Benzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Bromobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Bromochloromethane	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Bromodichloromethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Bromoform	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Bromomethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Carbon disulfide	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Carbon tetrachloride	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Chloro methane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Chlorobenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Chloroethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Chloroform	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
cis-1,2-Dichloroethene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
cis-1,3-Dichloropropene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Cyclohexane	ug/kg	--	--	--	--	--	4.6 U	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-4	AOC14-4	AOC14-4	AOC14-4	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-5	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-6	AOC14-7
	SAMPLE	AOC14-4-8019	AOC14-4-8020	AOC14-4-8021	AOC14-4-8022	AOC14-5-8023	AOC14-5-8024	AOC14-5-8025	AOC14-5-8026	AOC14-5-8027	AOC14-6-8028	AOC14-6-8029	AOC14-6-8030	AOC14-6-8031	AOC14-6-8032	AOC14-6-8033	AOC14-7-8034
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
SAMPLE TOP DEPTH (FT)		5	9	9	14	0	2	5	9	14	0	2	5	9	9	14	0
SAMPLE BOTTOM DEPTH (FT)		6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	10	15	0.5	3	6	10	15	0.5	3	6	10	10	15	0.5
SAMPLE TYPE				Field Duplicate											Field Duplicate		
ANALYTE	UNITS																
Dibromomethane	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Dichlorodifluoromethane	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Ethyl- benzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Hexachlorobutadiene	ug/kg	4.5 U	3.9 U	--	4.5 U	330 U	4.6 U	4.9 U	4.2 U	4 U	330 U	4.6 U	5.3 U	--	4.2 U	4.3 U	830 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	660 U	--	--	--	--	--	--	--	--	--	--	1700 U
Isophorone	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
Isopropylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Methyl acetate	ug/kg	--	--	--	--	--	4.6 U	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	45 UJ	39 U	--	45 U	--	46 U	49 U	42 U	40 U	--	46 U	53 U	--	42 U	43 U	--
Methyl isobutyl ketone	ug/kg	45 UJ	39 U	--	45 U	--	46 U	49 U	42 U	40 U	--	46 U	53 U	--	42 U	43 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	4.6 U	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
N-Butylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
N-Propylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Nitrobenzene	ug/kg	330 U	330 U	--	330 U	330 U	830 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	830 U
p-Chlorotoluene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
sec-Butylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Styrene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
tert-Butylbenzene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Tetrachloroethene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Toluene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
trans-1,2-Dichloroethene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
trans-1,3-Dichloropropene	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Trichloroethene	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	4.5 U	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Vinyl chloride	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Xylene, m,p-	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Xylene, o-	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--
Xylenes, total	ug/kg	4.5 UJ	3.9 U	--	4.5 U	--	4.6 U	4.9 U	4.2 U	4 U	--	4.6 U	5.3 U	--	4.2 U	4.3 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-7	AOC14-7	AOC14-7	AOC14-7	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-SS-1
	SAMPLE	AOC14-7-8035	AOC14-7-8036	AOC14-7-8037	AOC14-7-8038	AOC14-8-8039	AOC14-8-8040	AOC14-8-8041	AOC14-8-8042	AOC14-8-8043	AOC14-8-8044	AOC14-9-8045	AOC14-9-8046	AOC14-9-8047	AOC14-9-8048	AOC14-9-8049	AOC14-SS-1-8066
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	9	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2.1 UJ	2 U	2 U	2 U	2 U	2 UJ	2 U
Arsenic	mg/kg	5	5.3	3.9	3.7	6.8	6.9	2.8	3.3	--	4.7	5.3	6.3	3	4.4	6.2	5
Barium	mg/kg	170	210	120	150	110	93	210	--	92	73 J	140	170	61	220	120 J	150
Beryllium	mg/kg	1 U	2 U	1 U	1 U	2 U	2 U	1 U	1 U	--	1 U	1 U	2 U	1 U	1 U	2 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.41 U	0.41 U	0.4 U	0.4 U	0.4 U	0.41 U	0.4 U	0.4 U	--	0.41 U	0.4 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U
Chromium, total	mg/kg	13	18	26	25	12	15	18	19	--	23 J	13	12	9	15	13	15
Cobalt	mg/kg	6.1	7.5	10	6.5	4.9	5.5	8.6	8.5	--	9.7	4.8	4.8	2.8	5.5	5.9	5.2
Copper	mg/kg	10	10	14	9.9	7.9	8.8	6.6	12	--	18	7.6	7.2	4.1	7.6	8.2	9.4
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	7.1	4.8	2.9	3.5	6.4	6.8	2.4	--	3	3.7	5.4	6	2.8	3.6	5	7.2
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	2 U	1 U	2.4	2 U	2 U	1 U	1 U	--	1 U	1 U	2 U	1 U	1 U	2 U	1 U
Nickel	mg/kg	9.3	12	16	11	9.4	11	11	13	--	16	9.5	9.1	5	9.1	9.4	8.8
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	2 U	1 U	1 U	2 U	2 U	1 U	1 U	--	1 U	1 U	2 U	1 U	1 U	2 U	1 U
Thallium	mg/kg	2 U	4 U	2 U	2 U	4 U	4 U	2 U	2 U	--	2.1 U	2 U	4 U	2 U	2 U	4.1 U	2 U
Vanadium	mg/kg	23	30	38	25	24	26	35	--	35	36 J	23	23	13	23	22	23
Zinc	mg/kg	30	35	46	32	30	31	39	--	39	42 J	28	29	13	29	32	34
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	6500	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	32000	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-7	AOC14-7	AOC14-7	AOC14-7	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-SS-1
	SAMPLE	AOC14-7-8035	AOC14-7-8036	AOC14-7-8037	AOC14-7-8038	AOC14-8-8039	AOC14-8-8040	AOC14-8-8041	AOC14-8-8042	AOC14-8-8043	AOC14-8-8044	AOC14-9-8045	AOC14-9-8046	AOC14-9-8047	AOC14-9-8048	AOC14-9-8049	AOC14-SS-1-8066
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	9	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	14000	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	6600	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	260	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	1400	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	340	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	5 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	50 U	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	33 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	17 U	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	8.5 U	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	6.8	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Anthracene	ug/kg	17	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	11	5.9 U	5.9 U	5.8 U	5.8 U	5.9 U	29	5.8 U	--	5.9 U	5.8 U	5.9 U	5.8 U	5.8 U	5.9 U	6.8
Benzo (a) anthracene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	13	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Benzo (a) pyrene	ug/kg	5.9	5.1 U	5.1 U	5 U	5 U	5.1 U	12	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Benzo (b) fluoranthene	ug/kg	16	5.1 U	5.1 U	5 U	5 U	5.1 U	13	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	11 J
Benzo (ghi) perylene	ug/kg	17	5.1 U	5.1 U	5 U	5 U	5.1 U	12	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.3 J
Benzo (k) fluoranthene	ug/kg	10	5.1 U	5.1 U	5 U	5 U	5.1 U	14	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	9.8 J
Chrysene	ug/kg	10	5.1 U	5.1 U	5 U	5 U	5.1 U	14	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	11 J
Dibenzo (a,h) anthracene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	13	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Fluoranthene	ug/kg	6.6	5.1 U	5.1 U	5 U	5 U	5.1 U	5.1	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	8.1 J

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-7	AOC14-7	AOC14-7	AOC14-7	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-SS-1
	SAMPLE	AOC14-7-8035	AOC14-7-8036	AOC14-7-8037	AOC14-7-8038	AOC14-8-8039	AOC14-8-8040	AOC14-8-8041	AOC14-8-8042	AOC14-8-8043	AOC14-8-8044	AOC14-9-8045	AOC14-9-8046	AOC14-9-8047	AOC14-9-8048	AOC14-9-8049	AOC14-SS-1-8066
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	9	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Fluorene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	10	5.1 U	5.1 U	5 U	5 U	5.1 U	12	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Naphthalene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	5 U	4.7 U	4.6 U	4.5 U	--	4.9 U	5 U	5.1 U	4.9 U	4.4 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	82.1	0	0	0	0	0	114	0	--	0	0	0	0	0	0	52.3
PAH Low molecular weight	ug/kg	23.8	0	0	0	0	0	0	0	--	0	0	0	0	0	0	0
Phenanthrene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	5.1 U
Pyrene	ug/kg	6.6	5.1 U	5.1 U	5 U	5 U	5.1 U	5.7	5 U	--	5.1 U	5 U	5.1 U	5 U	5 U	5.1 U	7.1 J
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Chlorophenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Methylphenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2-Nitroaniline	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,4-Dimethylphenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,4-Dinitrophenol	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	830 U	330 U	340 U	330 U	330 U	340 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
2,6-Dinitrotoluene	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
3-Nitroaniline	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Bromophenyl phenyl ether	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Chloro-3-methylphenol	ug/kg	1700 U	670 U	670 U	660 U	660 U	670 U	660 U	660 U	--	680 U	660 U	670 U	660 U	670 U	670 U	670 U
4-Chloroaniline	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Methylphenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Nitroaniline	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	4100 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	700 U	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	4100 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	1700 U	670 U	670 U	660 U	660 U	670 U	660 U	660 U	--	680 U	660 U	670 U	660 U	670 U	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Butylbenzylphthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Caprolactam	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Di-n-octyl phthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Dibenzofuran	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Diethyl phthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Dimethyl phthalate	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Hexachlorobenzene	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Hexachloroethane	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
N-nitrosodiphenylamine	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Pentachlorophenol	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Phenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-7	AOC14-7	AOC14-7	AOC14-7	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-SS-1
	SAMPLE	AOC14-7-8035	AOC14-7-8036	AOC14-7-8037	AOC14-7-8038	AOC14-8-8039	AOC14-8-8040	AOC14-8-8041	AOC14-8-8042	AOC14-8-8043	AOC14-8-8044	AOC14-9-8045	AOC14-9-8046	AOC14-9-8047	AOC14-9-8048	AOC14-9-8049	AOC14-SS-1-8066
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	9	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 J	10 U	10 U	10 U	10 U	--	10 UJ	10 U	10 U	10 U	10 U	10 UJ	10 UJ
TPH as gasoline	mg/kg	0.84 U	0.86 U	0.96 U	0.89 U	--	0.96 U	0.86 U	0.8 U	--	0.9 U	--	0.79 U	0.89 UJ	0.91 U	0.94 UJ	--
TPH as motor oil	mg/kg	14.3	10 U	14.8	11.4 J	10 U	10 U	10 U	10 U	--	10 UJ	57.5 J	22.1 J	57 J	14 J	10 UJ	10 UJ
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1-Dichloroethene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1-Dichloropropene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1,1-Trichloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
1,1,1,2-Tetrachloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1,2-Trichloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,1,2,2-Tetrachloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
1,2-Dibromo-3-chloropropane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,2-Dibromoethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,2-Dichlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	330 U	4.7 U	4.6 U	4.5 U	--	4.9 U	330 U	8 U	4.9 U	4.4 U	5.3 U	330 U
1,2-Dichloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
1,2-Dichloropropane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,2,3-Trichlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,2,3-Trichloropropane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,2,4-Trichlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	330 U	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	330 U	8 U	4.9 U	4.4 U	5.3 U
1,2,4-Trimethylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,3-Dichlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	330 U	4.7 U	4.6 U	4.5 U	--	4.9 U	330 U	8 U	4.9 U	4.4 U	5.3 U	330 U
1,3-Dichloropropane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
1,3,5-Trimethylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
1,4-Dichlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	330 U	4.7 U	4.6 U	4.5 U	--	4.9 U	330 U	8 U	4.9 U	4.4 U	5.3 U	330 U
1,4-Dioxane	ug/kg	--	--	--	--	330 U	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
2-Hexanone	ug/kg	41 U	--	--	--	--	47 U	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
2,4,5-Trichlorophenol	ug/kg	4000 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
4-Isopropyltoluene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
Acetone	ug/kg	41 U	46 U	48 U	46 U	--	47 U	46 U	45 U	--	49 U	--	--	49 U	44 U	--	--
Acrolein	ug/kg	83 U	92 U	97 U	92 U	--	95 U	93 U	89 U	--	99 U	--	160 U	97 U	87 U	110 U	--
Acrylonitrile	ug/kg	41 U	46 U	48 U	46 U	--	47 U	46 U	45 U	--	49 U	--	80 U	49 U	44 U	53 U	--
Benzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
bis (2-chloroethyl) ether	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Bromobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Bromochloromethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
Bromodichloromethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Bromoform	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Bromomethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Carbon disulfide	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
Carbon tetrachloride	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
Chloro methane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Chlorobenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Chloroethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.6 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
Chloroform	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.8 U	4.5 U	--	4.9 U	4.6 U	--	8 U	4.9 U	4.4 U	5.3 U
cis-1,2-Dichloroethene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
cis-1,3-Dichloropropene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Cyclohexane	ug/kg	4.1 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-7	AOC14-7	AOC14-7	AOC14-7	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-8	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-9	AOC14-SS-1
	SAMPLE	AOC14-7-8035	AOC14-7-8036	AOC14-7-8037	AOC14-7-8038	AOC14-8-8039	AOC14-8-8040	AOC14-8-8041	AOC14-8-8042	AOC14-8-8043	AOC14-8-8044	AOC14-9-8045	AOC14-9-8046	AOC14-9-8047	AOC14-9-8048	AOC14-9-8049	AOC14-SS-1-8066
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	9	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	10	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE									Field Duplicate							
ANALYTE	UNITS																
Dibromomethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Dichlorodifluoromethane	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Ethyl- benzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Hexachlorobutadiene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	330 U	4.7 U	4.6 U	4.5 U	--	4.9 U	330 U	8 U	4.9 U	4.4 U	5.3 U	330 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	660 U	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
Isopropylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Methyl acetate	ug/kg	4.1 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	41 U	46 U	48 U	46 U	--	47 U	46 U	45 U	--	49 U	--	80 U	49 U	44 U	53 U	--
Methyl isobutyl ketone	ug/kg	41 U	46 U	48 U	46 U	--	47 U	46 U	45 U	--	49 U	--	80 U	49 U	44 U	53 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Methylcyclohexane	ug/kg	4.1 U	--	--	--	--	4.7 U	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
N-Butylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
N-Propylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Nitrobenzene	ug/kg	830 U	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	340 U	330 U	330 U	330 U	330 U	340 U	330 U
p-Chlorotoluene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
sec-Butylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Styrene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
tert-Butylbenzene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Tetrachloroethene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Toluene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
trans-1,2-Dichloroethene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
trans-1,3-Dichloropropene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Trichloroethene	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Vinyl chloride	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Xylene, m,p-	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Xylene, o-	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--
Xylenes, total	ug/kg	4.1 U	4.6 U	4.8 U	4.6 U	--	4.7 U	4.6 U	4.5 U	--	4.9 U	--	8 U	4.9 U	4.4 U	5.3 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-4
	SAMPLE	AOC14-SS-1-8067	AOC14-SS-1-8068	AOC14-SS-1-8069	AOC14-SS-1-8070	AOC14-SS-2-8071	AOC14-SS-2-8072	AOC14-SS-2-8073	AOC14-SS-2-8074	AOC14-SS-2-8075	AOC14-SS-2-8076	AOC14-SS-3-8077	AOC14-SS-3-8078	AOC14-SS-3-8079	AOC14-SS-3-8080	AOC14-SS-3-8081	AOC14-SS-4-8082
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	14	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE										Field Duplicate						
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	7.2	6	2.8	3.1	4.8	7	7	4.6	3.3	--	5.4	4	2.9	3	3.2	5
Barium	mg/kg	150	240	120	110	160	160	150	130	--	130	190	180	100	160	89	190
Beryllium	mg/kg	2 U	2 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.46	0.41 U	0.4 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U	0.4 U	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Chromium, total	mg/kg	22	18	17	13	14	14	10	9.5	--	18	17	18	12	16	17	15
Cobalt	mg/kg	5.7	6.7	7	6.7	4.8	4.9	4.2	4.2	--	7.3	7.1	8.3	5.4	7	8.9	6.3
Copper	mg/kg	15	15	7.4	9	8.8	7.6	6.5	6.7	9.6	--	11	9.5	6.7	8.4	9.5	8.1
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	11	4.8	1.6	2.6	4.8	5.5	5.5	5.3	3	--	3.8	2.7	2	2.2	2.4	5.1
Mercury	mg/kg	0.25	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	2 U	2 U	1 U	1 U	1.1	2 U	2 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	13	12	10	10	10	9.4	8.2	8.1	13	--	10	12	7.2	11	11	9.6
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	2 U	2 U	1 U	1 U	1 U	2 U	2 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	4 U	4.1 U	2 U	2 U	2 U	4 U	4.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U
Vanadium	mg/kg	23	25	26	27	24	22	19	18	--	28	30	33	23	31	34	27
Zinc	mg/kg	32	35	33	31	27	29	25	24	--	33	35	36	29	32	35	31
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-4
	SAMPLE	AOC14-SS-1-8067	AOC14-SS-1-8068	AOC14-SS-1-8069	AOC14-SS-1-8070	AOC14-SS-2-8071	AOC14-SS-2-8072	AOC14-SS-2-8073	AOC14-SS-2-8074	AOC14-SS-2-8075	AOC14-SS-2-8076	AOC14-SS-3-8077	AOC14-SS-3-8078	AOC14-SS-3-8079	AOC14-SS-3-8080	AOC14-SS-3-8081	AOC14-SS-4-8082
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	14	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Acenaphthene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Acenaphthylene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Anthracene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
B(a)P Equivalent	ug/kg	5.9 U	5.9 U	5.8 U	5.9 U	29	5.9 U	5.9 U	5.9 U	5.9 U	--	5.8 U	5.8 U	5.8 U	5.8 U	5.9 U	5.8 U
Benzo (a) anthracene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Benzo (a) pyrene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Benzo (b) fluoranthene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Benzo (ghi) perylene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Benzo (k) fluoranthene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Chrysene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	26	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Fluoranthene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-4
	SAMPLE	AOC14-SS-1-8067	AOC14-SS-1-8068	AOC14-SS-1-8069	AOC14-SS-1-8070	AOC14-SS-2-8071	AOC14-SS-2-8072	AOC14-SS-2-8073	AOC14-SS-2-8074	AOC14-SS-2-8075	AOC14-SS-2-8076	AOC14-SS-3-8077	AOC14-SS-3-8078	AOC14-SS-3-8079	AOC14-SS-3-8080	AOC14-SS-3-8081	AOC14-SS-4-8082
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	14	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE										Field Duplicate						
ANALYTE	UNITS																
Fluorene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Naphthalene	ug/kg	5.1 U	5.1 U	5 U	4.3 U	25 U	5.1 U	5.1 U	5.1 U	--	4.2 U	5 U	5 U	4.4 U	3.9 U	4.8 U	5 U
PAH High molecular weight	ug/kg	0	0	0	0	26	0	0	0	0	--	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	--	0	0	0	0	0	0
Phenanthrene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Pyrene	ug/kg	5.1 U	5.1 U	5 U	5.1 U	25 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5 U	5 U	5 U	5 U	5.1 U	5 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dimethylphenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	670 U	670 U	670 U	670 U	6600 U	670 U	670 U	670 U	670 U	--	660 U	660 U	670 U	670 U	670 U	660 U
4-Chloroaniline	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	17000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	17000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	670 U	670 U	670 U	670 U	6600 U	670 U	670 U	670 U	670 U	--	660 U	660 U	670 U	670 U	670 U	660 U
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Dibenzofuran	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Phenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-4
	SAMPLE	AOC14-SS-1-8067	AOC14-SS-1-8068	AOC14-SS-1-8069	AOC14-SS-1-8070	AOC14-SS-2-8071	AOC14-SS-2-8072	AOC14-SS-2-8073	AOC14-SS-2-8074	AOC14-SS-2-8075	AOC14-SS-2-8076	AOC14-SS-3-8077	AOC14-SS-3-8078	AOC14-SS-3-8079	AOC14-SS-3-8080	AOC14-SS-3-8081	AOC14-SS-4-8082
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
	SAMPLE TOP DEPTH (FT)	2	5	9	14	0	2	5	9	14	14	0	2	5	9	14	0
	SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
	SAMPLE TYPE										Field Duplicate						
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 UJ	10 UJ	10 UJ	10 UJ	11 J	10 UJ	10 UJ	10 UJ	10 UJ	--	30.4 J	10 J	10 J	10 J	10 J	10 J
TPH as gasoline	mg/kg	0.97 U	1 UJ	1.1 UJ	1 UJ	--	0.99 U	0.98 U	0.92 U	--	0.92 U	--	0.84 U	0.96 U	0.85 U	0.97 U	--
TPH as motor oil	mg/kg	56.7 J	38.9 J	10 UJ	10 UJ	134 J	28.2 J	10.9 J	10 UJ	10 UJ	--	172 J	16.4 J	24.7 J	10 J	10 J	14.3 J
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1-Dichloroethene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1-Dichloropropene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1,1-Trichloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1,1,2-Tetrachloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1,2-Trichloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,1,2,2-Tetrachloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2-Dibromo-3-chloropropane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2-Dibromoethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2-Dichlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	3300 U	6.1 U	6.2 U	5.1 U	--	4.2 U	330 U	5.1 U	4.4 U	3.9 U	4.8 U	330 U
1,2-Dichloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2-Dichloropropane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2,3-Trichlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2,3-Trichloropropane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,2,4-Trichlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	3300 U	6.1 U	6.2 U	5.1 U	--	4.2 U	330 U	5.1 U	4.4 U	3.9 U	4.8 U	330 U
1,2,4-Trimethylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,3-Dichlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	3300 U	6.1 U	6.2 U	5.1 U	--	4.2 U	330 U	5.1 U	4.4 U	3.9 U	4.8 U	330 U
1,3-Dichloropropane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,3,5-Trimethylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
1,4-Dichlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	3300 U	6.1 U	6.2 U	5.1 U	--	4.2 U	330 U	5.1 U	4.4 U	3.9 U	4.8 U	330 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	16000 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Acetone	ug/kg	59 U	53 U	61 U	43 U	--	61 U	62 U	51 U	--	42 U	--	51 U	44 U	39 U	--	--
Acrolein	ug/kg	120 U	110 U	120 U	87 U	--	120 U	120 U	100 U	--	84 U	--	100 U	88 U	78 U	97 U	--
Acrylonitrile	ug/kg	59 U	53 U	61 U	43 U	--	61 U	62 U	51 U	--	42 U	--	51 U	44 U	39 U	48 U	--
Benzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Bromochloromethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Bromodichloromethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Bromoform	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Bromomethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Carbon disulfide	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Carbon tetrachloride	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Chloro methane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Chlorobenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Chloroethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Chloroform	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
cis-1,2-Dichloroethene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
cis-1,3-Dichloropropene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-1	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-2	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-3	AOC14-SS-4
	SAMPLE	AOC14-SS-1-8067	AOC14-SS-1-8068	AOC14-SS-1-8069	AOC14-SS-1-8070	AOC14-SS-2-8071	AOC14-SS-2-8072	AOC14-SS-2-8073	AOC14-SS-2-8074	AOC14-SS-2-8075	AOC14-SS-2-8076	AOC14-SS-3-8077	AOC14-SS-3-8078	AOC14-SS-3-8079	AOC14-SS-3-8080	AOC14-SS-3-8081	AOC14-SS-4-8082
	DATE	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/1/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008
SAMPLE TOP DEPTH (FT)		2	5	9	14	0	2	5	9	14	14	0	2	5	9	14	0
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	0.5	3	6	10	15	15	0.5	3	6	10	15	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Dibromomethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Dichlorodifluoromethane	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Ethyl- benzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Hexachlorobutadiene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	3300 U	6.1 U	6.2 U	5.1 U	--	4.2 U	330 U	5.1 U	4.4 U	3.9 U	4.8 U	330 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	59 U	53 U	61 U	43 U	--	61 U	62 U	51 U	--	42 U	--	51 U	44 U	39 U	48 U	--
Methyl isobutyl ketone	ug/kg	59 U	53 U	61 U	43 U	--	61 U	62 U	51 U	--	42 U	--	51 U	44 U	39 U	48 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
N-Butylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
N-Propylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Nitrobenzene	ug/kg	340 U	340 U	330 U	340 U	3300 U	330 U	340 U	340 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
sec-Butylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Styrene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
tert-Butylbenzene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Tetrachloroethene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Toluene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
trans-1,2-Dichloroethene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
trans-1,3-Dichloropropene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Trichloroethene	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Vinyl chloride	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Xylene, m,p-	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Xylene, o-	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--
Xylenes, total	ug/kg	5.9 U	5.3 U	6.1 U	4.3 U	--	6.1 U	6.2 U	5.1 U	--	4.2 U	--	5.1 U	4.4 U	3.9 U	4.8 U	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	SAMPLE	AOC14-SS-4-8083	AOC14-SS-4-8084	AOC14-SS-4-8085	AOC14-SS-4-8086	AOC14-SS-4-8087	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	11/1/1998	11/1/1998	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000
SAMPLE TOP DEPTH (FT)		2	5	9	14	14	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE					Field Duplicate											
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	8.81	8.14	8.7	9.01	9.15	8.94	9.64	8.67	9.39	9.03	8.9
Phosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	5	4.5	3	2.7	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	130	120	120	120	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.4 U	0.4 U	0.4 U	0.41 U	--	0.59	0.5 U	0.5 U	0.51 U	0.51 U	0.5 U	0.5 U	0.5 U	0.6	5.8	4.8
Chromium, total	mg/kg	14	16	16	17	--	33.7	21.9	23.4	18.8	18.1	17.5	16.1	18.3	19.4	39.5	74.9
Cobalt	mg/kg	4.4	4.1	8	--	8.6	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	6.9	6.4	11	11	--	2.2	8.2	15.6	12.9	20.2	3.8	13.8	11.6	19.2	7.1	7.5
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	10	11	2.3	3	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	1 U	1.5	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	7	6.7	11	11	--	0.28 J	6	15.8	11.6	13.4	1.5	12.3	13	0.92	0.33	0.39
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/kg	2 U	2 U	2 U	2 U	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	20	19	31	32	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	27	27	32	37	--	31.3	32.7	44	36.3	47.5	11.3	37.5	35	27.1	34.1	243
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	SAMPLE	AOC14-SS-4-8083	AOC14-SS-4-8084	AOC14-SS-4-8085	AOC14-SS-4-8086	AOC14-SS-4-8087	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	11/1/1998	11/1/1998	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000
SAMPLE TOP DEPTH (FT)		2	5	9	14	14	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	5.8 U	5.8 U	5.8 U	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	SAMPLE	AOC14-SS-4-8083	AOC14-SS-4-8084	AOC14-SS-4-8085	AOC14-SS-4-8086	AOC14-SS-4-8087	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	11/1/1998	11/1/1998	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000
SAMPLE TOP DEPTH (FT)	2	5	9	14	14	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)	3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Fluorene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	5 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	5 U	5 U	5 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	670 U	670 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	660 U	670 U	670 U	670 U	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	SAMPLE	AOC14-SS-4-8083	AOC14-SS-4-8084	AOC14-SS-4-8085	AOC14-SS-4-8086	AOC14-SS-4-8087	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	11/1/1998	11/1/1998	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000
SAMPLE TOP DEPTH (FT)		2	5	9	14	14	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
TPH as diesel	mg/kg	10 J	10 J	10 UJ	--	10 J	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	0.96 U	0.83 U	0.85 U	0.63 U	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	11.2 J	10.1 J	10 UJ	--	10 J	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	64 U	38 U	45 U	--	37 UJ	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	130 U	75 U	90 U	65 U	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	64 U	38 U	45 U	33 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	AOC14-SS-4	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	SAMPLE	AOC14-SS-4-8083	AOC14-SS-4-8084	AOC14-SS-4-8085	AOC14-SS-4-8086	AOC14-SS-4-8087	GS-1	GS-2	RR-1	RR-10	RR-11	RR-12	RR-2	RR-3	RR-4	RR-5	RR-6
	DATE	10/2/2008	10/2/2008	10/2/2008	10/2/2008	10/2/2008	11/1/1998	11/1/1998	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000	2/2/2000
SAMPLE TOP DEPTH (FT)		2	5	9	14	14	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	15	0	0	0	0	0	0	0	0	0	0	0
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Dibromomethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	64 U	38 U	45 U	33 U	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	64 U	38 U	45 U	33 U	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	330 U	330 U	330 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	6.4 U	3.8 U	4.5 U	3.3 U	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	RR-7	RR-8	RR-9	S1-20	S2-130	S2-6	S2-6	S2-62	S2-62	S3-120	S3-15	S3-15	S3-72	S3-72	S4-160	S4-4
	SAMPLE	RR-7	RR-8	RR-9	S1-20-3	S2-130-1	S2-6-3	S2-6-5	S2-62-2	S2-62-4	S3-120-1	S3-15-2	S3-15-4	S3-72-1	S3-72-2	S4-160-2	S4-4-4
	DATE	2/2/2000	2/2/2000	2/2/2000	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998
	SAMPLE TOP DEPTH (FT)	0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
	SAMPLE BOTTOM DEPTH (FT)	0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0	0	0	3	0.5	3	5	2	4	0.5	2	4	0.5	2	2	4
	SAMPLE TYPE																
ANALYTE	UNITS																
Anion																	
Nitrate	mg/kg	--	--	--	17	--	--	--	--	--	--	--	--	--	--	--	29
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
Chloride	mg/kg	--	--	--	223	--	--	--	--	--	--	--	--	--	--	--	3010
pH	PHUNITS	8.71	9.06	9.08	9.1	9.9	9.1	9.2	8.8	9.2	8.8	9.7	9.5	9.1	9.7	9.1	9.24
Phosphate	mg/kg	--	--	--	64.2	--	--	--	--	--	--	--	--	--	--	--	10.7
Sulfate	mg/kg	--	--	--	585	--	--	--	--	--	--	--	--	--	--	--	1630
Metals																	
Antimony	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium-SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.51 U	0.51 U	2.7	0.7	0.5 U	12	1.8	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	15.4
Chromium, total	mg/kg	28.6	28.9	19.6	31.8	22.1	45.5	39.9	32	21.9	12.1	13.8	12.1	18.7	11.3	25	23.4
Cobalt	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	9.7	9.9	27.9	15.7	10.6	1.8	9.7	4.1	11.5	4.2	9.4	11	6.7	8	11.8	3.2
CR6 SPLP	mg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	10.4	7.4	2.2	14	10.8	0.57	9.4	1.8	10.2	4.3	7.5	9.6	5.9	8.6	10.9	0.43 J
Selenium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	35.1	29.8	15.4	49.4	34.5	14.5	35.7	8.4	39.8	18	24.1	29.2	27	28.9	38.2	1.9
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	26300	--	--	--	--	--	--	--	--	--	--	--	379000
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	RR-7	RR-8	RR-9	S1-20	S2-130	S2-6	S2-6	S2-62	S2-62	S3-120	S3-15	S3-15	S3-72	S3-72	S4-160	S4-4
	SAMPLE	RR-7	RR-8	RR-9	S1-20-3	S2-130-1	S2-6-3	S2-6-5	S2-62-2	S2-62-4	S3-120-1	S3-15-2	S3-15-4	S3-72-1	S3-72-2	S4-160-2	S4-4-4
	DATE	2/2/2000	2/2/2000	2/2/2000	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0.5	3	5	2	4	0.5	2	4	0.5	2	2	4
SAMPLE TYPE																	
ANALYTE	UNITS																
Iron	mg/kg	--	--	--	23100	--	--	--	--	--	--	--	--	--	--	--	425
Magnesium	mg/kg	--	--	--	8330	--	--	--	--	--	--	--	--	--	--	--	23000
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	2250	--	--	--	--	--	--	--	--	--	--	--	89.6 J
Sodium	mg/kg	--	--	--	410 U	--	--	--	--	--	--	--	--	--	--	--	6590
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	RR-7	RR-8	RR-9	S1-20	S2-130	S2-6	S2-6	S2-62	S2-62	S3-120	S3-15	S3-15	S3-72	S3-72	S4-160	S4-4
	SAMPLE	RR-7	RR-8	RR-9	S1-20-3	S2-130-1	S2-6-3	S2-6-5	S2-62-2	S2-62-4	S3-120-1	S3-15-2	S3-15-4	S3-72-1	S3-72-2	S4-160-2	S4-4-4
	DATE	2/2/2000	2/2/2000	2/2/2000	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0.5	3	5	2	4	0.5	2	4	0.5	2	2	4
SAMPLE TYPE																	
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	RR-7	RR-8	RR-9	S1-20	S2-130	S2-6	S2-6	S2-62	S2-62	S3-120	S3-15	S3-15	S3-72	S3-72	S4-160	S4-4
	SAMPLE	RR-7	RR-8	RR-9	S1-20-3	S2-130-1	S2-6-3	S2-6-5	S2-62-2	S2-62-4	S3-120-1	S3-15-2	S3-15-4	S3-72-1	S3-72-2	S4-160-2	S4-4-4
	DATE	2/2/2000	2/2/2000	2/2/2000	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0.5	3	5	2	4	0.5	2	4	0.5	2	2	4
SAMPLE TYPE																	
ANALYTE	UNITS																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	RR-7	RR-8	RR-9	S1-20	S2-130	S2-6	S2-6	S2-62	S2-62	S3-120	S3-15	S3-15	S3-72	S3-72	S4-160	S4-4
	SAMPLE	RR-7	RR-8	RR-9	S1-20-3	S2-130-1	S2-6-3	S2-6-5	S2-62-2	S2-62-4	S3-120-1	S3-15-2	S3-15-4	S3-72-1	S3-72-2	S4-160-2	S4-4-4
	DATE	2/2/2000	2/2/2000	2/2/2000	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	1	3	5	2	4	1	2	4	1	2	2	4
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0.5	3	5	2	4	0.5	2	4	0.5	2	2	4
SAMPLE TYPE																	
ANALYTE	UNITS																
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	S4-4	S4-95	S4-95	S8-30
	SAMPLE	S4-4-6	S4-95-2	S4-95-3	S8-30-3
	DATE	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		6	2	3	3
SAMPLE BOTTOM DEPTH (FT)		6	2	3	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	2	3	3
SAMPLE TYPE					
ANALYTE	UNITS				
Anion					
Nitrate	mg/kg	--	--	--	--
Dioxins					
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--
OCDD	ng/kg	--	--	--	--
OCDF	ng/kg	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--
TEQ Human	ng/kg	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--
General					
Chloride	mg/kg	--	--	--	--
pH	PHUNITS	10.4	9.1	10.3	9.2
Phosphate	mg/kg	--	--	--	--
Sulfate	mg/kg	--	--	--	--
Metals					
Antimony	mg/kg	--	--	--	--
Arsenic	mg/kg	--	--	--	--
Barium	mg/kg	--	--	--	--
Beryllium	mg/kg	--	--	--	--
Cadmium	mg/kg	--	--	--	--
Chromium-SPLP	mg/L	--	--	--	--
Chromium, Hexavalent	mg/kg	1	0.5 U	0.5 U	0.5
Chromium, total	mg/kg	13.7	10.3	14.9	12.8
Cobalt	mg/kg	--	--	--	--
Copper	mg/kg	10.3	2.5	8.3	10.8
CR6 SPLP	mg/L	--	--	--	--
Lead	mg/kg	--	--	--	--
Mercury	mg/kg	--	--	--	--
Molybdenum	mg/kg	--	--	--	--
Nickel	mg/kg	9.8	4.3	8.8	9.4
Selenium	mg/kg	--	--	--	--
Silver	mg/kg	--	--	--	--
Thallium	mg/kg	--	--	--	--
Vanadium	mg/kg	--	--	--	--
Zinc	mg/kg	32.6	4.3	27	40.9
Metals CLP					
Aluminum	mg/kg	--	--	--	--
Calcium	mg/kg	--	--	--	--
Cyanide	mg/kg	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	S4-4	S4-95	S4-95	S8-30
	SAMPLE	S4-4-6	S4-95-2	S4-95-3	S8-30-3
	DATE	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		6	2	3	3
SAMPLE BOTTOM DEPTH (FT)		6	2	3	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	2	3	3
SAMPLE TYPE					
ANALYTE	UNITS				
Iron	mg/kg	--	--	--	--
Magnesium	mg/kg	--	--	--	--
Manganese	mg/kg	--	--	--	--
Potassium	mg/kg	--	--	--	--
Sodium	mg/kg	--	--	--	--
Pesticides					
4,4-DDD	ug/kg	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--
Aldrin	ug/kg	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--
beta-BHC	ug/kg	--	--	--	--
delta-BHC	ug/kg	--	--	--	--
Dieldrin	ug/kg	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--
Endrin	ug/kg	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--
Heptachlor	ug/kg	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--
Toxaphene	ug/kg	--	--	--	--
Polychlorinated Biphenyls					
Aroclor 1016	ug/kg	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	ug/kg	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	S4-4	S4-95	S4-95	S8-30
	SAMPLE	S4-4-6	S4-95-2	S4-95-3	S8-30-3
	DATE	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		6	2	3	3
SAMPLE BOTTOM DEPTH (FT)		6	2	3	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	2	3	3
SAMPLE TYPE					
ANALYTE	UNITS				
Fluorene	ug/kg	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	ug/kg	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Total Petroleum Hydrocarbons					

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	S4-4	S4-95	S4-95	S8-30
	SAMPLE	S4-4-6	S4-95-2	S4-95-3	S8-30-3
	DATE	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		6	2	3	3
SAMPLE BOTTOM DEPTH (FT)		6	2	3	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	2	3	3
SAMPLE TYPE					
ANALYTE	UNITS				
TPH as diesel	mg/kg	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--
Volatile Organic Compounds					
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Acrolein	ug/kg	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chloro methane	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--

Table AOC14-A1
Dataset for AOC 14 HHERA

Soil Human Health and Ecological Risk Assessr
PG&E Topock Compressor Station
Needles, California

	LOCATION	S4-4	S4-95	S4-95	S8-30
	SAMPLE	S4-4-6	S4-95-2	S4-95-3	S8-30-3
	DATE	11/1/1998	11/1/1998	11/1/1998	11/1/1998
SAMPLE TOP DEPTH (FT)		6	2	3	3
SAMPLE BOTTOM DEPTH (FT)		6	2	3	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	2	3	3
SAMPLE TYPE					
ANALYTE	UNITS				
Dibromomethane	ug/kg	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

AOC14-A3 Appendix Figure List

Exposure Unit: AOC 14

Reference Figure: AOC14-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC14-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC14-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC14-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC14-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC14-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC14-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC14-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC14-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC14-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC14-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC14-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC14-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC14-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC14-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC14-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC14-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC14-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC14-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC14-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC14-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC14-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC14-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC14-A3.23	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC14-A3.24	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC14-A3.25	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC14-A3.26	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC14-A3.27	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC14-A3.28	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC14-A3.29	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC14-A3.30	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC14-A3.31	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC14-A3.32	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC14-A3.33	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC14-A3.34	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC14-A3.35	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC14-A3.36	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC14-A3.37	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC14-A3.38	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC14-A3.39	0 - 3 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC14-A3.40	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC14-A3.41	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC14-A3.42	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC14-A3.43	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC14-A3.44	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC14-A3.45	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC14-A3.46	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC14-A3.47	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC14-A3.48	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC14-A3.49	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC14-A3.50	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC14-A3.51	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC14-A3.52	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC14-A3.53	0 - 3 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC14-A3.54	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC14-A3.55	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC14-A3.56	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC14-A3.57	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC14-A3.58	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC14-A3.59	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC14-A3.60	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC14-A3.61	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC14-A3.62	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC14-A3.63	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC14-A3.64	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC14-A3.65	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC14-A3.66	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC14-A3.67	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC14-A3.68	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER

Exposure Unit: AOC 14

Reference Figure: AOC14-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC14-A3.69	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC14-A3.70	0 - 6 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC14-A3.71	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC14-A3.72	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC14-A3.73	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC14-A3.74	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC14-A3.75	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC14-A3.76	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC14-A3.77	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC14-A3.78	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC14-A3.79	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC14-A3.80	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC14-A3.81	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC14-A3.82	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC14-A3.83	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC14-A3.84	0 - 6 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC14-A3.85	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC14-A3.86	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC14-A3.87	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC14-A3.88	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC14-A3.89	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC14-A3.90	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC14-A3.91	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC14-A3.92	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC14-A3.93	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC14-A3.94	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC14-A3.95	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC14-A3.96	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC14-A3.97	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC14-A3.98	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC14-A3.99	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC14-A3.100	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC14-A3.101	0 - 10 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC14-A3.102	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC14-A3.103	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC14-A3.104	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC14-A3.105	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
AOC14-A3.106	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	IRON
AOC14-A3.107	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
AOC14-A3.108	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC14-A3.109	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC14-A3.110	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC14-A3.111	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC14-A3.112	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC14-A3.113	0 - 10 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC14-A3.114	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC14-A3.115	0 - 10 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC14-A3.116	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC14-A3.117	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC14-A3.118	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC14-A3.119	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC14-A3.120	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC14-A3.121	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC14-A3.122	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC14-A3.123	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC14-A3.124	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC14-A3.125	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN

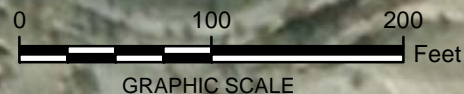


BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.32 - 0.34
	≥0.34 - 0.37
	≥0.37 - 1.10
	≥1.10 - 2.60
	≥2.60 - 5.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.1

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN

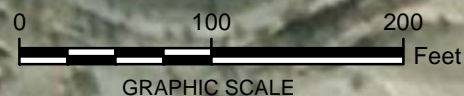


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

	NOT DETECTED
	0.22 - 0.22
	≥0.22 - 0.44
	≥0.44 - 0.85
	≥0.85 - 4.60
	≥4.60 - 8.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.2

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

TEQ MAMMALS

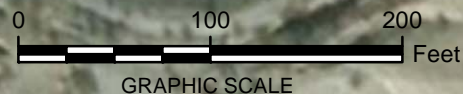


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.22 - 0.22
	≥0.22 - 0.44
	≥0.44 - 0.85
	≥0.85 - 4.60
	≥4.60 - 8.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



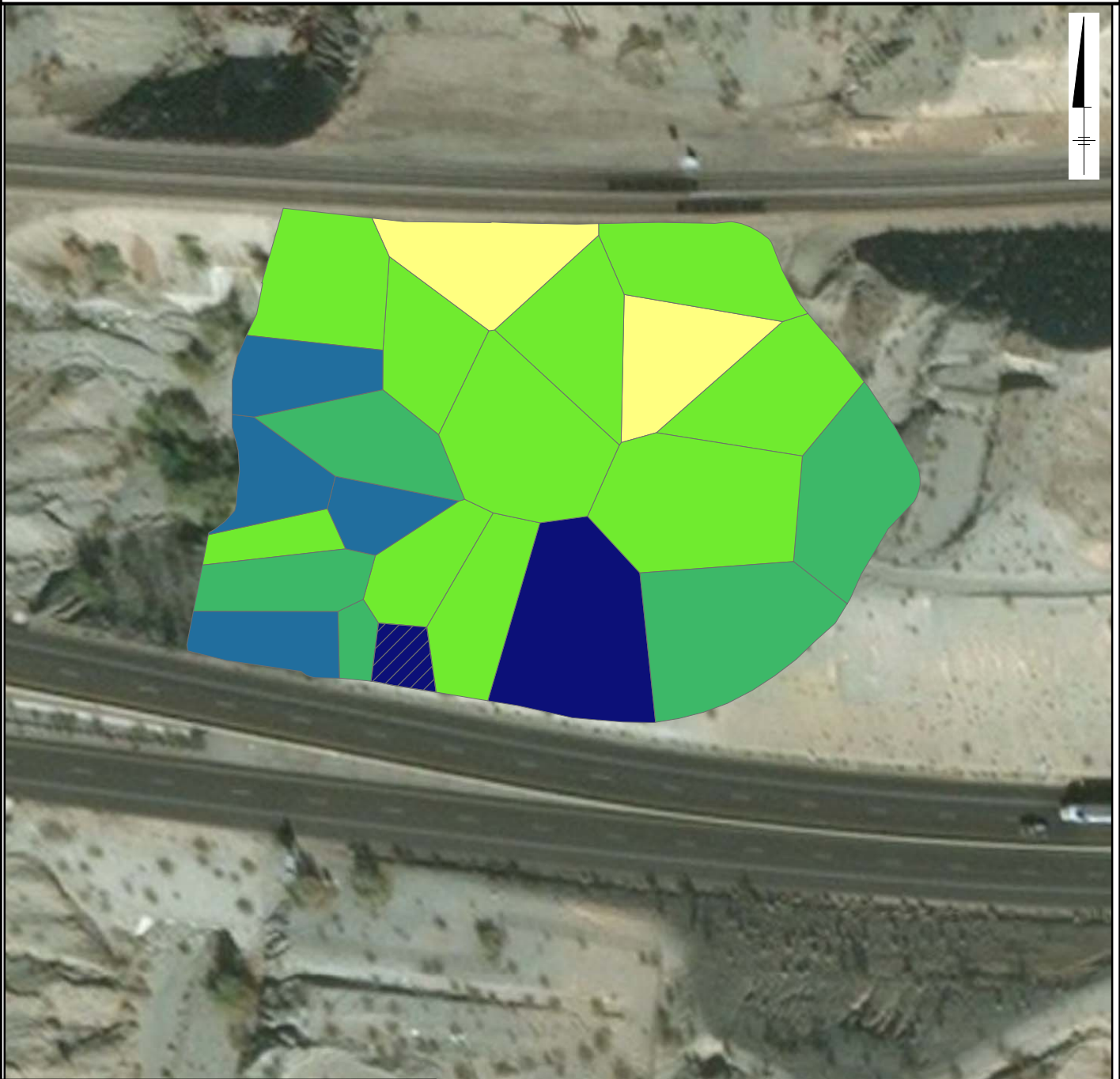
PG&E TOPOCK COMPRESSOR STATION
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**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

THIESSEN POLYGONS FOR AREA WEIGHTING









FIGURE
AOC14-A3.3

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC

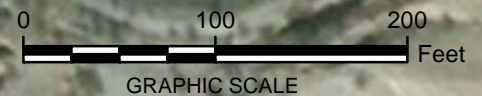


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

-  NOT DETECTED
-  0.50 - 1.50
-  ≥1.50 - 2.60
-  ≥2.60 - 4.00
-  ≥4.00 - 5.80
-  ≥5.80 - 6.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



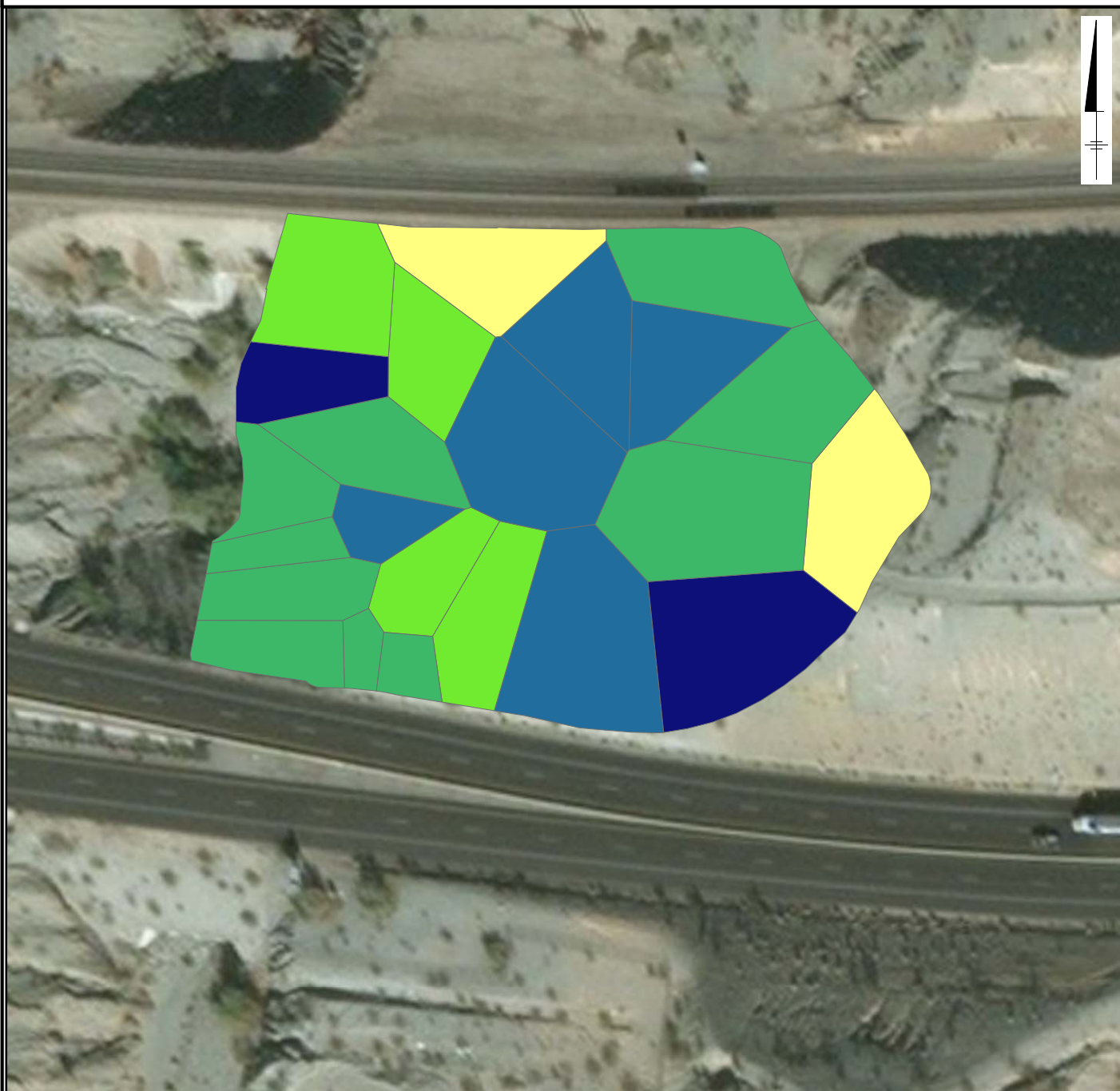
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FIGURE
AOC14-A3.4

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM

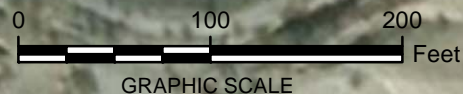


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	66.00 - 69.00
	≥69.00 - 120.00
	≥120.00 - 160.00
	≥160.00 - 190.00
	≥190.00 - 300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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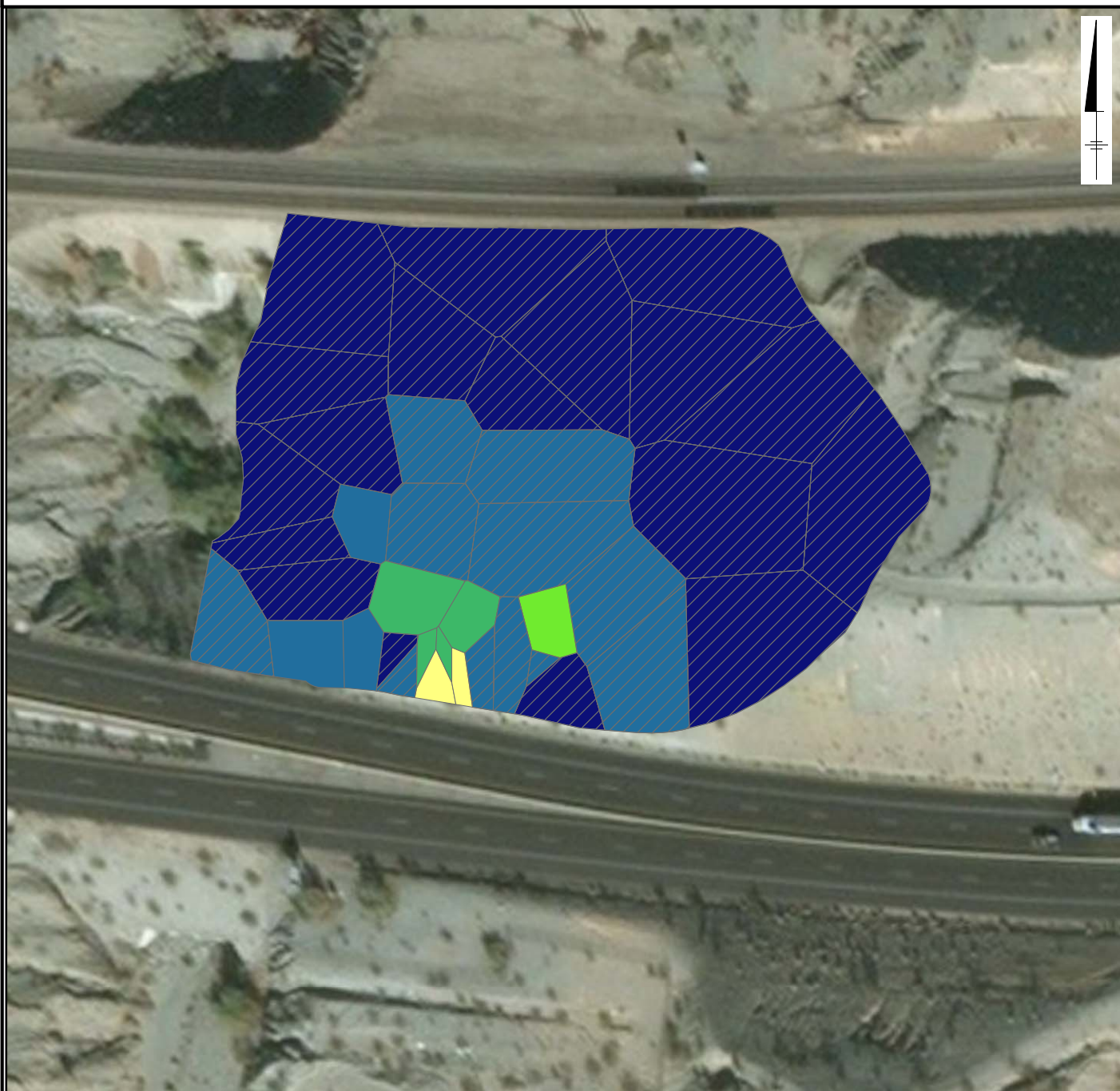


FIGURE
AOC14-A3.5

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT

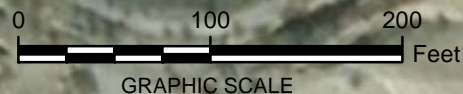


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.20
	≥0.20 - 0.33
	≥0.33 - 0.84
	≥0.84 - 2.70
	≥2.70 - 5.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



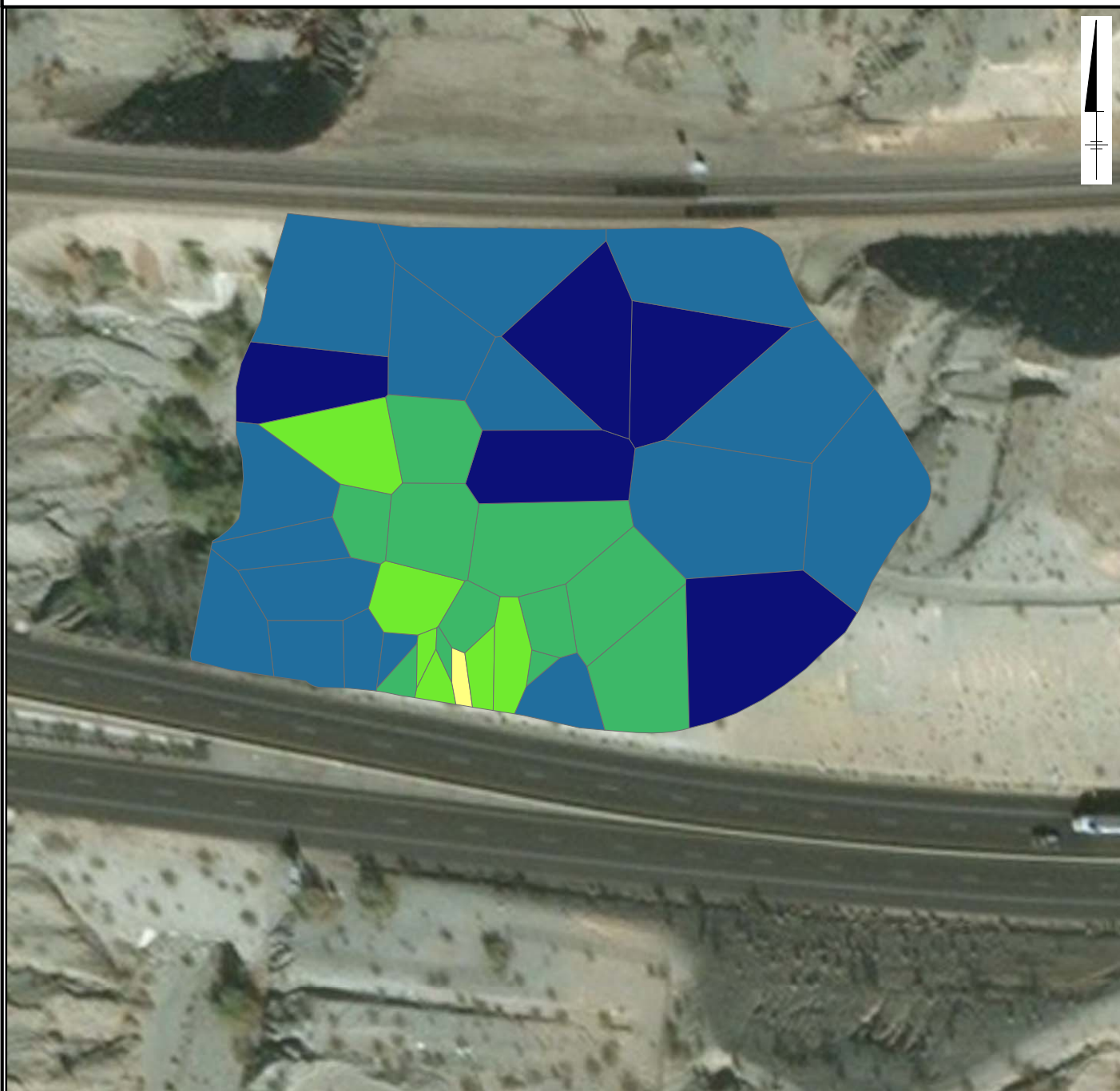
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FIGURE
AOC14-A3.6

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

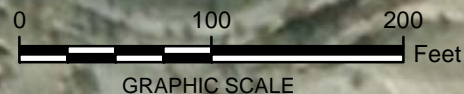


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 9.00 - 12.10
- ≥12.10 - 17.00
- ≥17.00 - 25.00
- ≥25.00 - 39.50
- ≥39.50 - 74.90

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



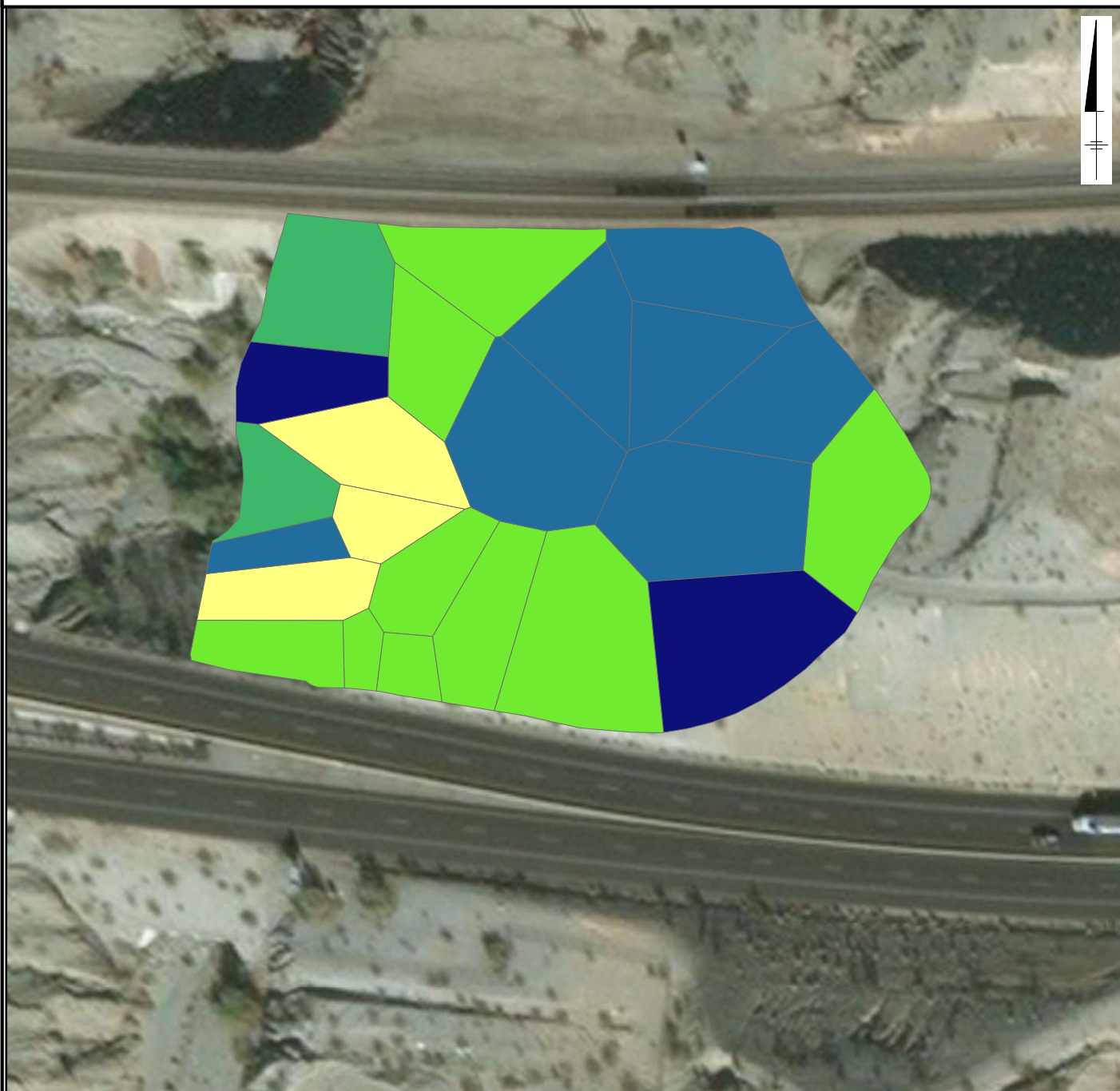
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FIGURE
AOC14-A3.7

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE COBALT

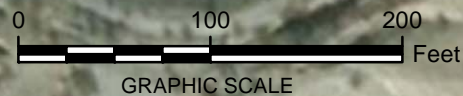


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	2.40 - 3.30
	≥3.30 - 5.20
	≥5.20 - 6.30
	≥6.30 - 7.20
	≥7.20 - 7.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC14-A3.8

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE COPPER

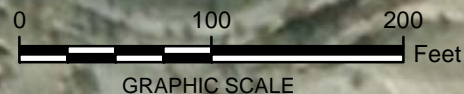


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 2.20 - 4.70
- ≥4.70 - 9.00
- ≥9.00 - 13.80
- ≥13.80 - 27.90
- ≥27.90 - 44.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



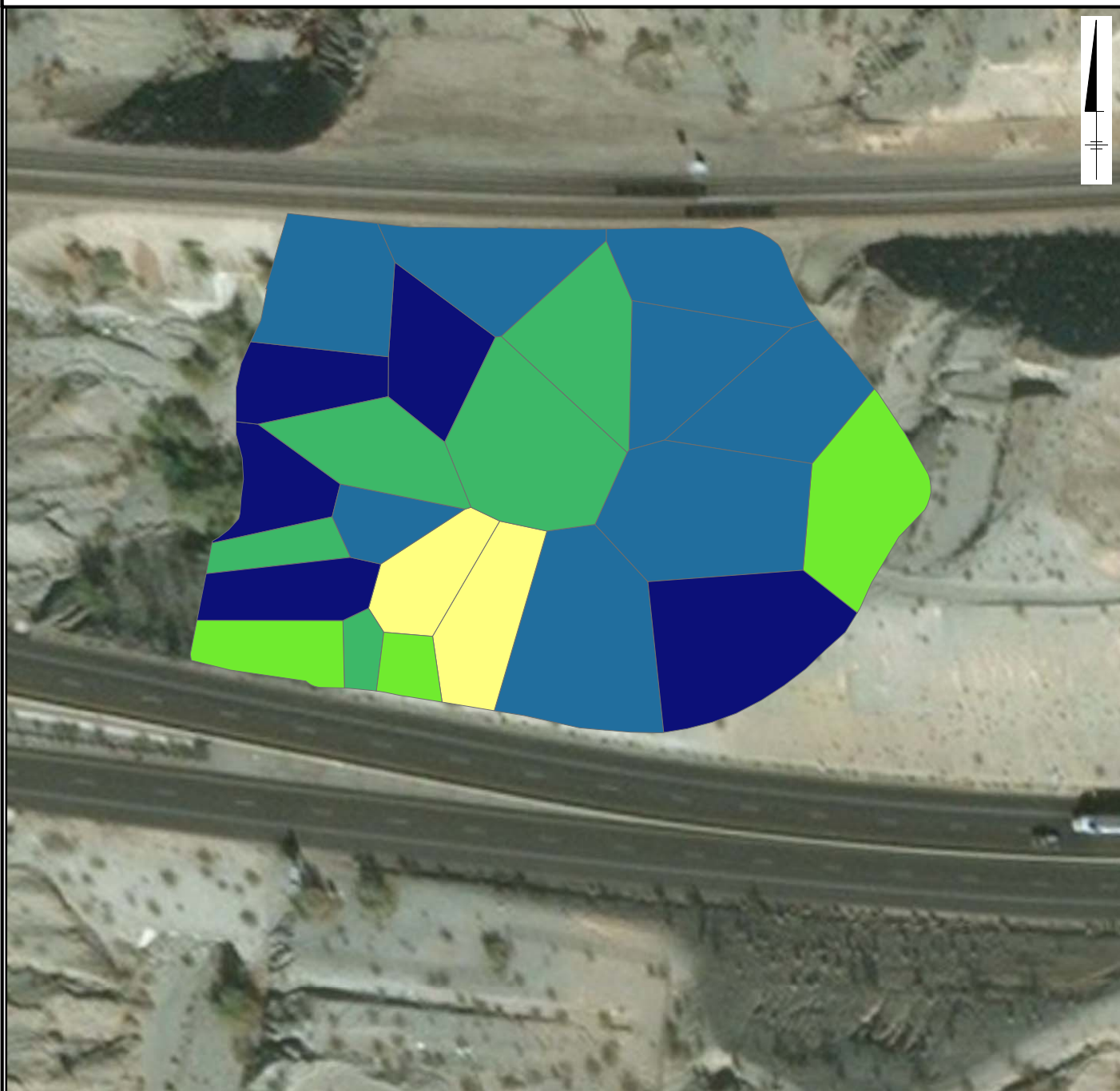
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FIGURE
AOC14-A3.9

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE LEAD

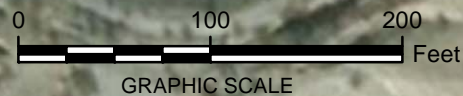


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

- NOT DETECTED
- 2.20 - 3.90
- ≥3.90 - 6.40
- ≥6.40 - 8.40
- ≥8.40 - 15.00
- ≥15.00 - 18.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



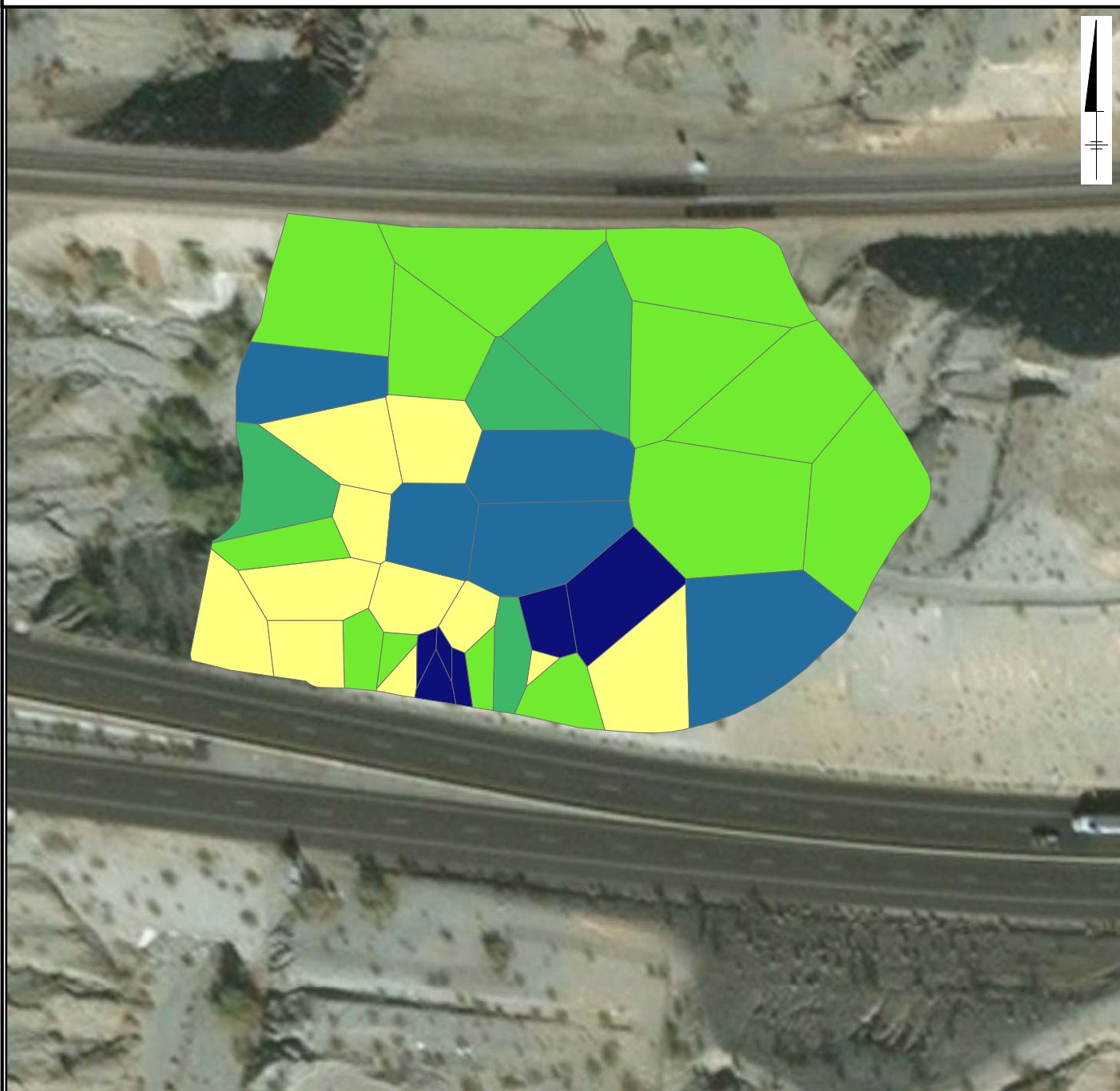
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FIGURE
AOC14-A3.10

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL

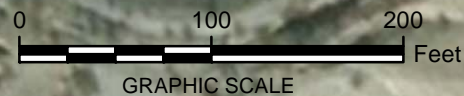


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	0.28 - 2.20
	≥2.20 - 6.00
	≥6.00 - 8.40
	≥8.40 - 10.40
	≥10.40 - 13.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



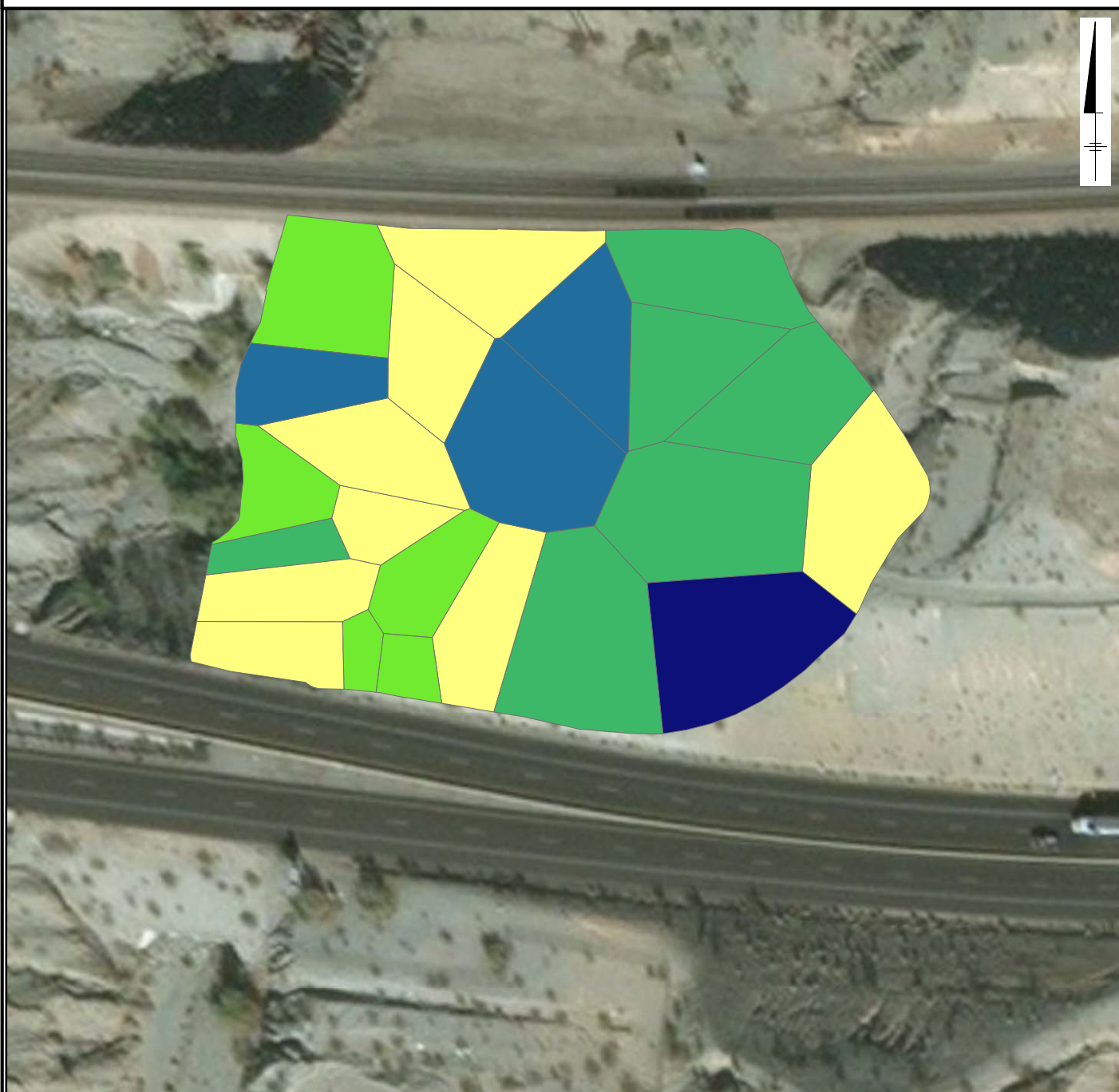
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FIGURE
AOC14-A3.11

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

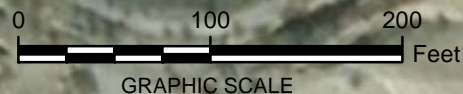


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

- NOT DETECTED
- 13.00 - 13.00
- ≥13.00 - 20.00
- ≥20.00 - 25.00
- ≥25.00 - 28.00
- ≥28.00 - 32.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
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FIGURE
AOC14-A3.12

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE ZINC

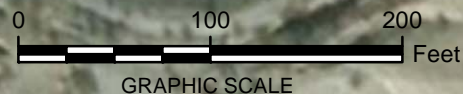


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 11.30 - 21.00
- ≥21.00 - 32.70
- ≥32.70 - 49.00
- ≥49.00 - 70.00
- ≥70.00 - 243.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



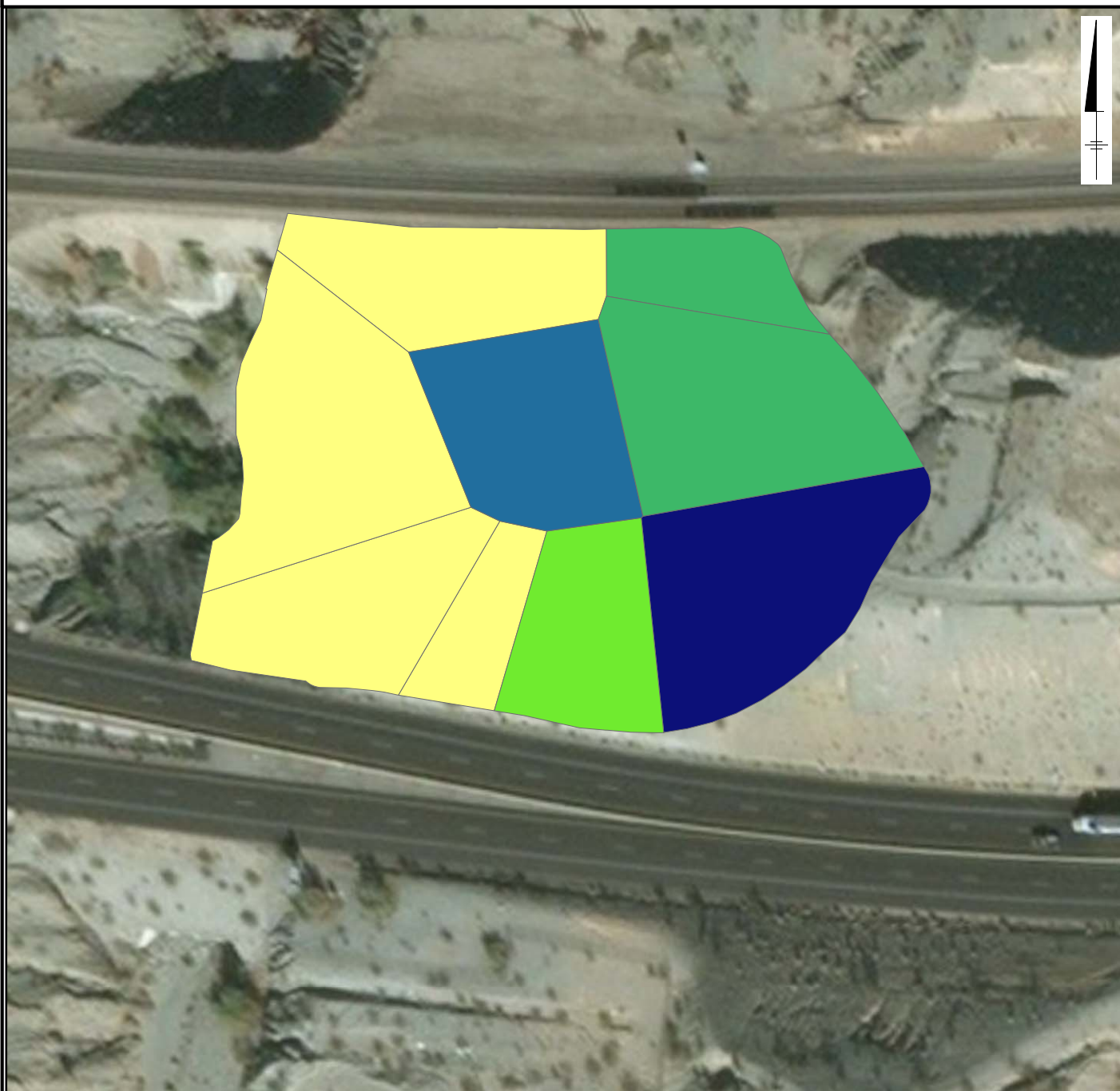
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FIGURE
AOC14-A3.13

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE ALUMINUM

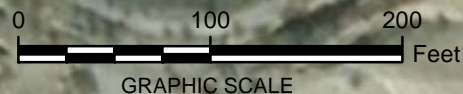


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

	NOT DETECTED
	3000.00 - 3000.00
	≥3000.00 - 5400.00
	≥5400.00 - 6800.00
	≥6800.00 - 7700.00
	≥7700.00 - 9000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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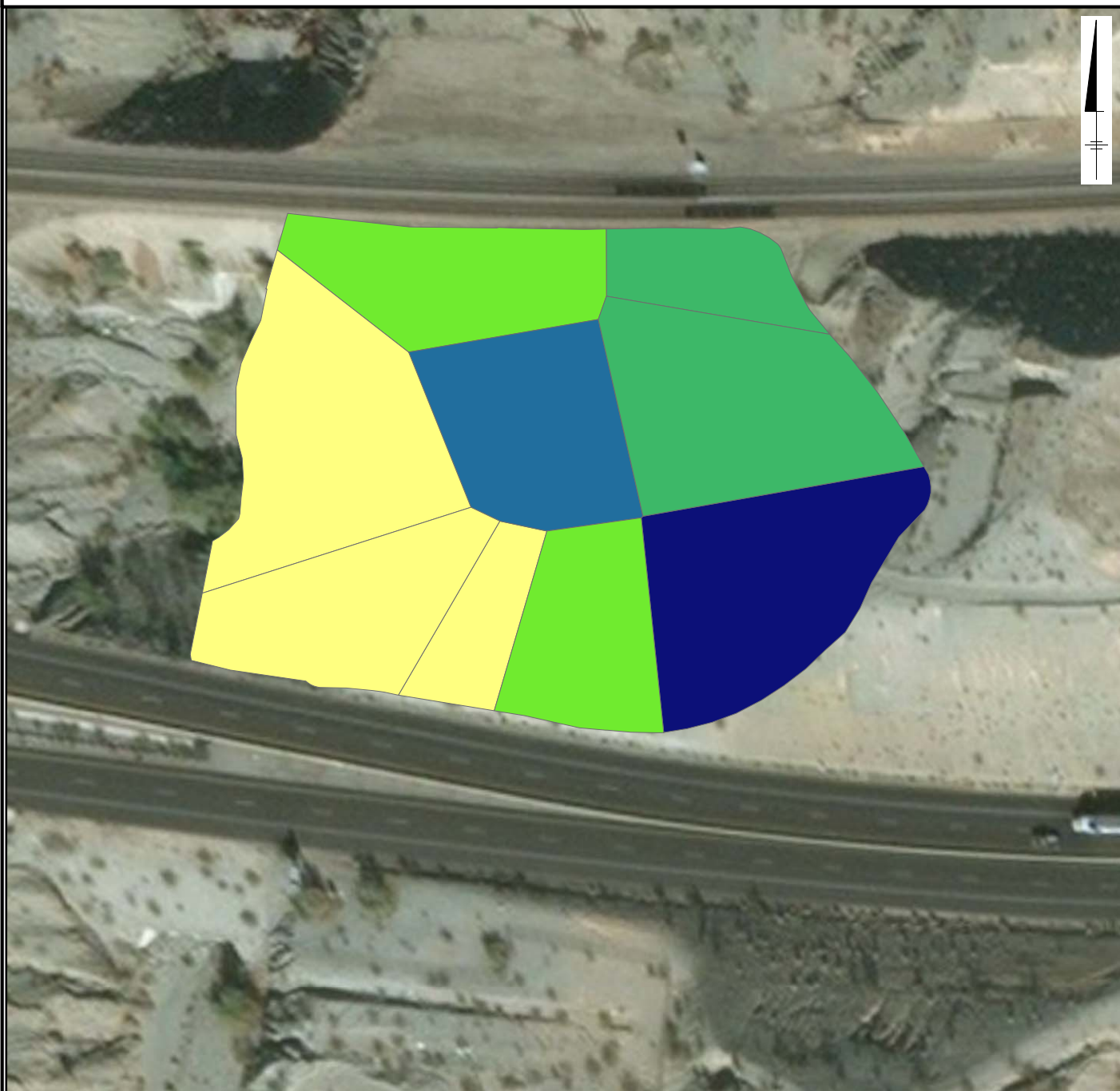
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FIGURE
AOC14-A3.14

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE IRON

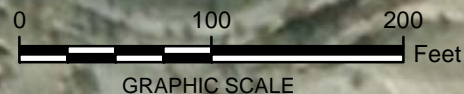


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	6800.00 - 6800.00
	≥6800.00 - 11000.00
	≥11000.00 - 14000.00
	≥14000.00 - 17000.00
	≥17000.00 - 20000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



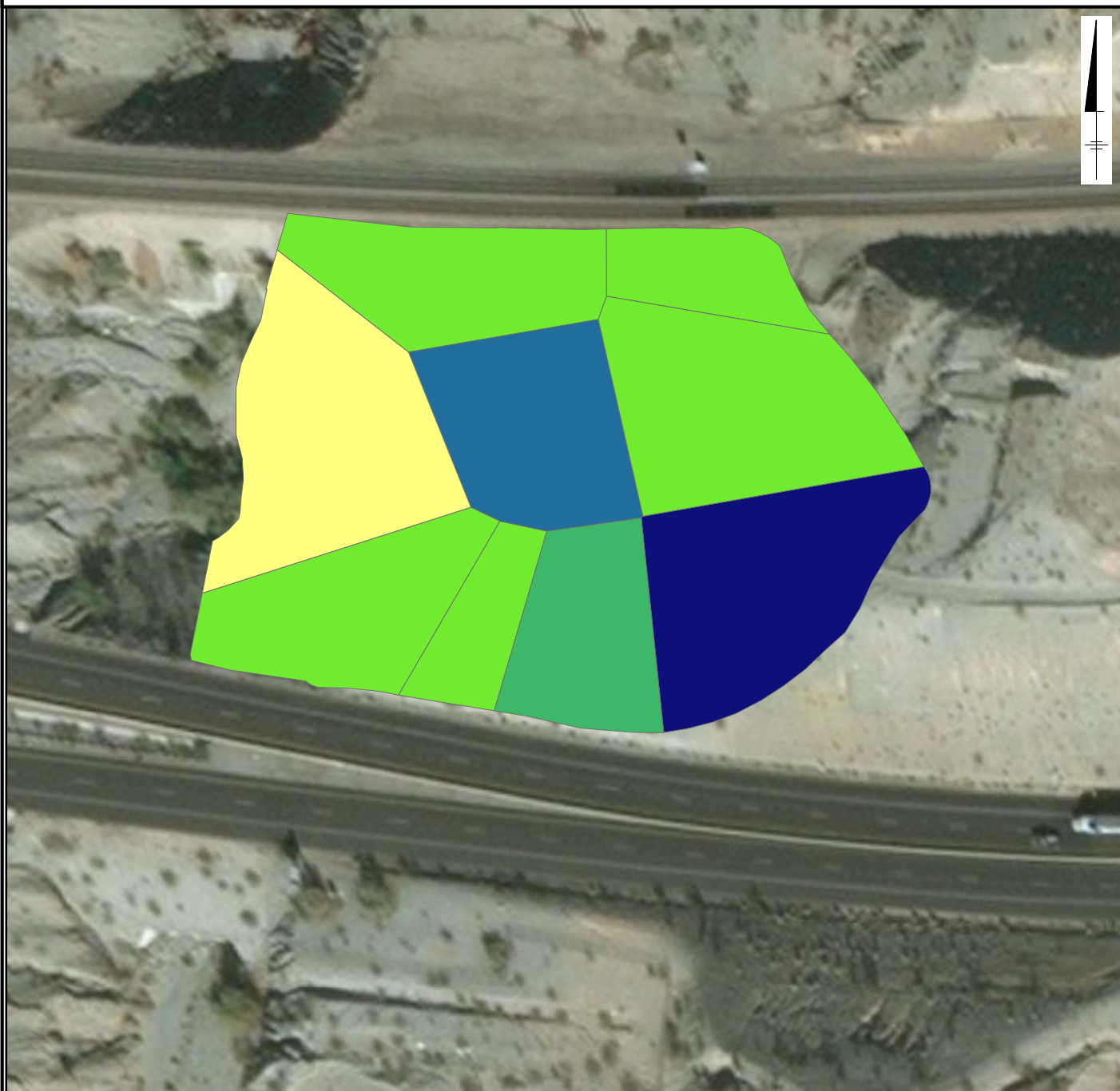
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FIGURE
AOC14-A3.15

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE MANGANESE

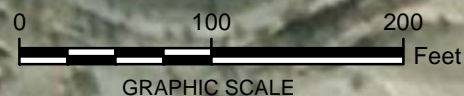


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	120.00 - 120.00
	≥120.00 - 170.00
	≥170.00 - 230.00
	≥230.00 - 270.00
	≥270.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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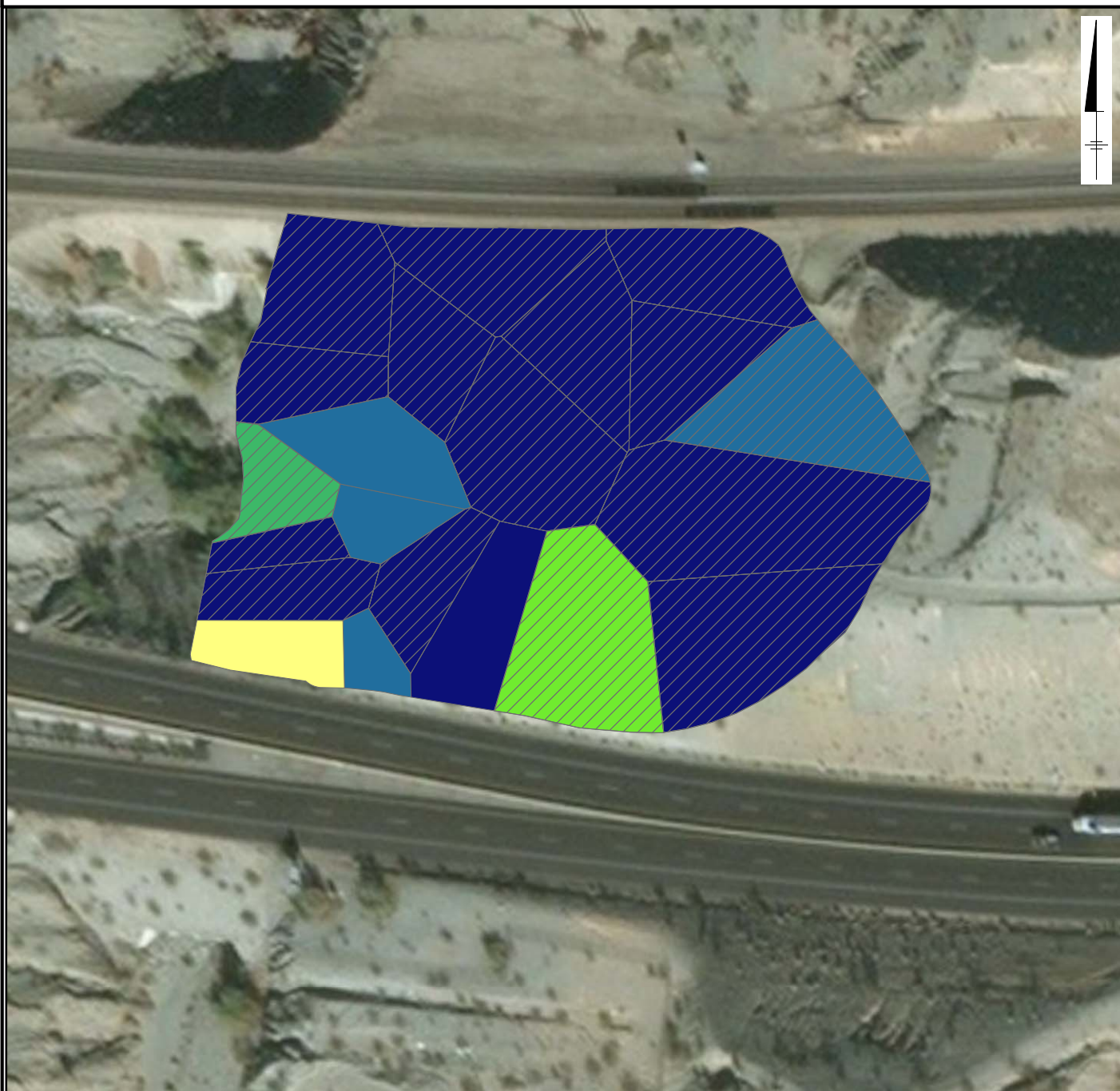


FIGURE
AOC14-A3.16

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

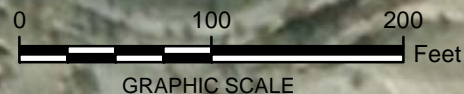


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 5.80
	≥5.80 - 15.00
	≥15.00 - 25.50
	≥25.50 - 165.00
	≥165.00 - 1000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



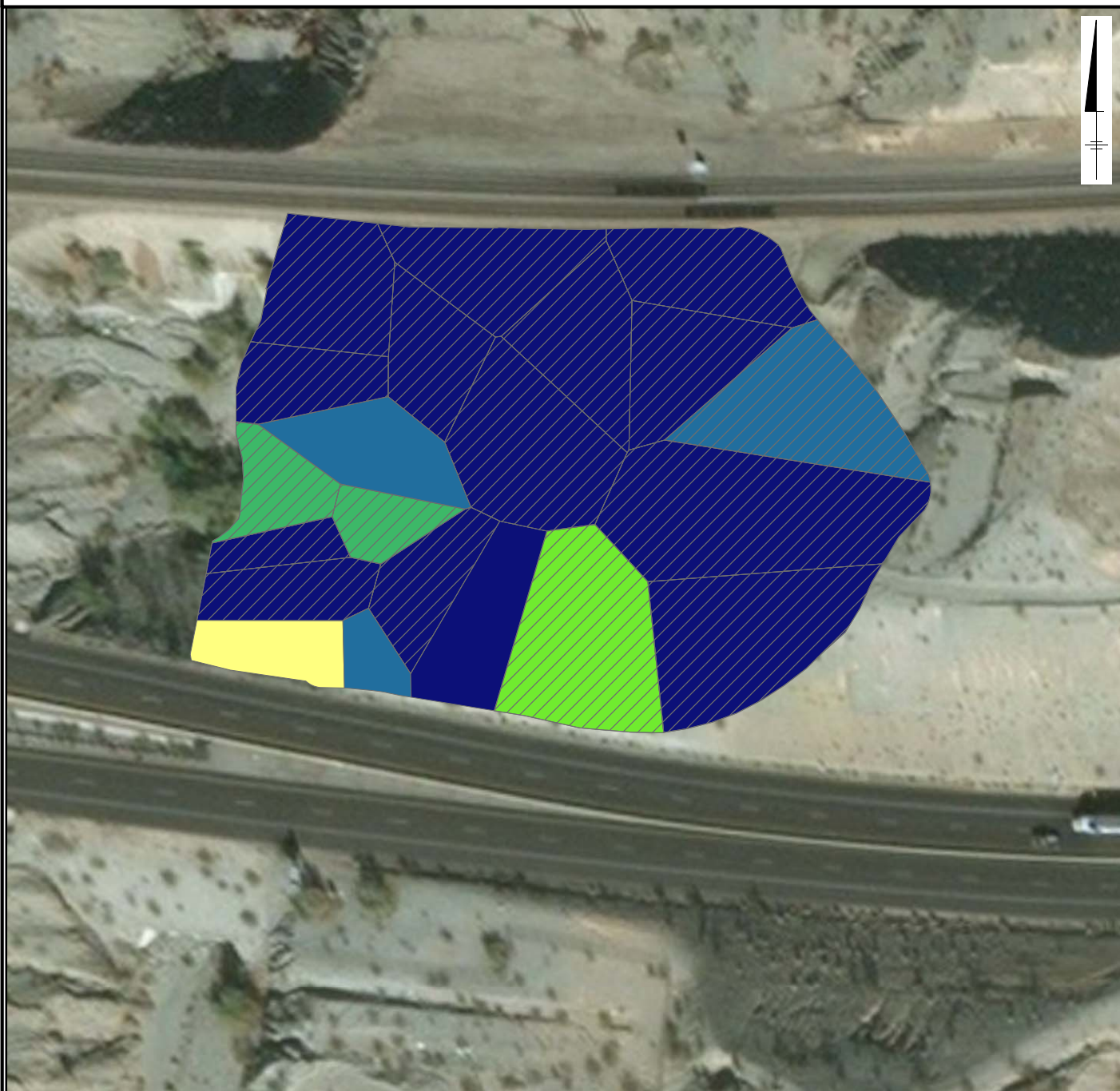
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FIGURE
AOC14-A3.17

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

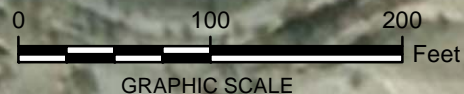


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 6.10
	≥6.10 - 12.50
	≥12.50 - 25.50
	≥25.50 - 165.00
	≥165.00 - 550.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
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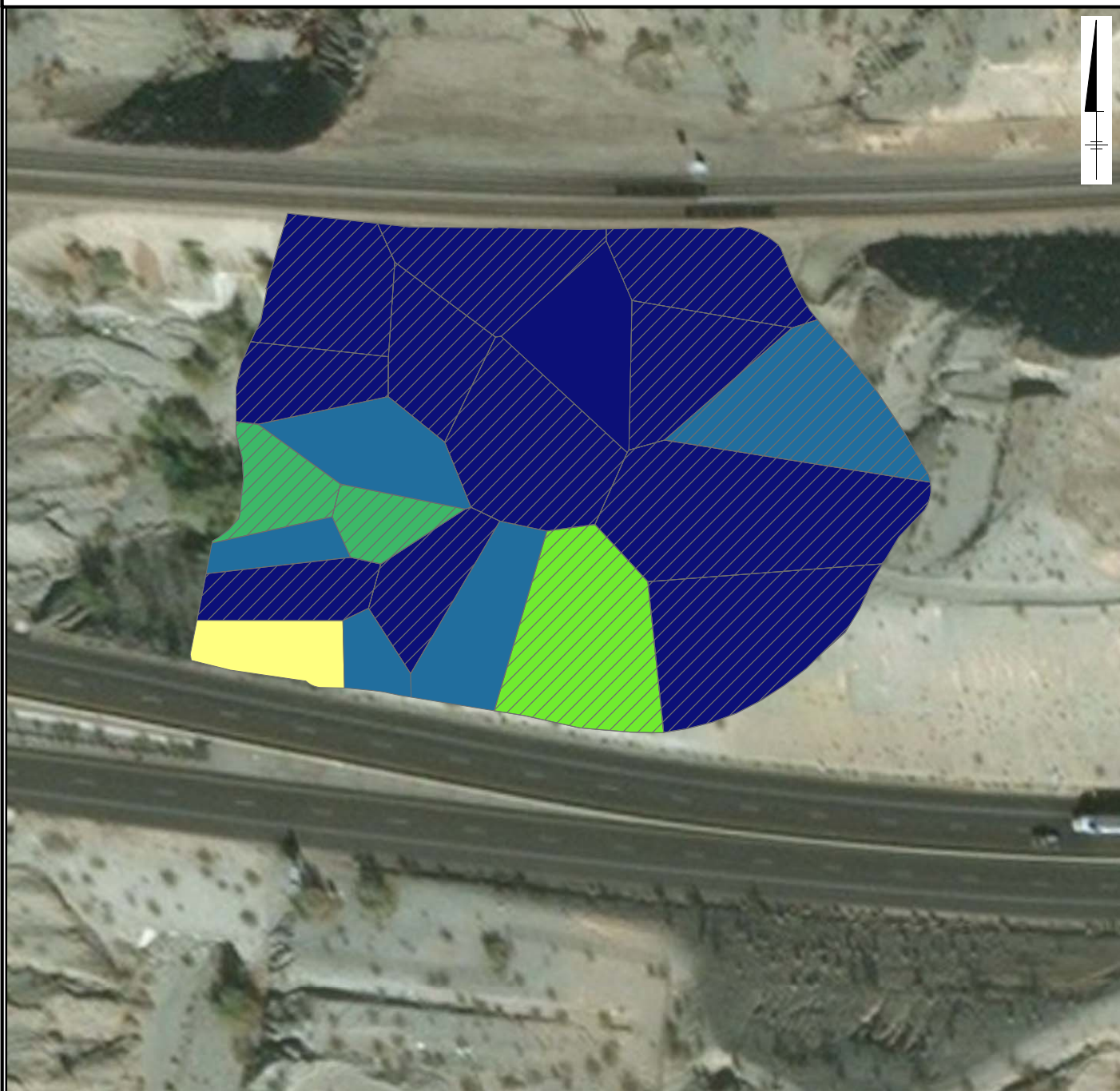


FIGURE
AOC14-A3.18

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE

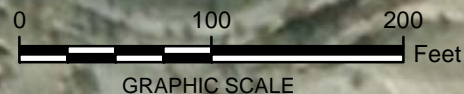


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 5.90
	≥5.90 - 15.00
	≥15.00 - 25.50
	≥25.50 - 165.00
	≥165.00 - 840.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



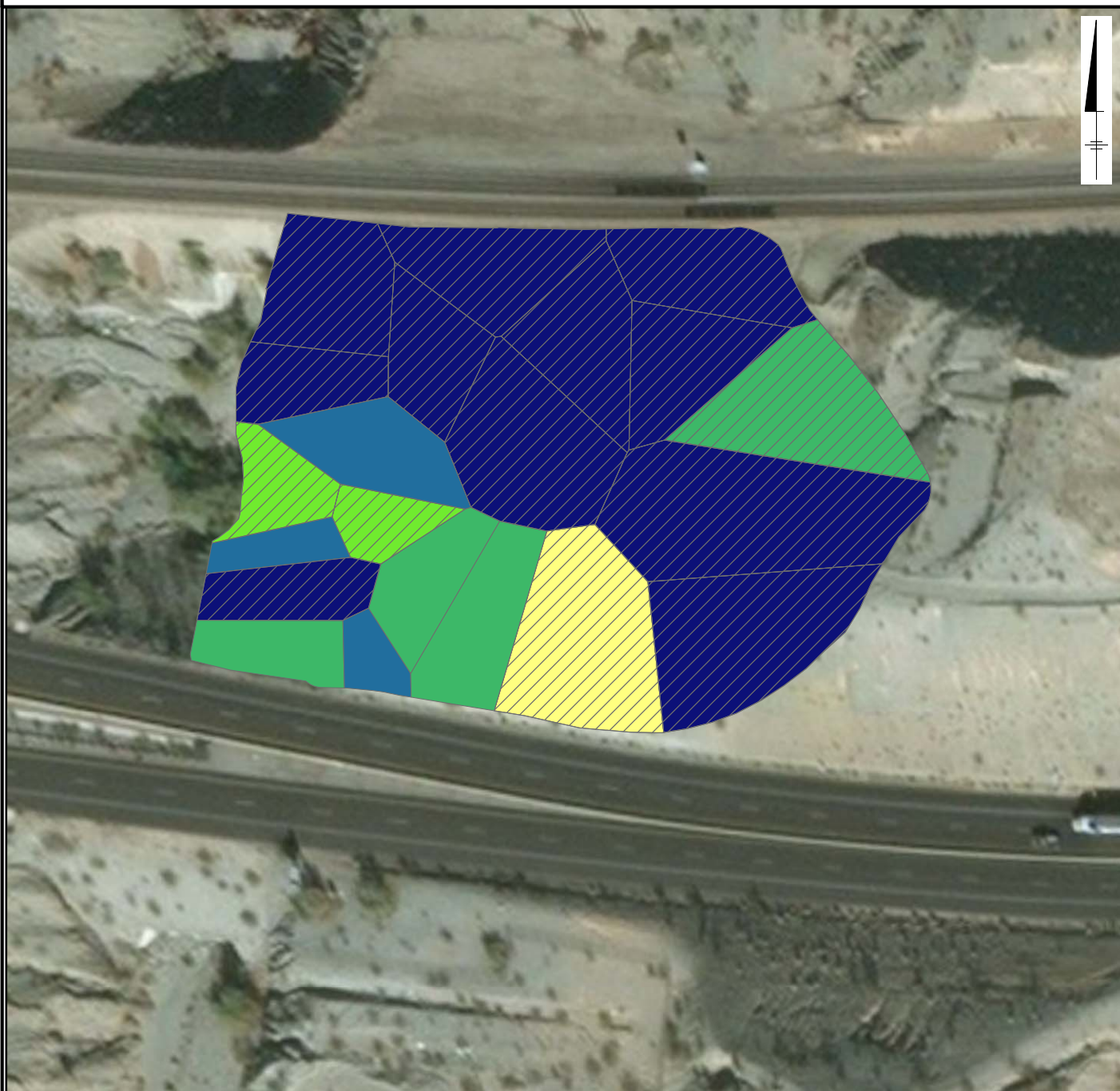
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FIGURE
AOC14-A3.19

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

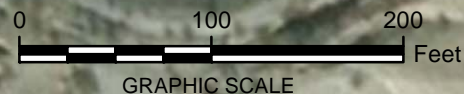


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 8.10
	≥8.10 - 12.50
	≥12.50 - 25.50
	≥25.50 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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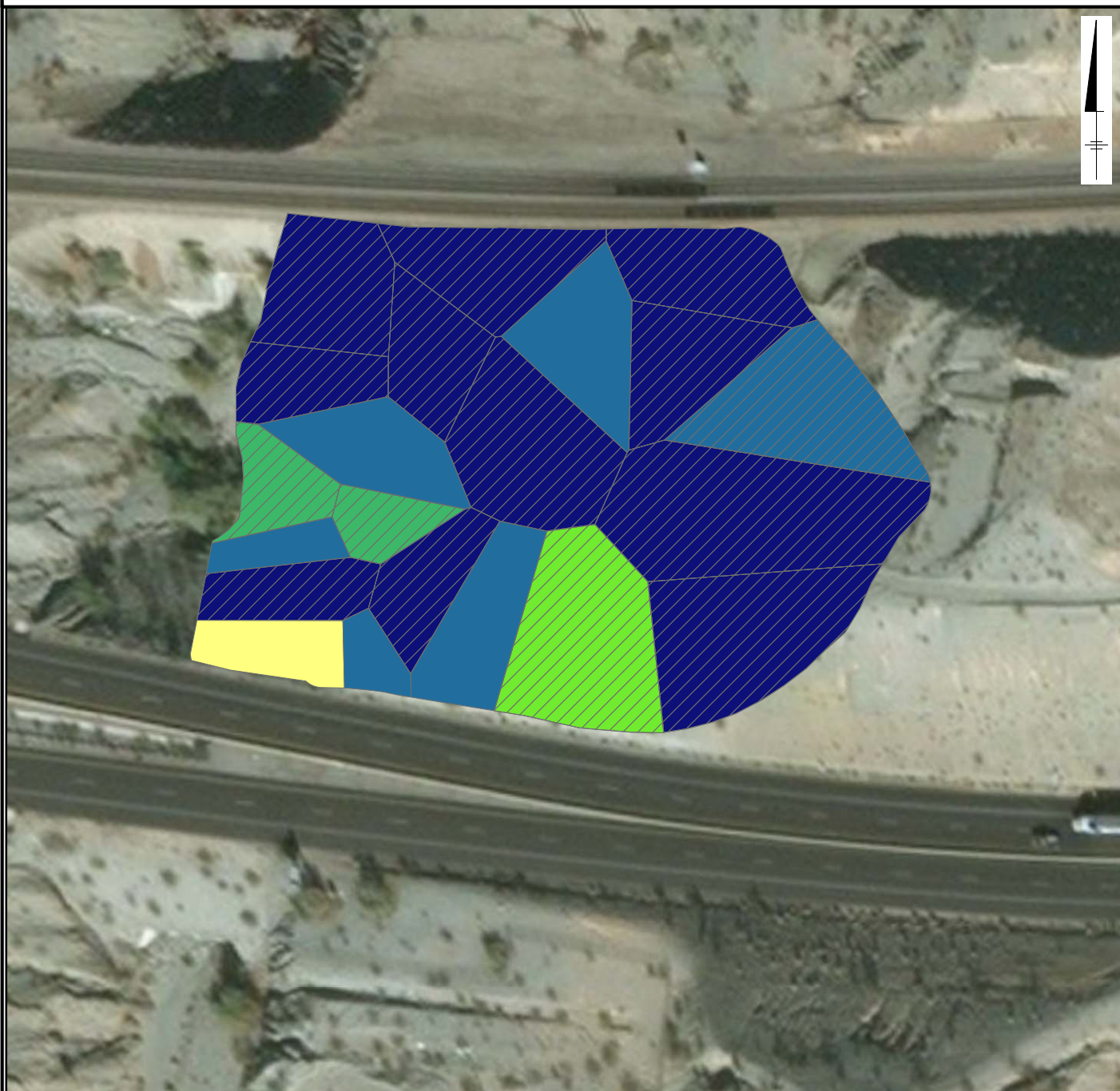


FIGURE
AOC14-A3.20

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE

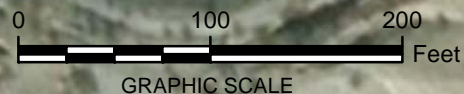


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 12.50
	≥12.50 - 25.50
	≥25.50 - 165.00
	≥165.00 - 360.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



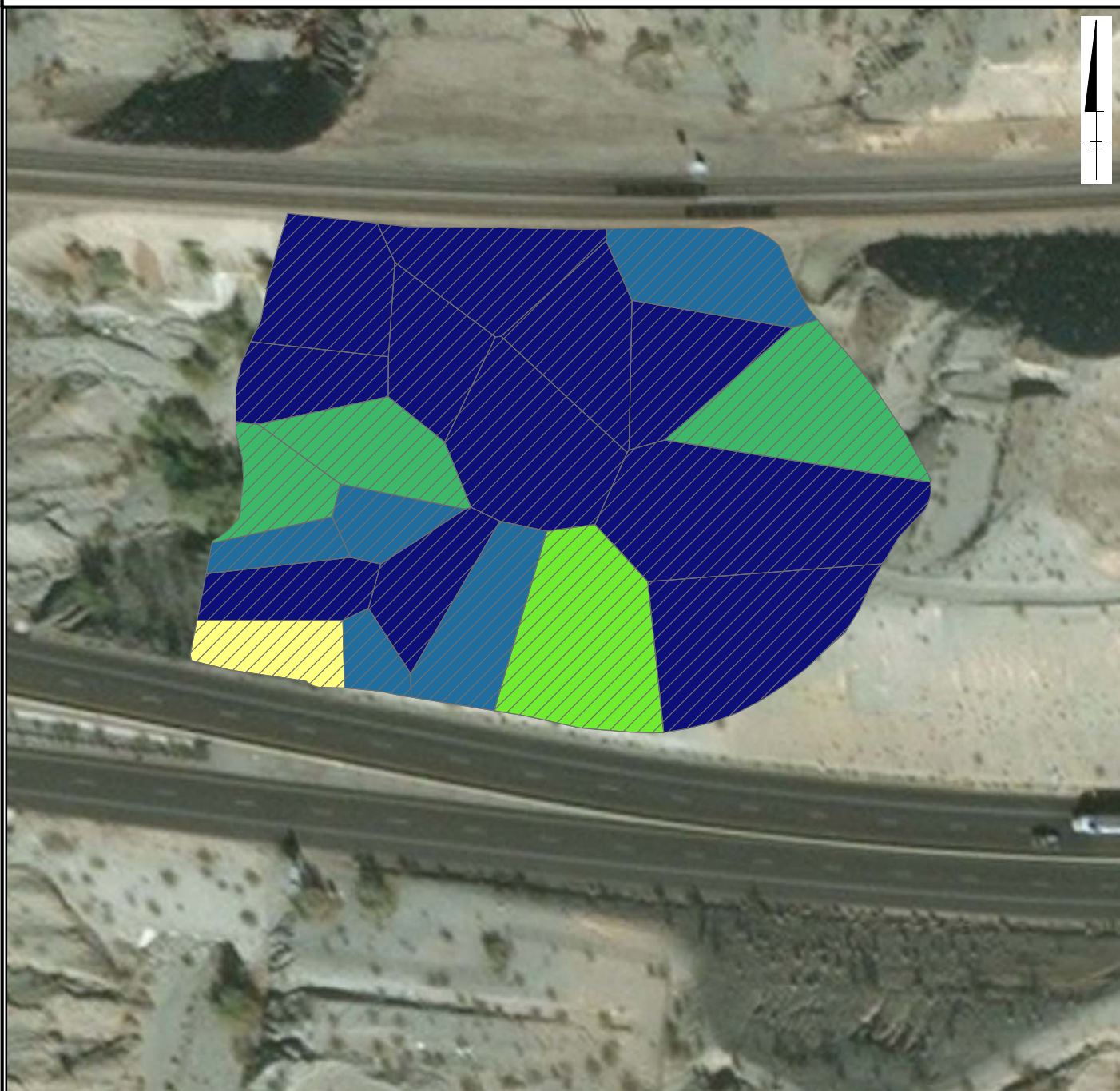
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FIGURE
AOC14-A3.21

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE

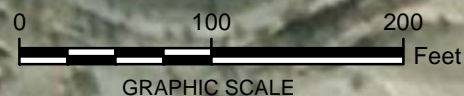


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.20
- ≥5.20 - 15.00
- ≥15.00 - 26.00
- ≥26.00 - 165.00
- ≥165.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



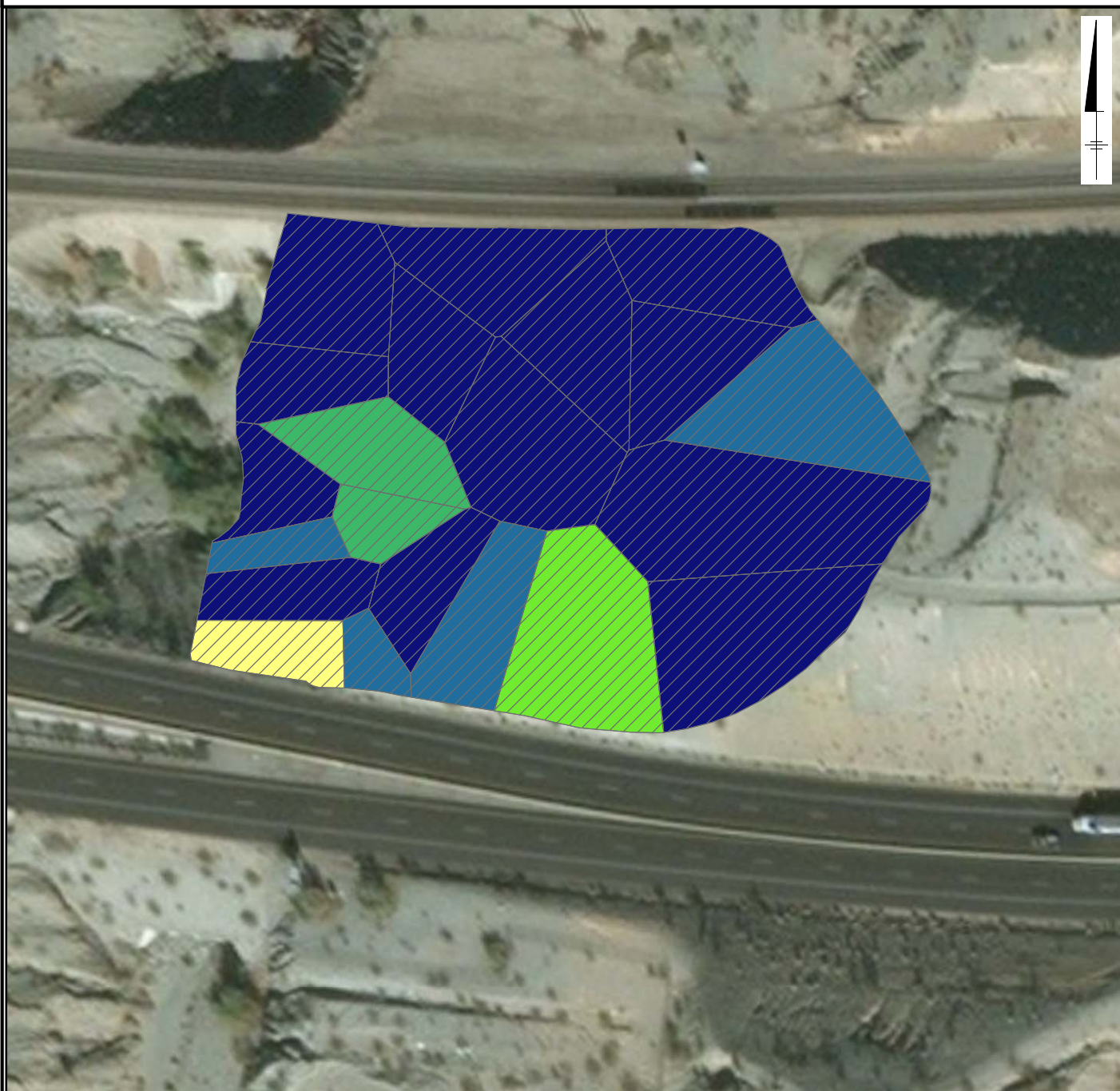
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FIGURE
AOC14-A3.22

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE

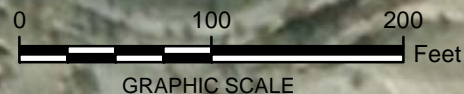


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 5.90
	≥5.90 - 13.00
	≥13.00 - 22.00
	≥22.00 - 165.00
	≥165.00 - 2100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



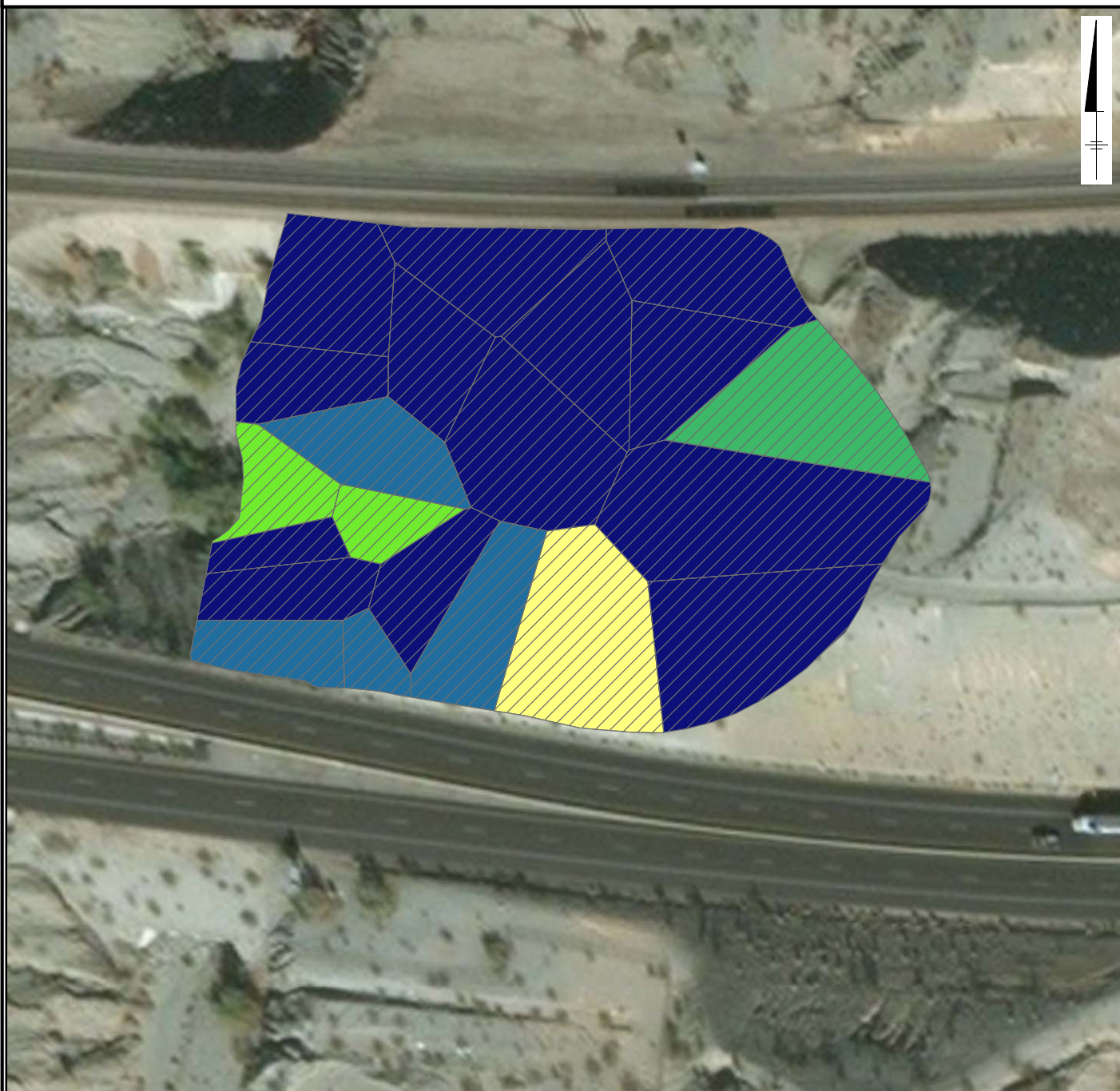
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FIGURE
AOC14-A3.23

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

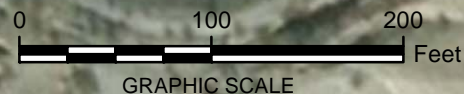


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 8.20
	≥8.20 - 12.50
	≥12.50 - 25.50
	≥25.50 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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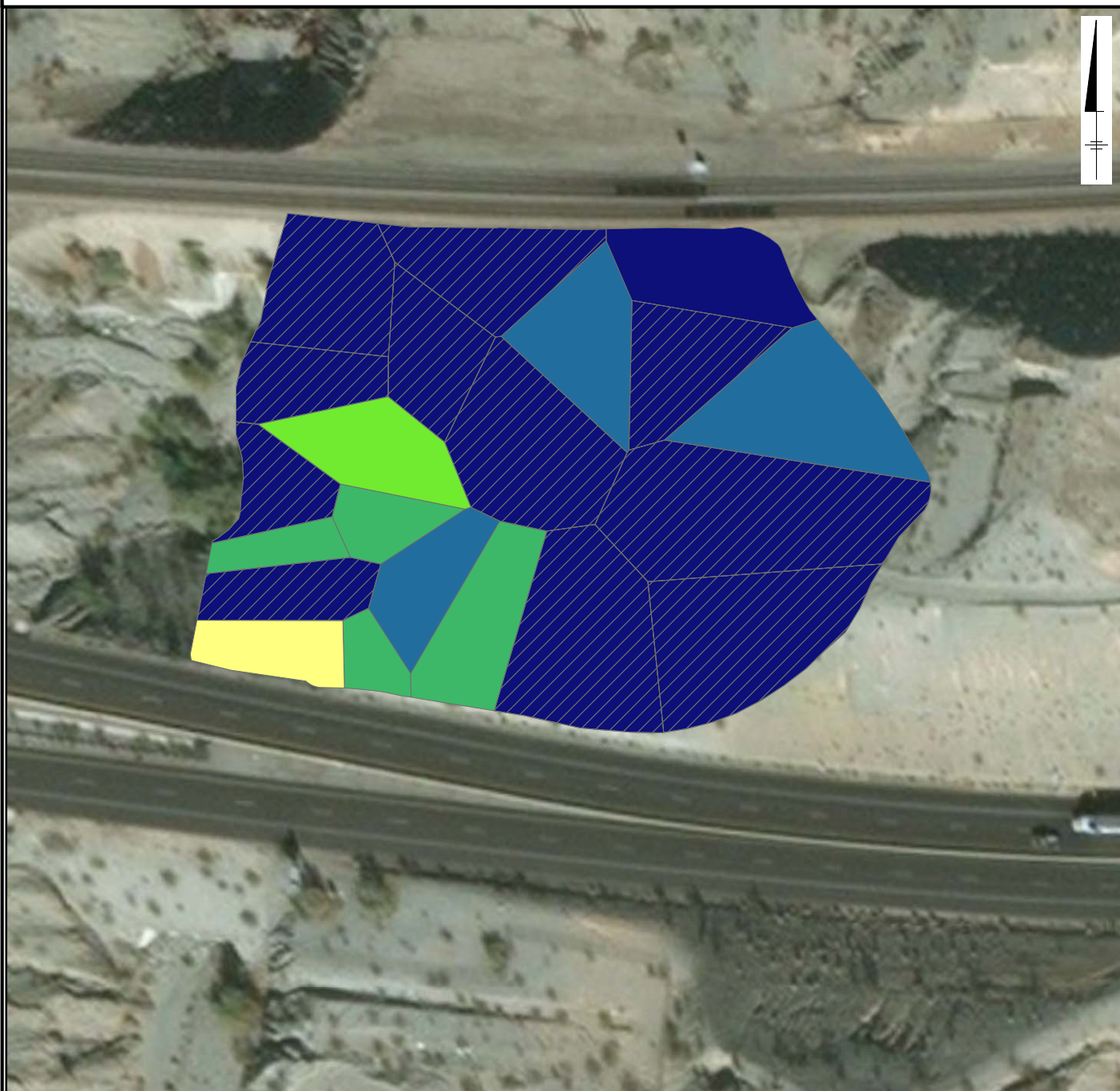
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FIGURE
AOC14-A3.24

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT

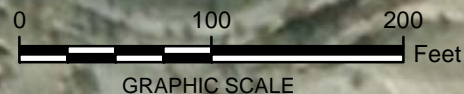


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 7.70
- ≥ 7.70 - 28.20
- ≥ 28.20 - 89.20
- ≥ 89.20 - 125.00
- ≥ 125.00 - 8070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



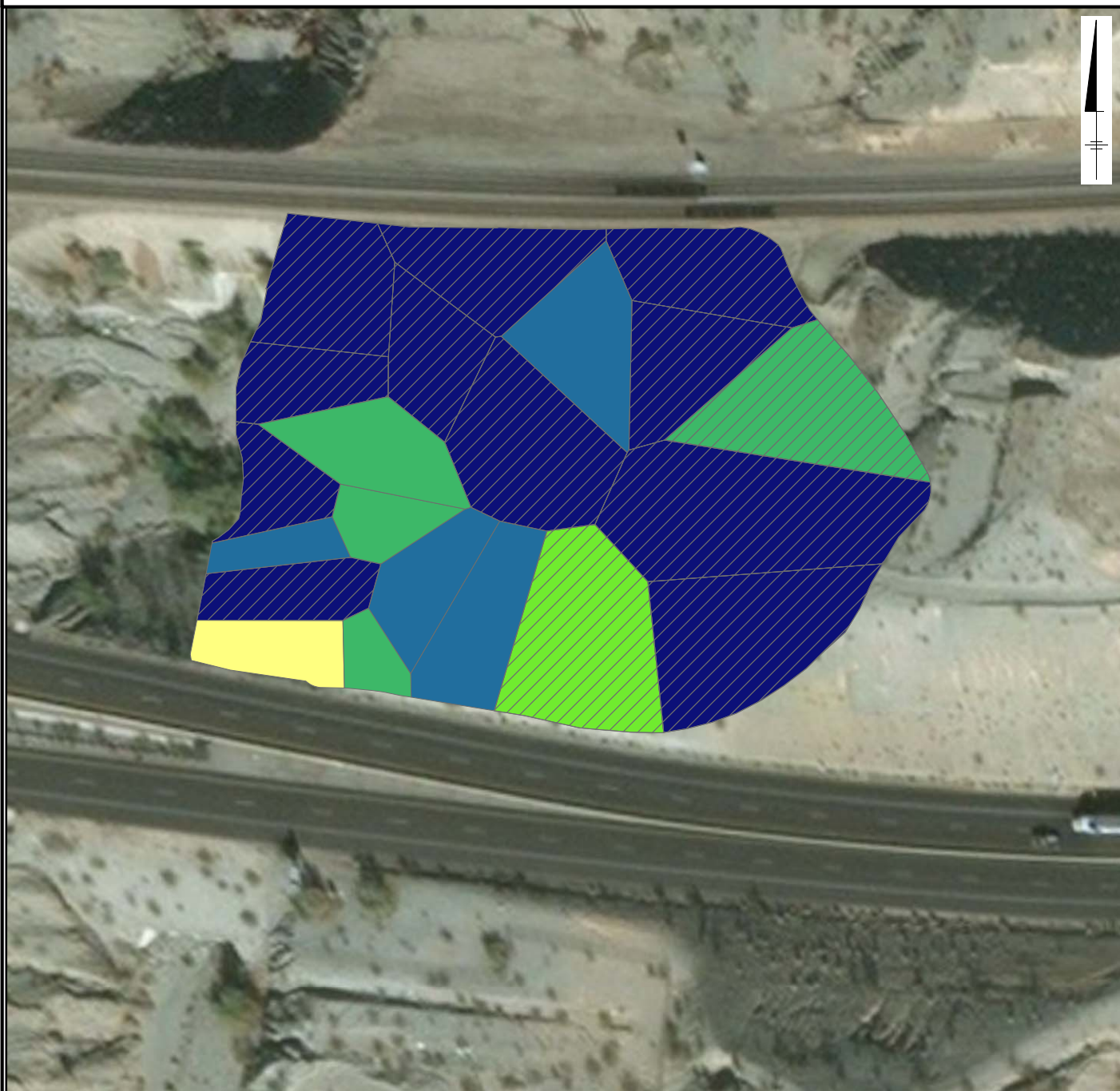
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FIGURE
AOC14-A3.25

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE

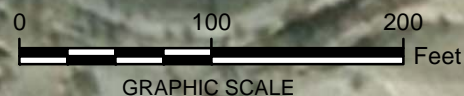


BACKGROUND THRESHOLD VALUE: None

LEGEND:
PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 9.40
	≥9.40 - 20.00
	≥20.00 - 165.00
	≥165.00 - 2100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



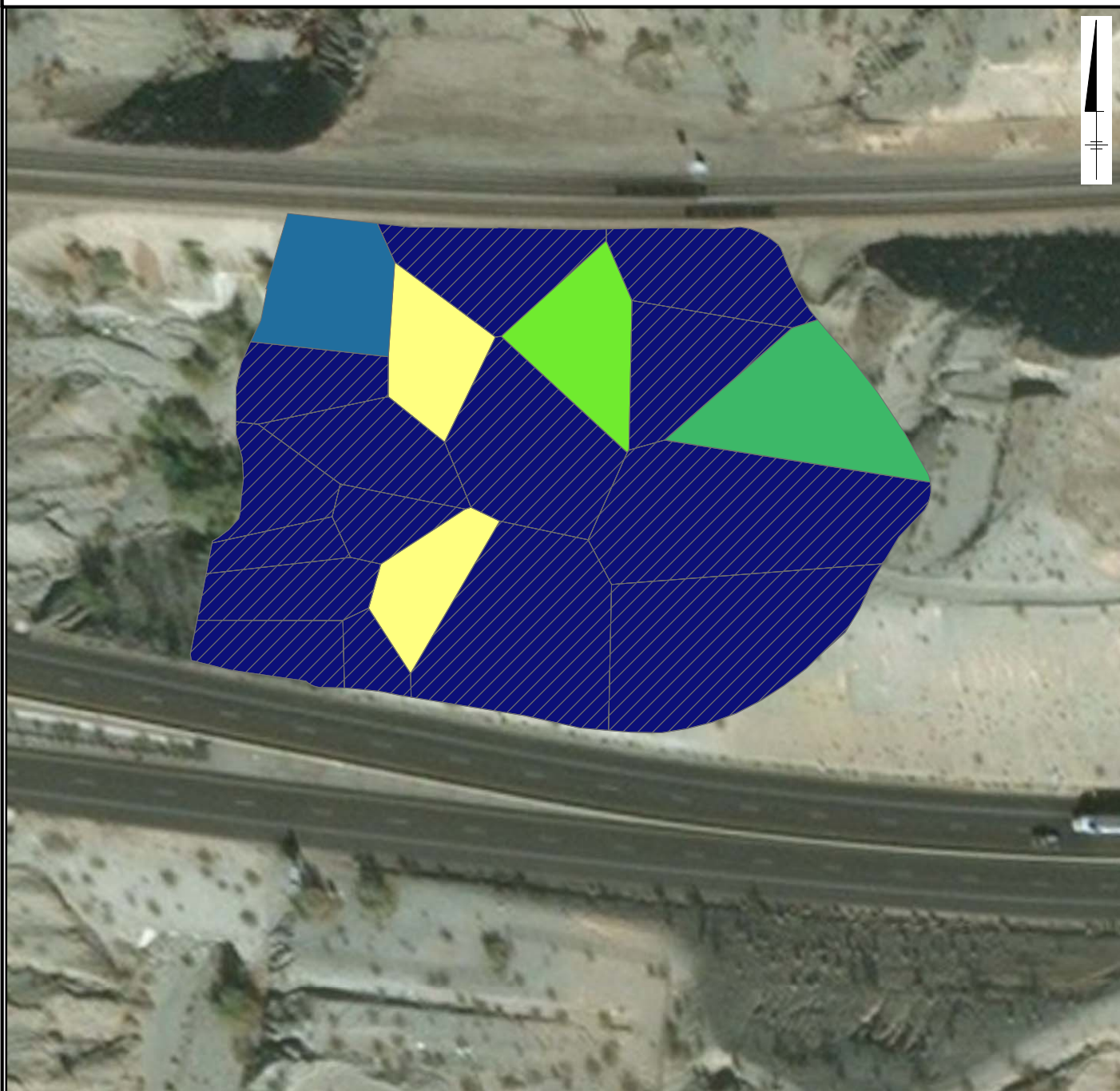
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**FIGURE
AOC14-A3.26**

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS DIESEL

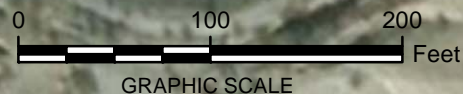


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 5.00
- ≥5.00 - 10.00
- ≥10.00 - 11.00
- ≥11.00 - 17.00
- ≥17.00 - 34.10

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC14-A3.27

AOC 14

0 - 0.5 FEET BELOW GROUND SURFACE

TPH AS MOTOR OIL



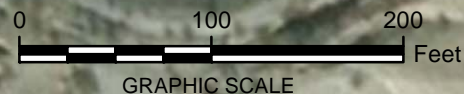
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

- NOT DETECTED
- 5.00 - 10.90
- ≥ 10.90 - 30.80
- ≥ 30.80 - 67.40
- ≥ 67.40 - 172.00
- ≥ 172.00 - 252.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



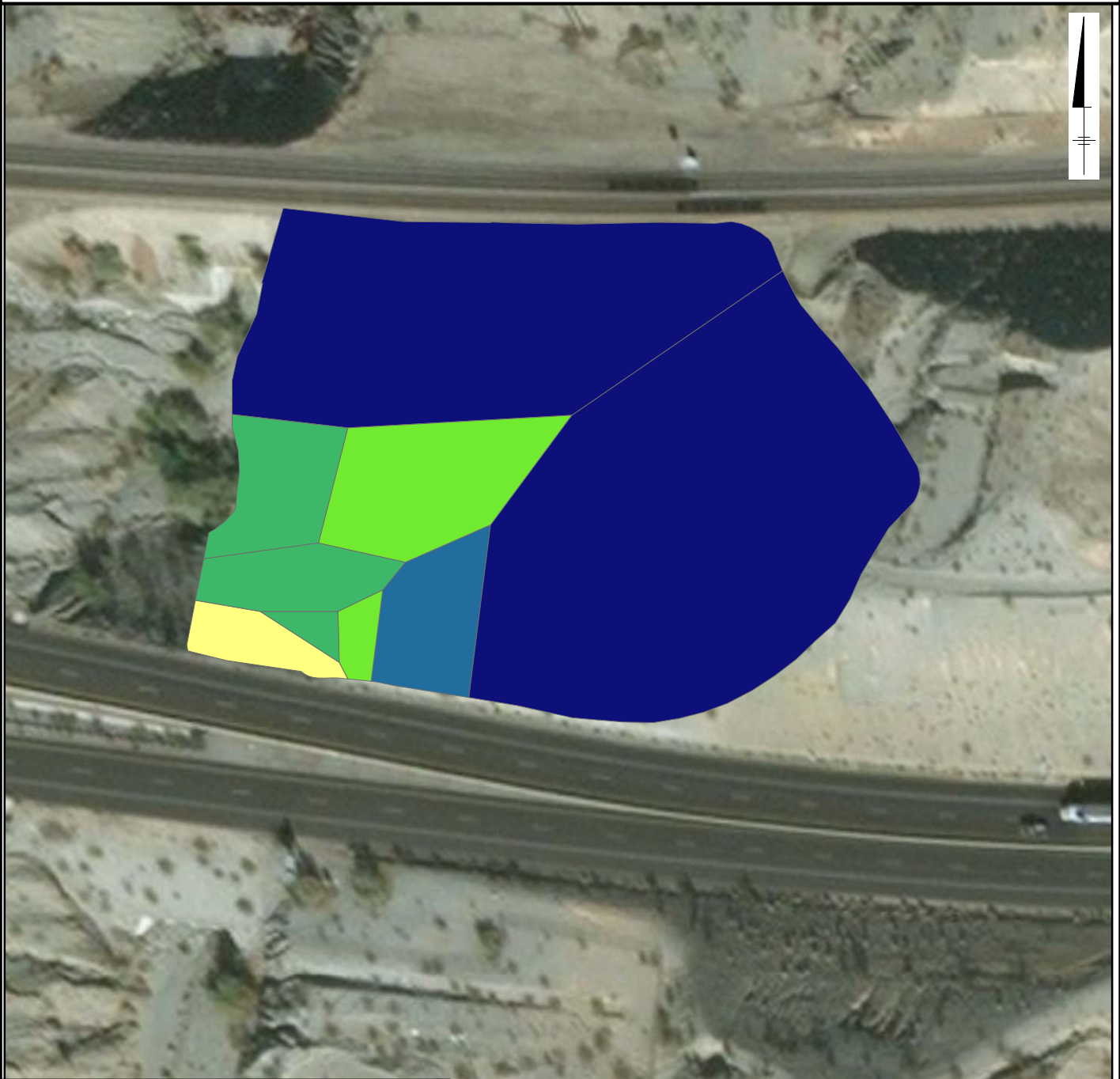
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FIGURE
AOC14-A3.28

AOC 14 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN

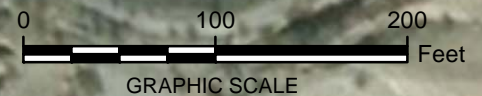


BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.36 - 0.42
	≥0.42 - 1.47
	≥1.47 - 2.60
	≥2.60 - 4.27
	≥4.27 - 210.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



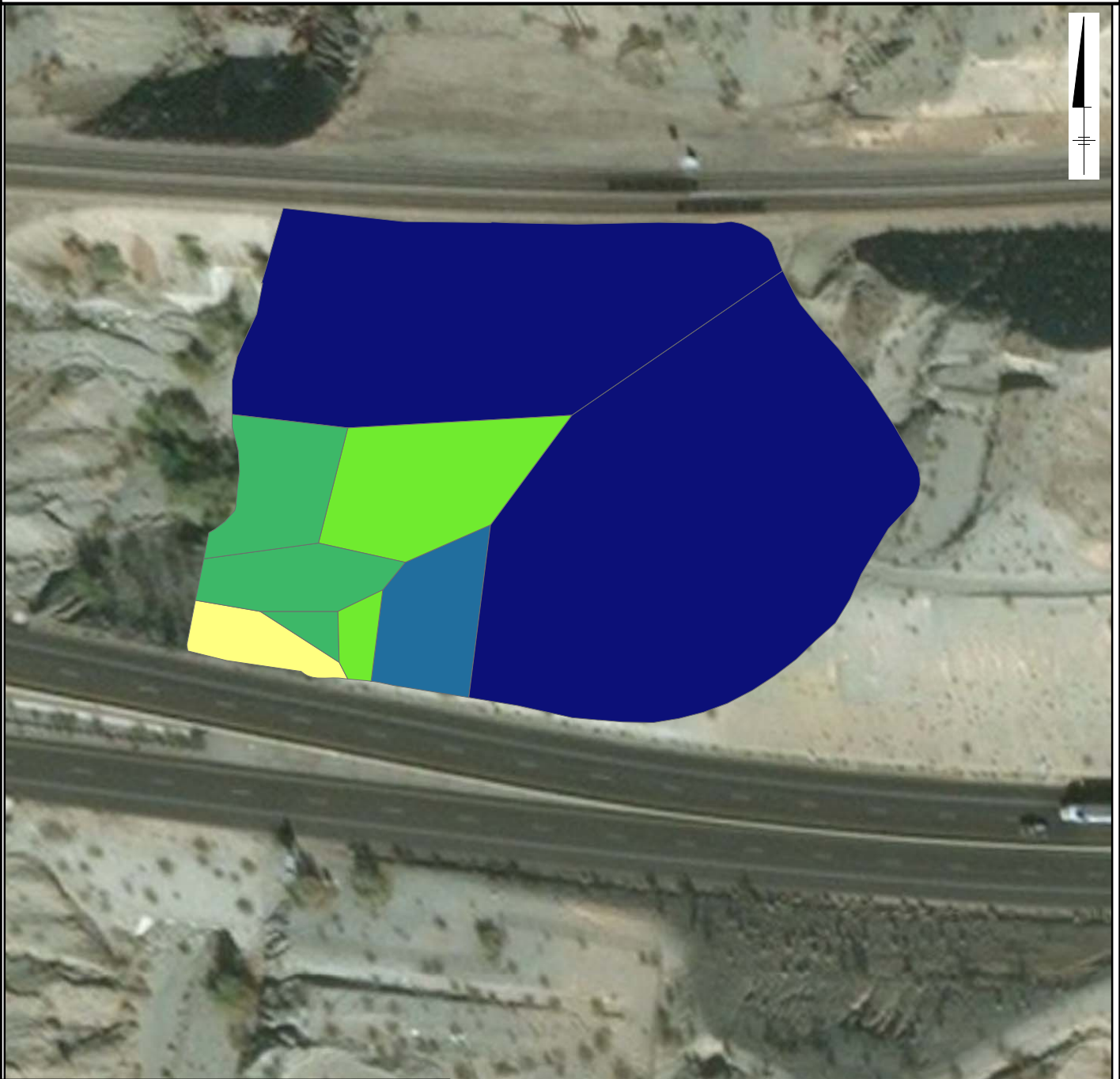
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FIGURE
AOC14-A3.29

AOC 14 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN

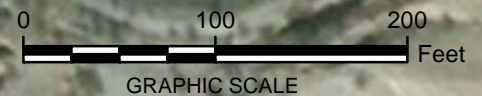


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

	NOT DETECTED
	0.34 - 0.60
	≥0.60 - 1.63
	≥1.63 - 4.03
	≥4.03 - 7.73
	≥7.73 - 140.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



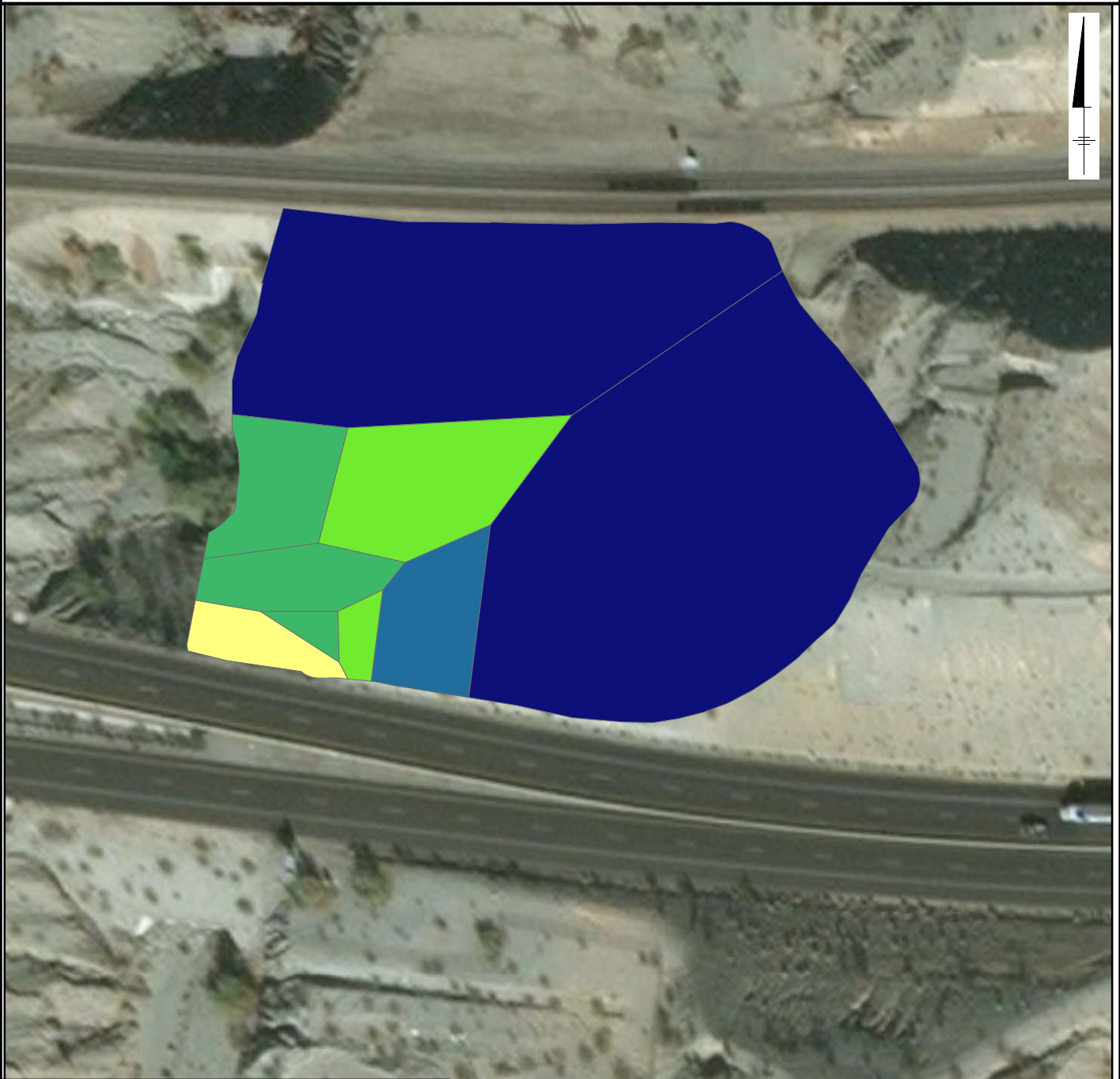
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FIGURE
AOC14-A3.30

AOC 14 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS

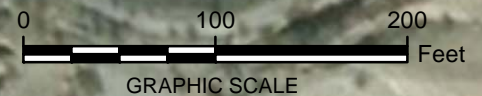


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.34 - 0.60
	≥0.60 - 1.63
	≥1.63 - 4.03
	≥4.03 - 7.73
	≥7.73 - 140.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



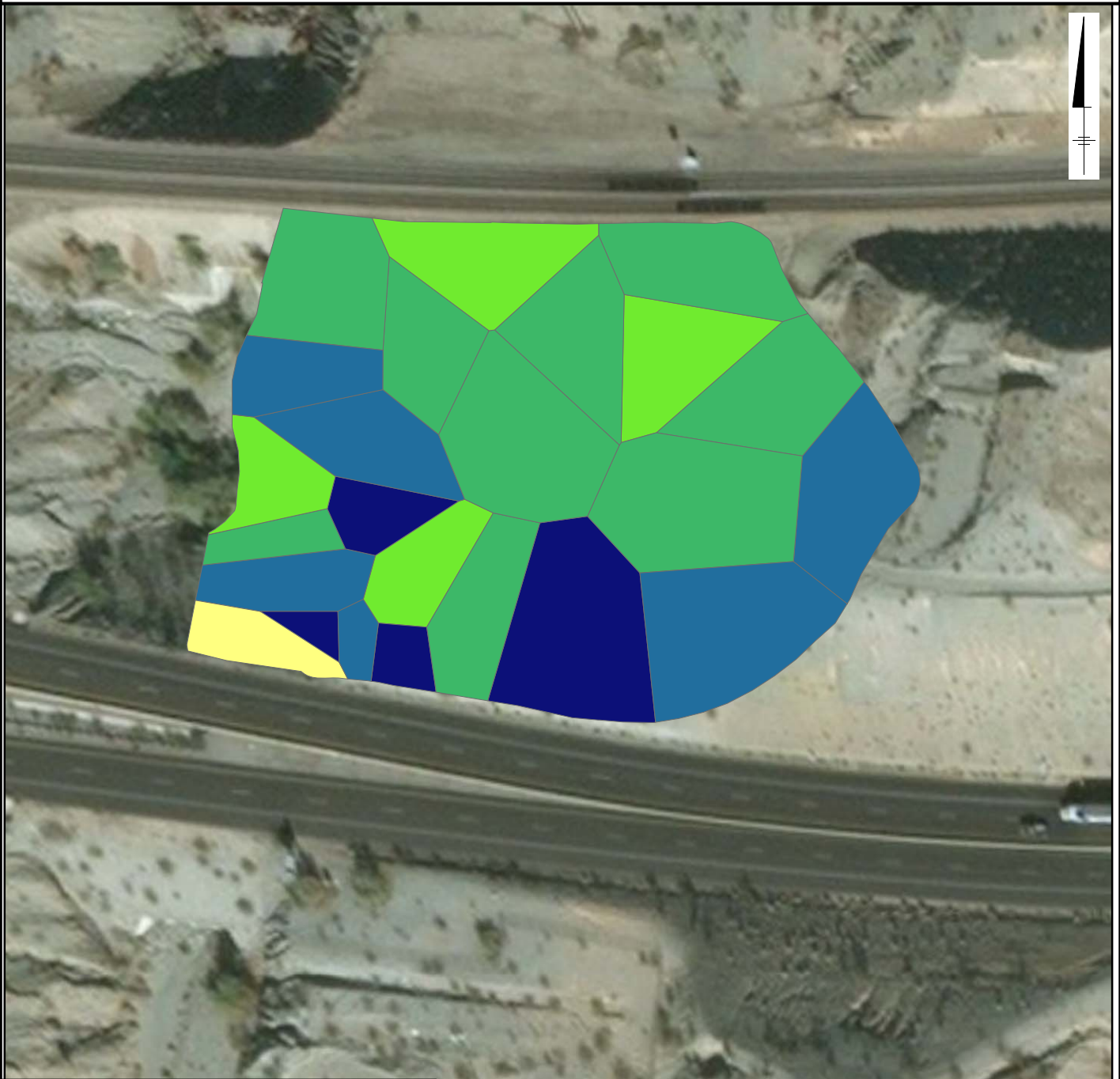
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FIGURE
AOC14-A3.31

AOC 14 0 - 3 FEET BELOW GROUND SURFACE ARSENIC

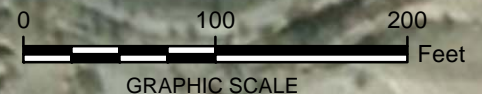


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.83 - 2.33
	≥2.33 - 3.93
	≥3.93 - 5.73
	≥5.73 - 7.73
	≥7.73 - 14.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



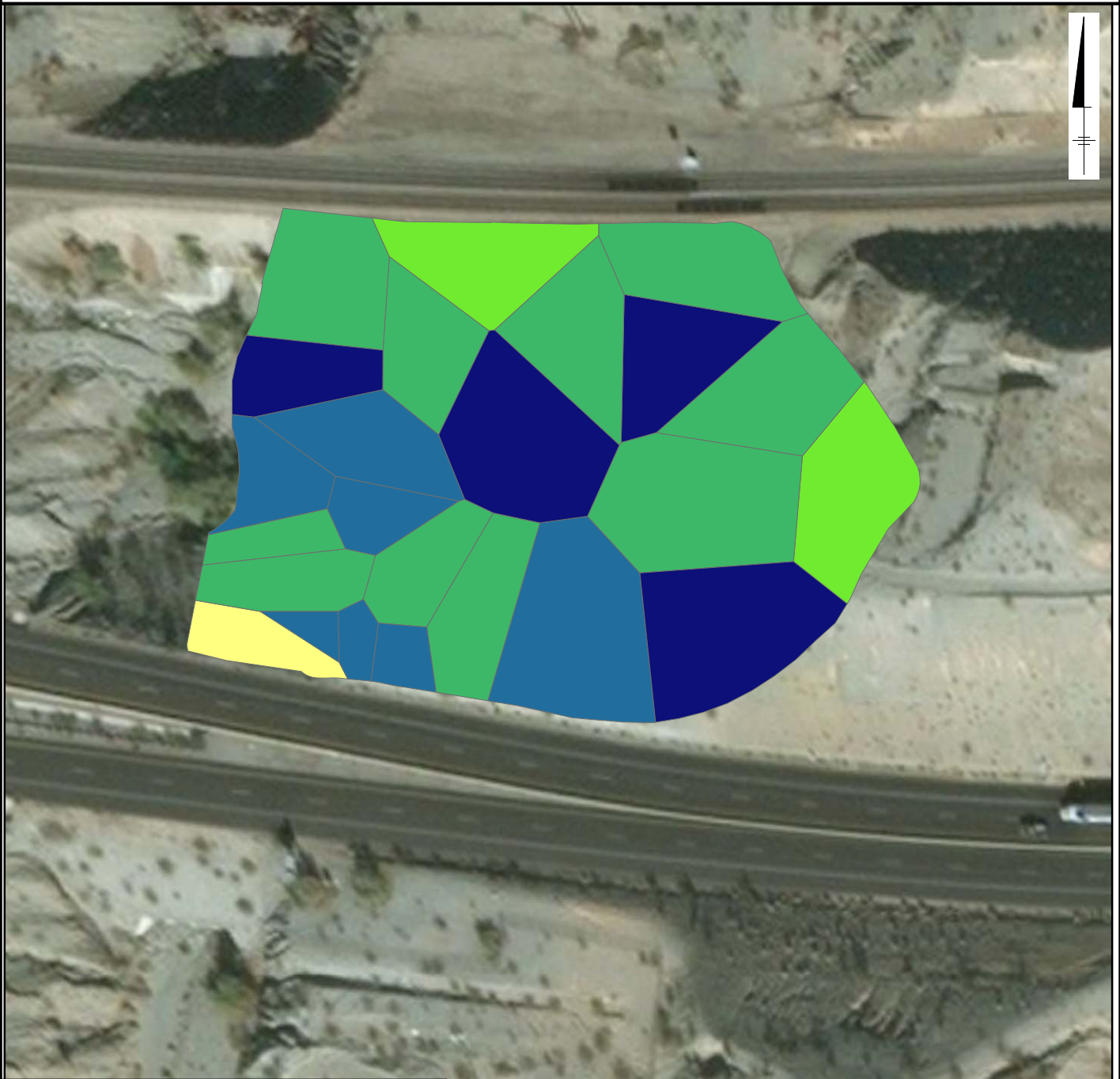
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FIGURE
AOC14-A3.32

AOC 14 0 - 3 FEET BELOW GROUND SURFACE BARIUM

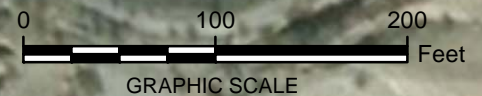


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

-  NOT DETECTED
-  67.70 - 109.00
-  ≥109.00 - 140.00
-  ≥140.00 - 200.00
-  ≥200.00 - 280.00
-  ≥280.00 - 410.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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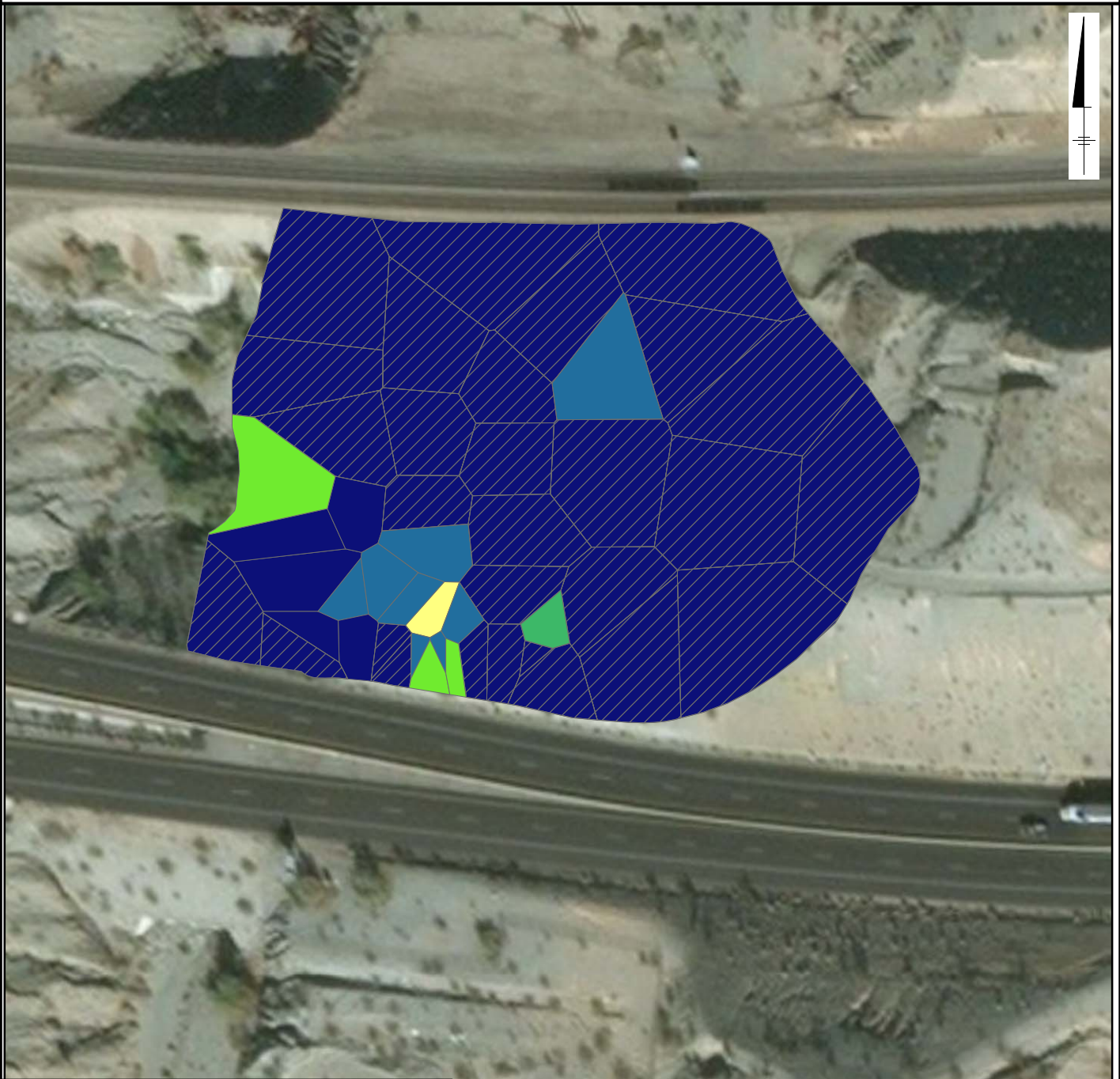


FIGURE
AOC14-A3.33

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT

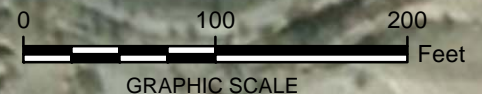


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.30
	≥ 0.30 - 1.00
	≥ 1.00 - 2.70
	≥ 2.70 - 6.73
	≥ 6.73 - 12.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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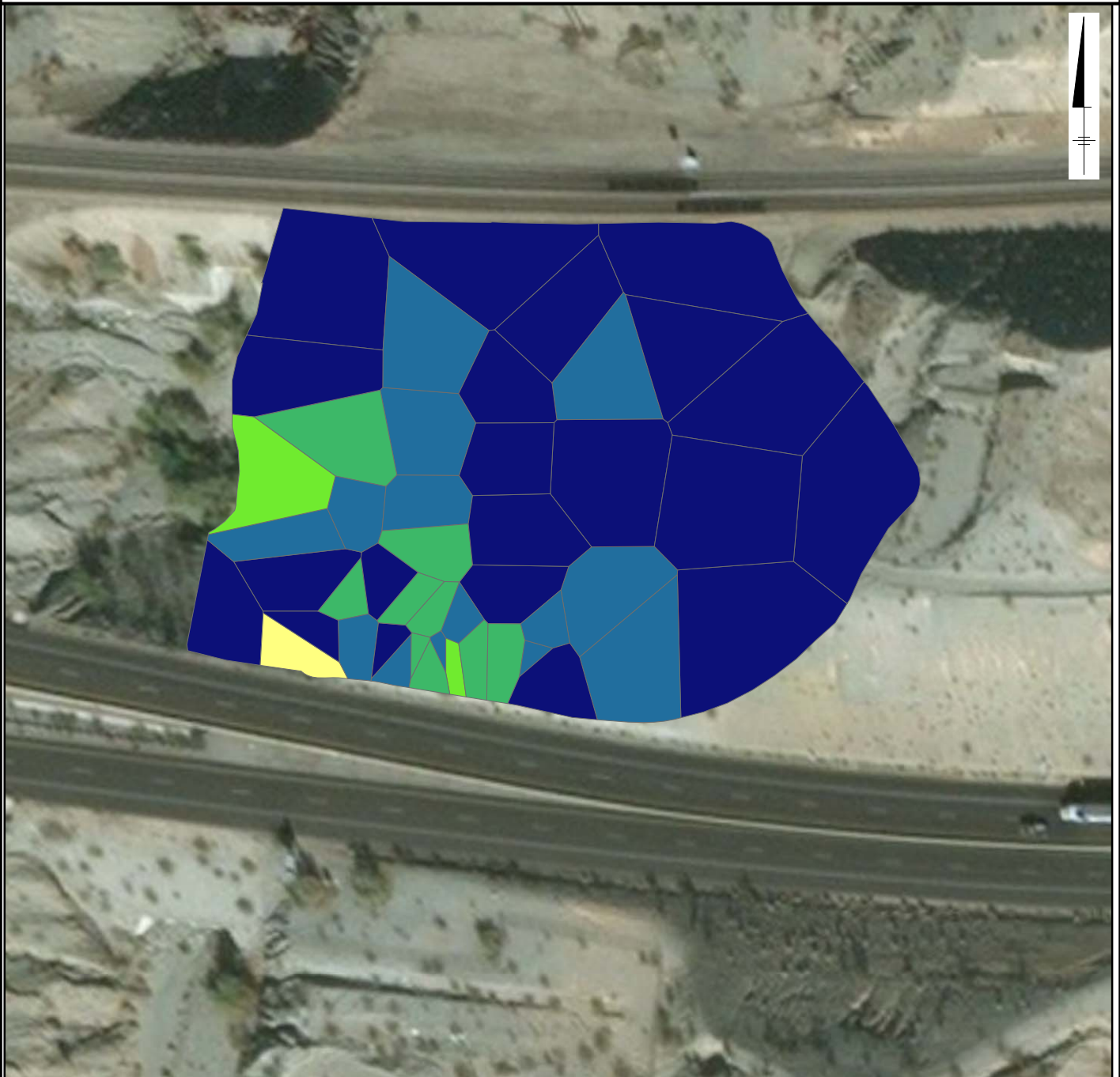
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FIGURE
AOC14-A3.34

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

CHROMIUM, TOTAL

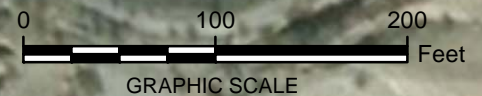


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	10.30 - 16.20
	≥16.20 - 25.00
	≥25.00 - 45.50
	≥45.50 - 129.00
	≥129.00 - 380.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



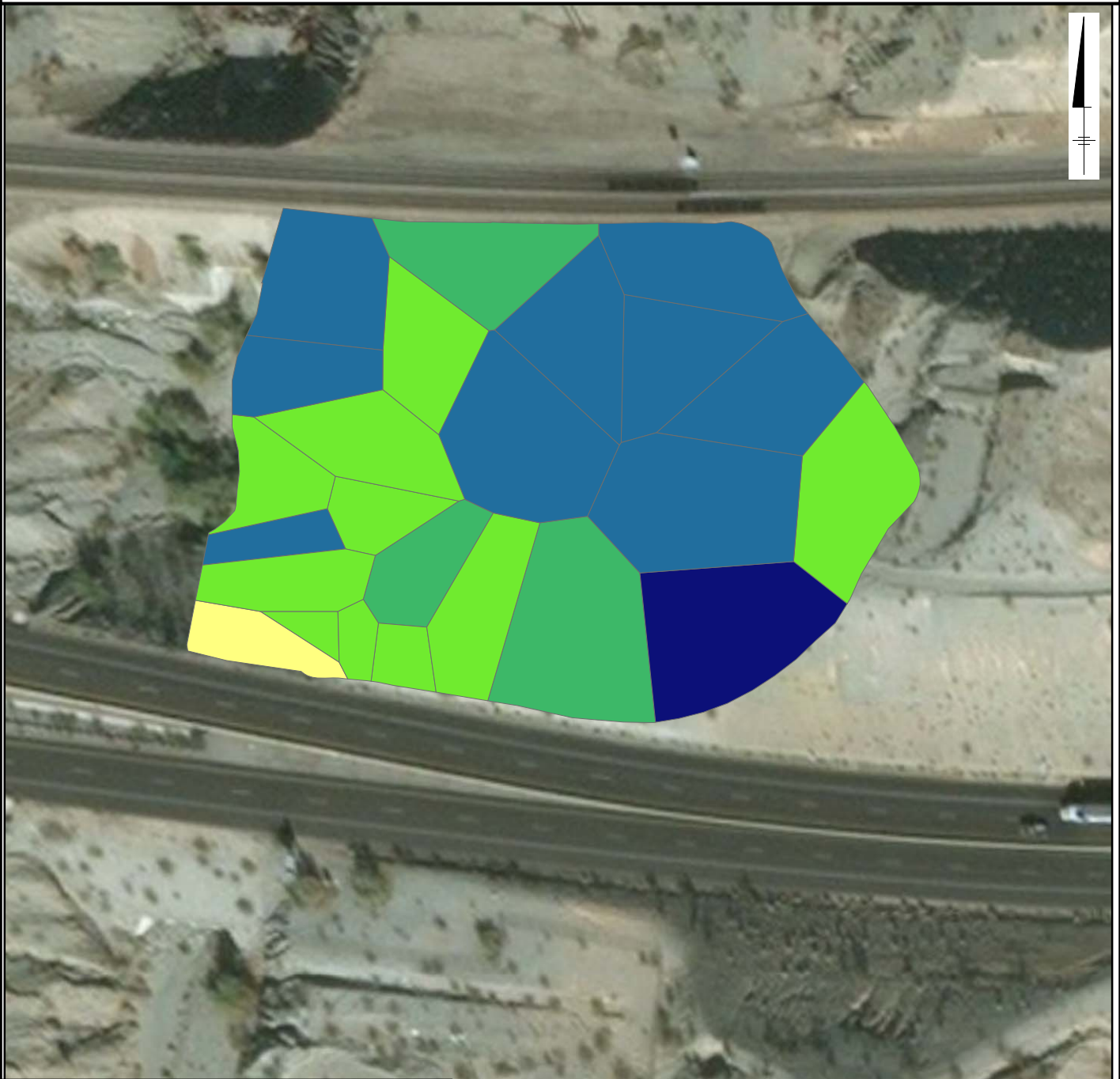
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FIGURE
AOC14-A3.35

AOC 14 0 - 3 FEET BELOW GROUND SURFACE COBALT

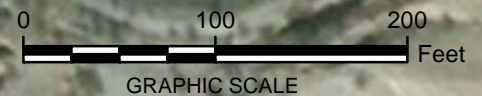


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	2.40 - 2.40
	≥2.40 - 5.67
	≥5.67 - 6.57
	≥6.57 - 7.80
	≥7.80 - 17.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



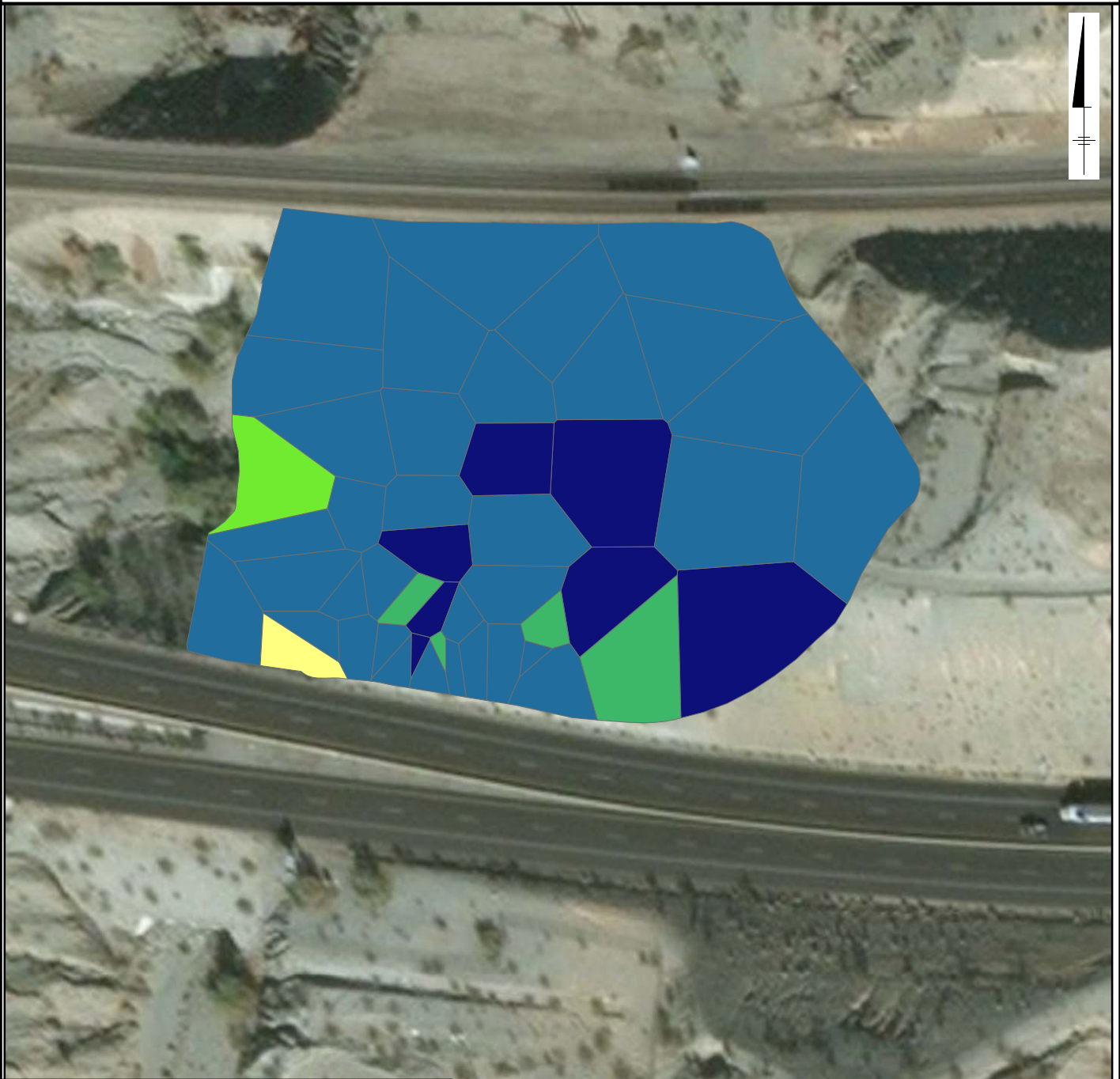
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FIGURE
AOC14-A3.36

AOC 14 0 - 3 FEET BELOW GROUND SURFACE COPPER

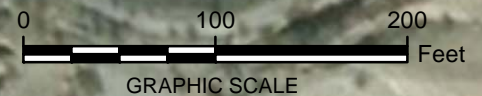


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 1.80 - 4.20
- ≥4.20 - 15.70
- ≥15.70 - 32.80
- ≥32.80 - 438.00
- ≥438.00 - 1800.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



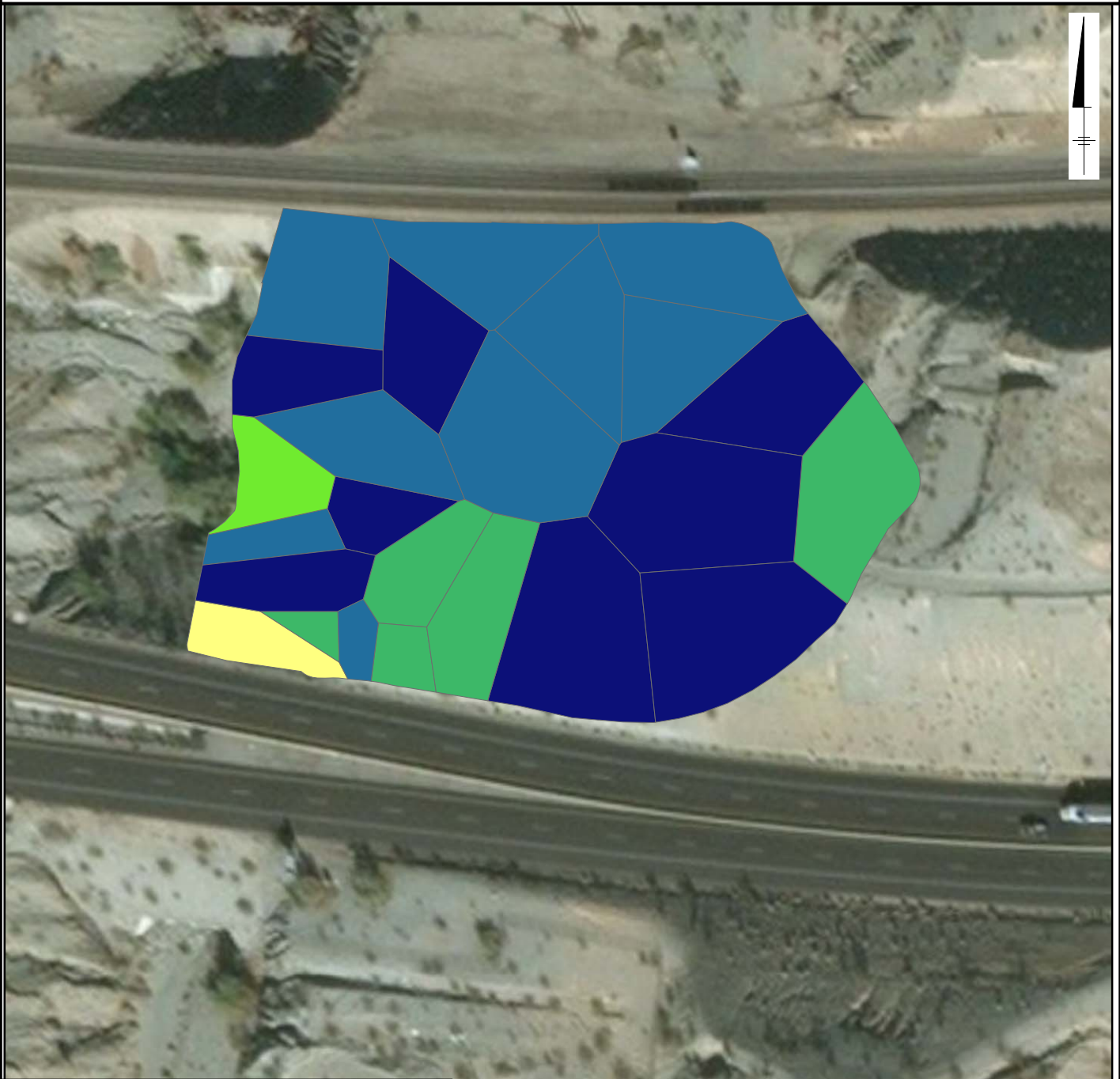
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FIGURE
AOC14-A3.37

AOC 14 0 - 3 FEET BELOW GROUND SURFACE LEAD

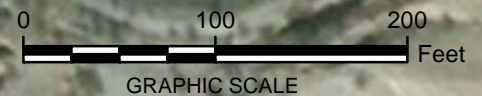


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

- NOT DETECTED
- 3.00 - 5.60
- ≥5.60 - 8.87
- ≥8.87 - 14.90
- ≥14.90 - 38.50
- ≥38.50 - 1600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



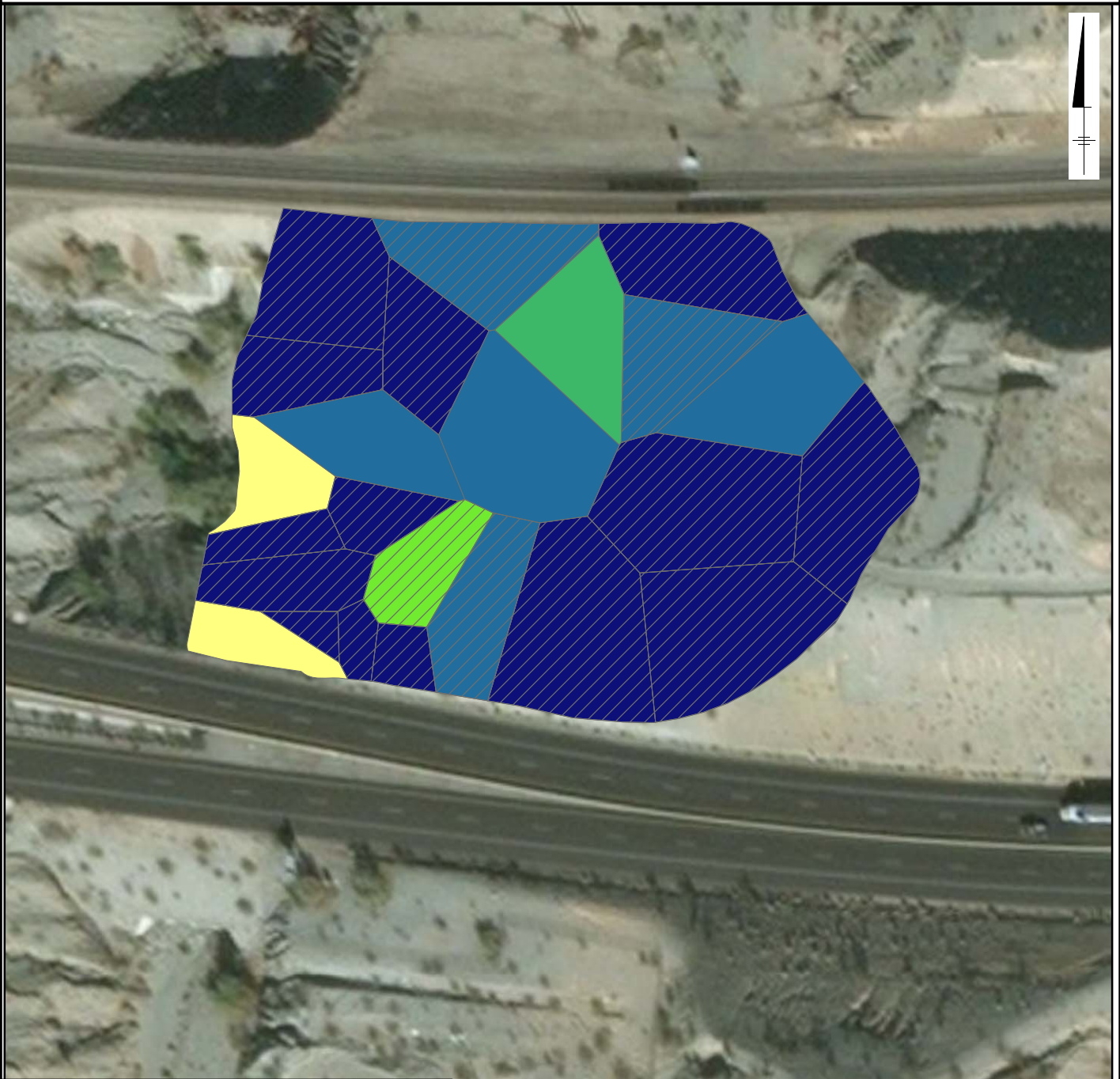
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FIGURE
AOC14-A3.38

AOC 14 0 - 3 FEET BELOW GROUND SURFACE MOLYBDENUM

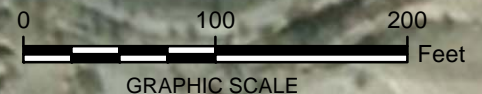


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.50 - 0.67
	≥0.67 - 1.23
	≥1.23 - 1.60
	≥1.60 - 2.50
	≥2.50 - 21.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



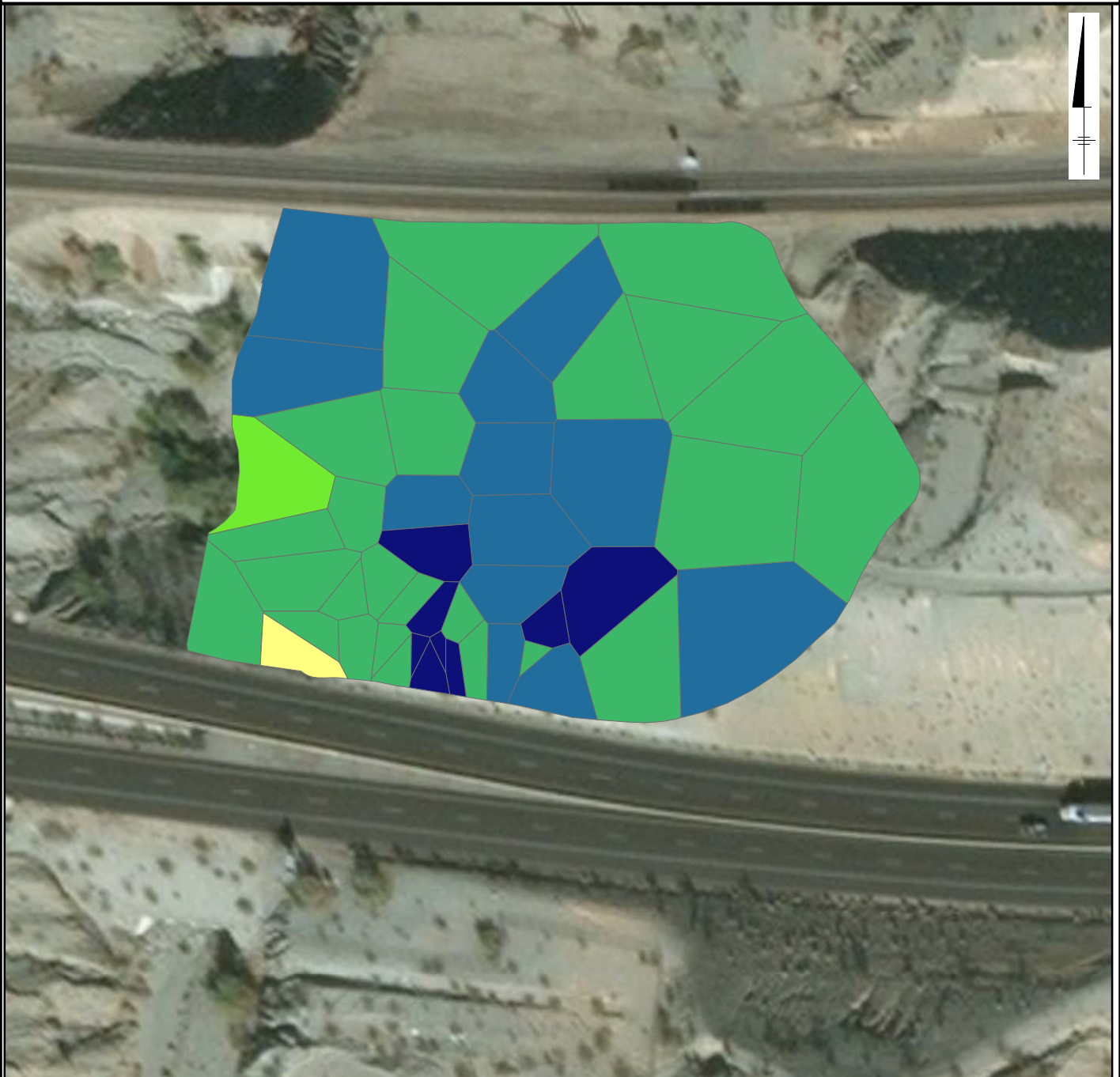
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FIGURE
AOC14-A3.39

AOC 14 0 - 3 FEET BELOW GROUND SURFACE NICKEL

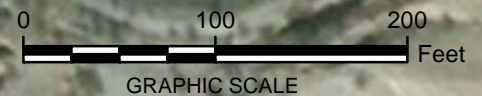


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	0.28 - 2.20
	≥2.20 - 8.73
	≥8.73 - 14.00
	≥14.00 - 62.30
	≥62.30 - 270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



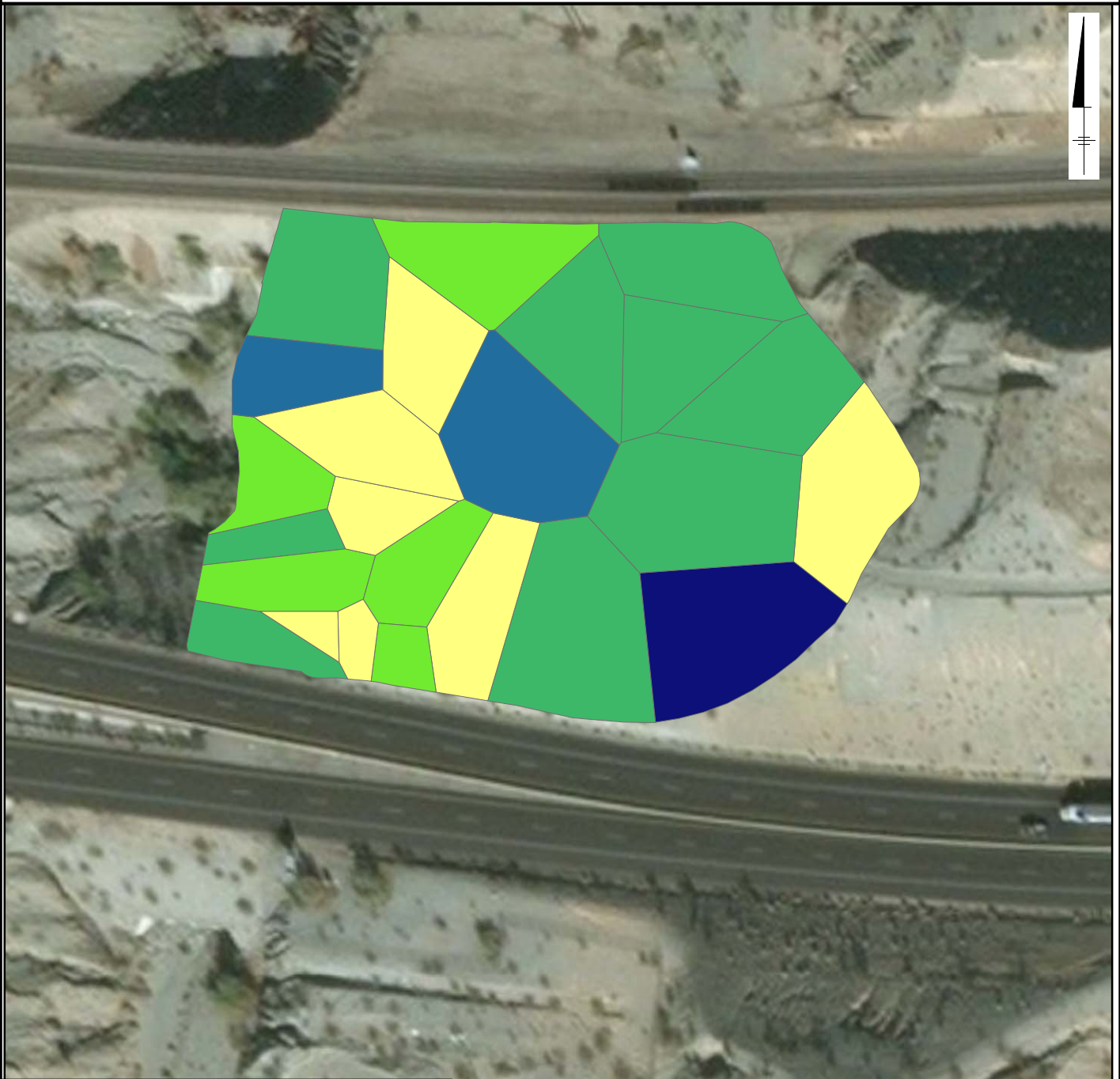
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FIGURE
AOC14-A3.40

AOC 14 0 - 3 FEET BELOW GROUND SURFACE VANADIUM

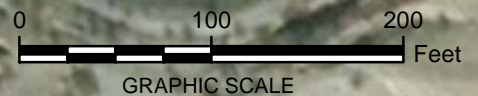


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	12.30 - 12.30
	≥12.30 - 20.70
	≥20.70 - 25.00
	≥25.00 - 28.70
	≥28.70 - 32.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



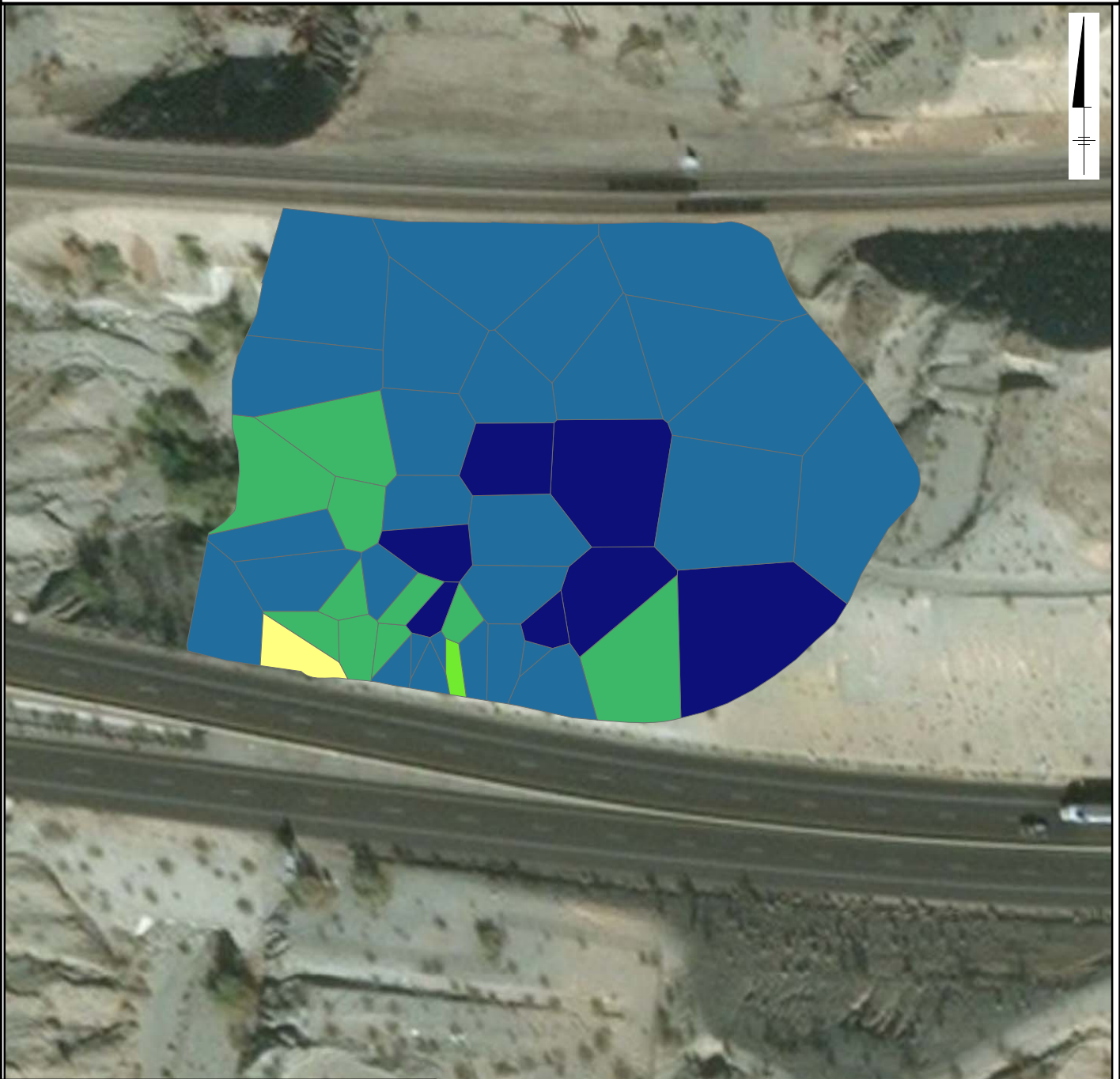
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FIGURE
AOC14-A3.41

AOC 14 0 - 3 FEET BELOW GROUND SURFACE ZINC

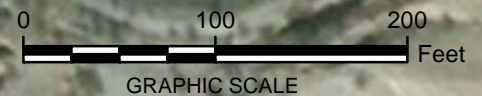


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	8.08 - 18.00
	≥18.00 - 40.90
	≥40.90 - 62.30
	≥62.30 - 243.00
	≥243.00 - 2000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



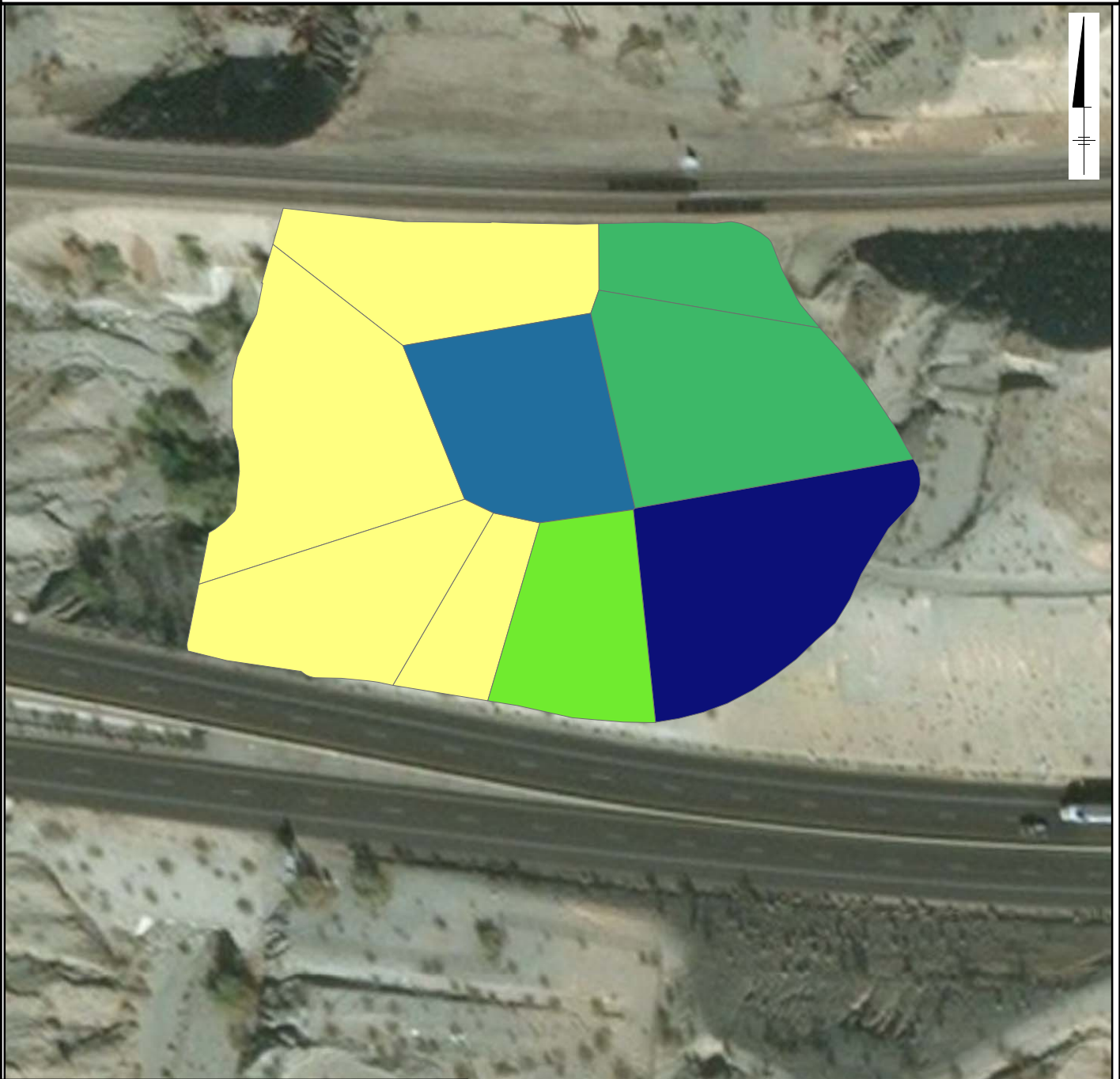
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FIGURE
AOC14-A3.42

AOC 14 0 - 3 FEET BELOW GROUND SURFACE ALUMINUM

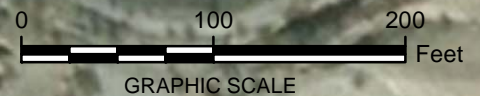


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

	NOT DETECTED
	3000.00 - 3000.00
	≥3000.00 - 5400.00
	≥5400.00 - 6800.00
	≥6800.00 - 7700.00
	≥7700.00 - 9000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



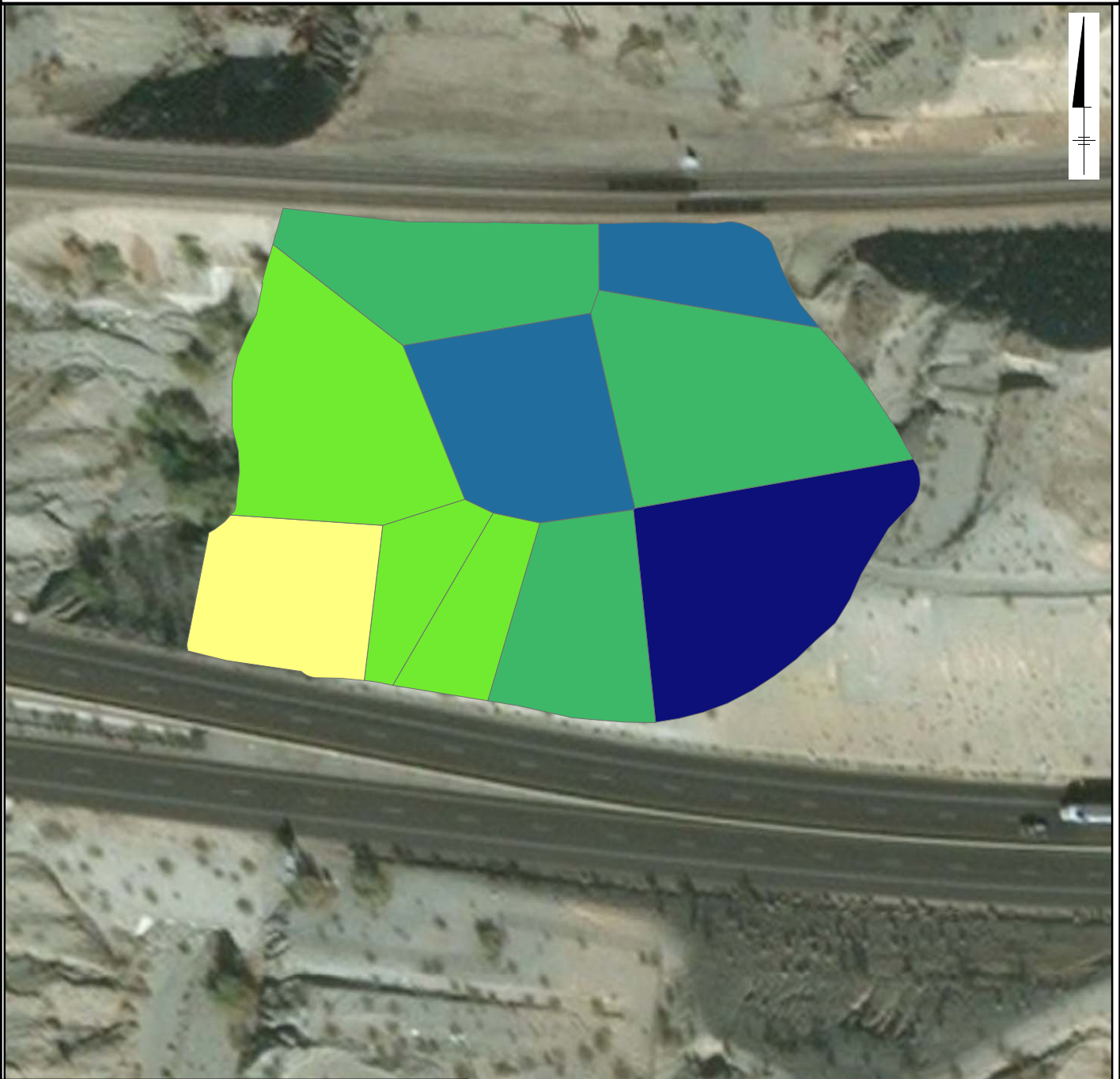
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FIGURE
AOC14-A3.43

AOC 14 0 - 3 FEET BELOW GROUND SURFACE IRON

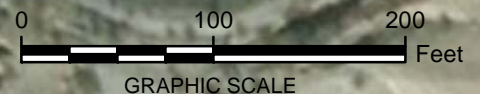


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	6800.00 - 6800.00
	≥6800.00 - 13000.00
	≥13000.00 - 17000.00
	≥17000.00 - 20000.00
	≥20000.00 - 23100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



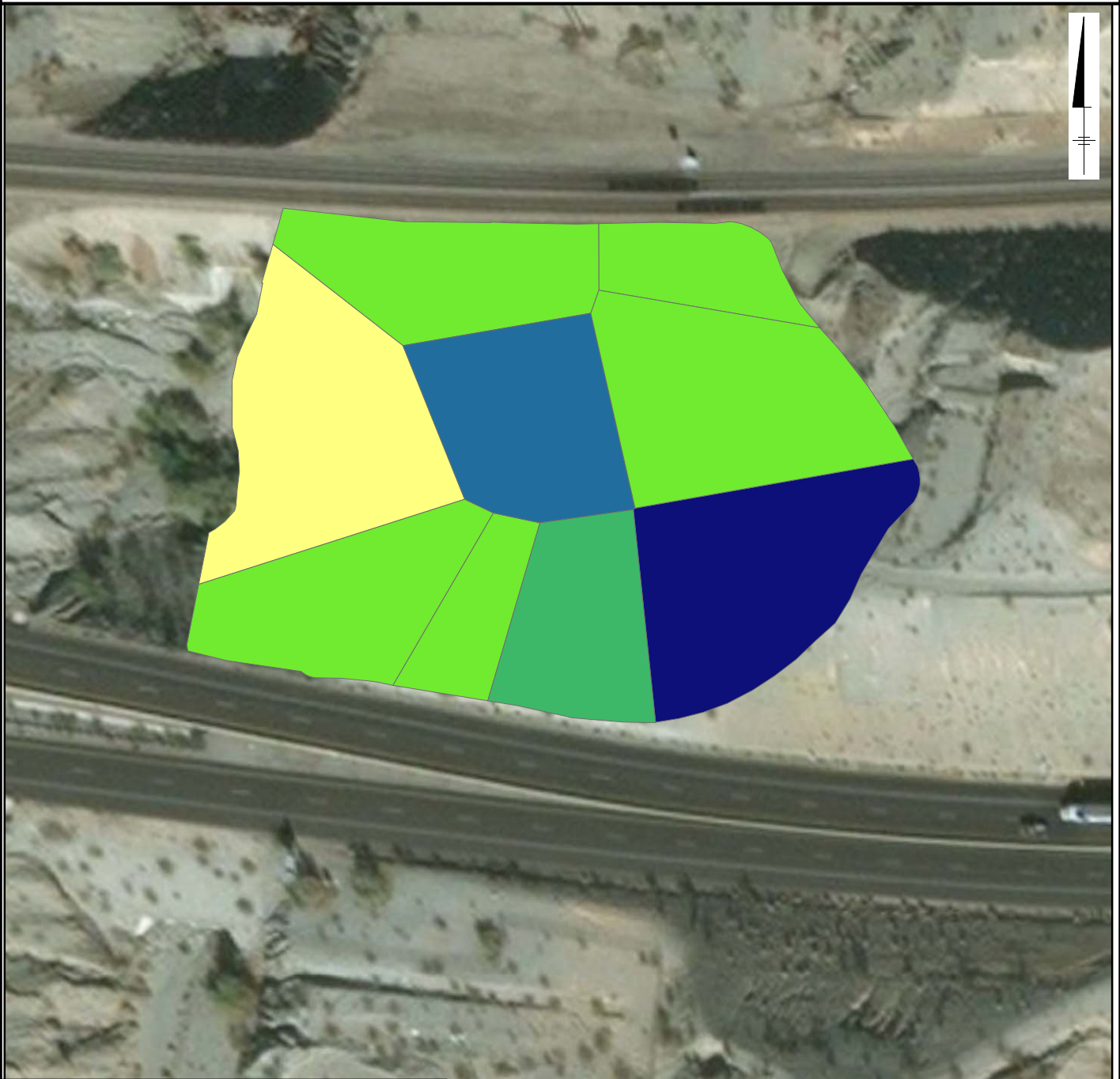
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FIGURE
AOC14-A3.44

AOC 14 0 - 3 FEET BELOW GROUND SURFACE MANGANESE

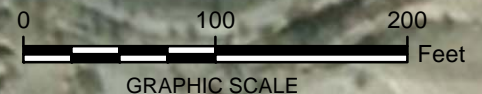


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	120.00 - 120.00
	≥ 120.00 - 170.00
	≥ 170.00 - 230.00
	≥ 230.00 - 270.00
	≥ 270.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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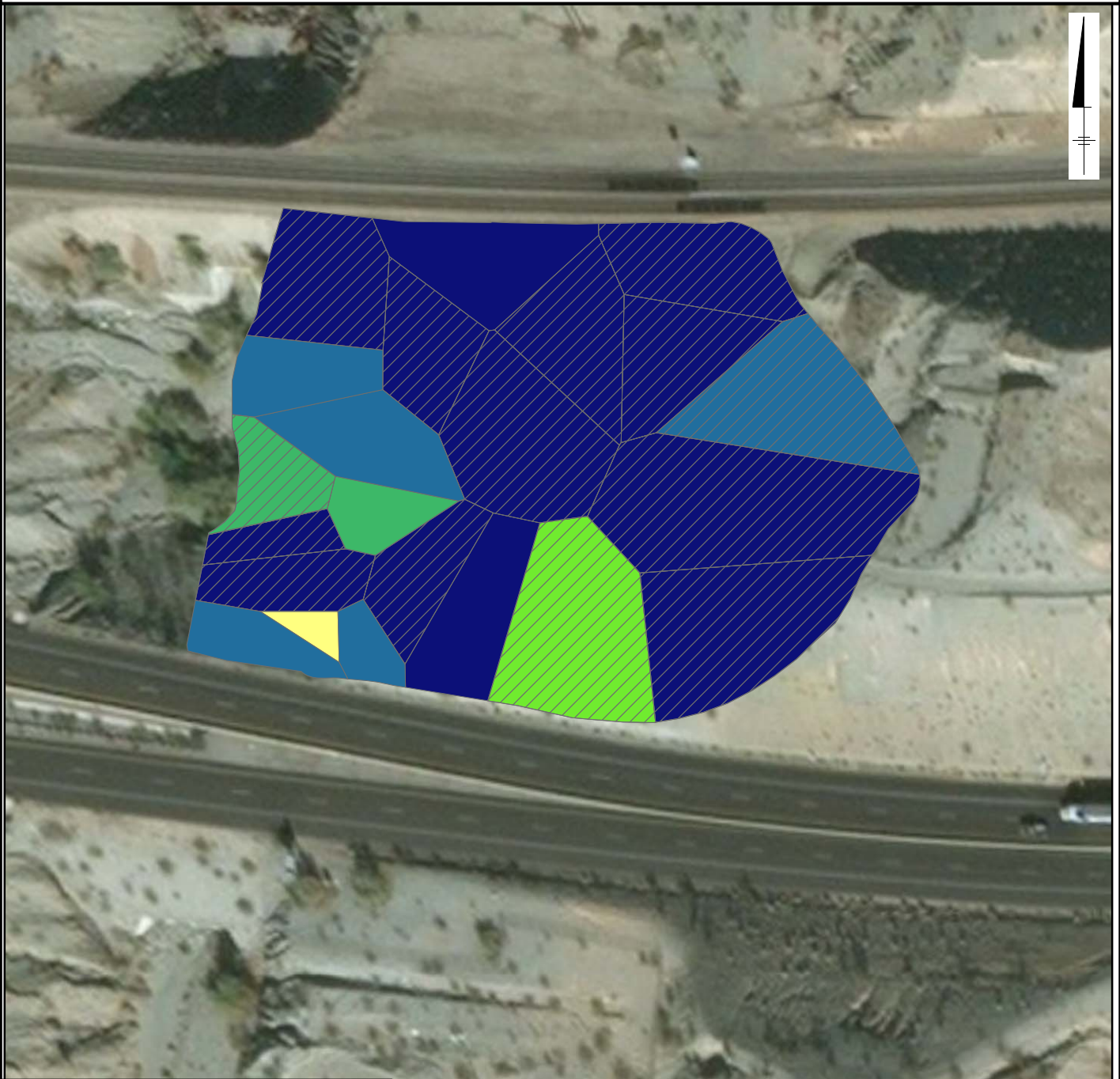


FIGURE
AOC14-A3.45

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

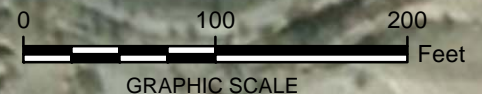


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 4.72
	≥4.72 - 12.00
	≥12.00 - 21.30
	≥21.30 - 165.00
	≥165.00 - 668.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



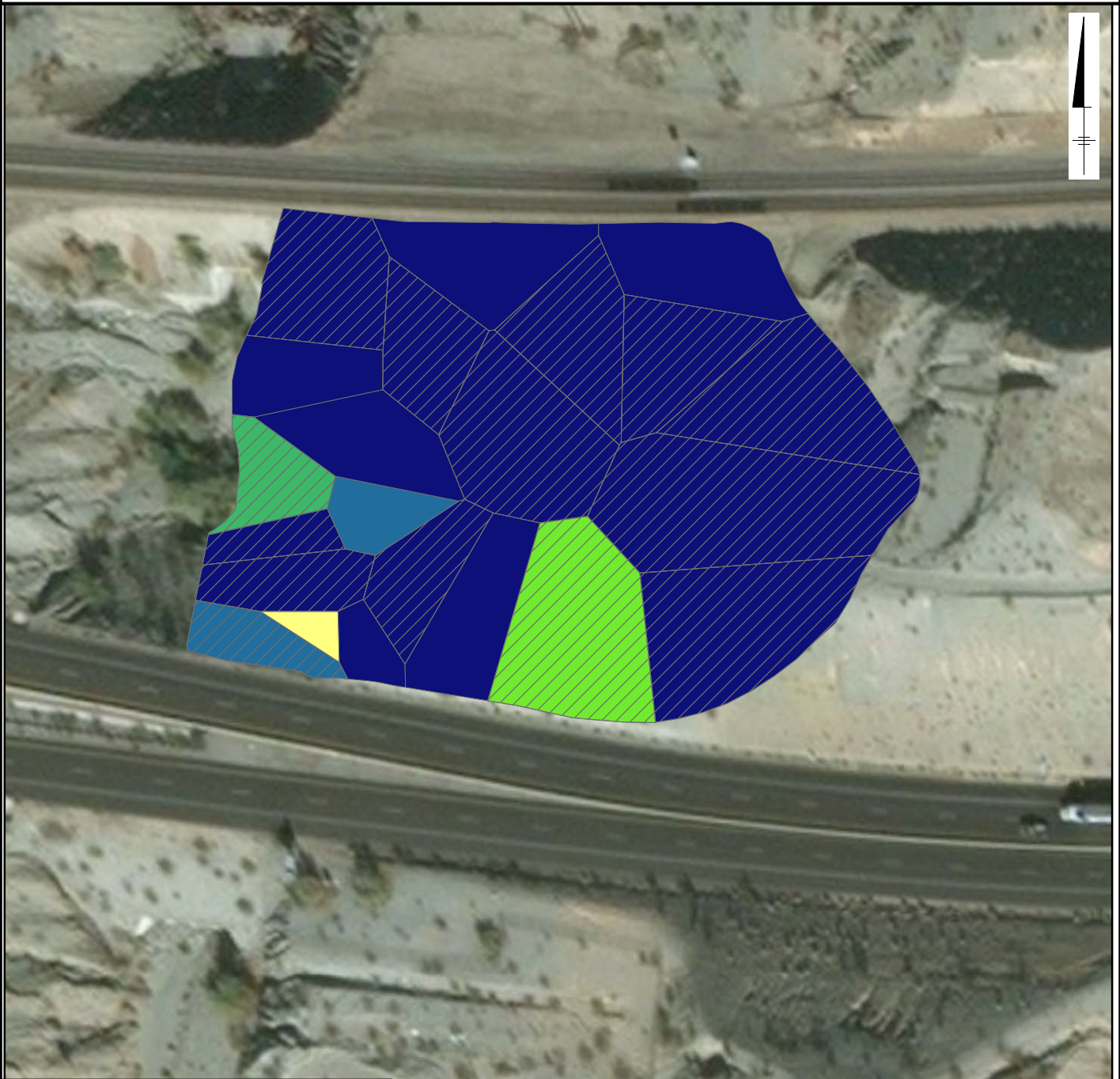
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FIGURE
AOC14-A3.46

AOC 14 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

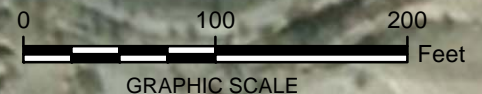


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 9.18
	≥9.18 - 26.00
	≥26.00 - 60.30
	≥60.30 - 165.00
	≥165.00 - 368.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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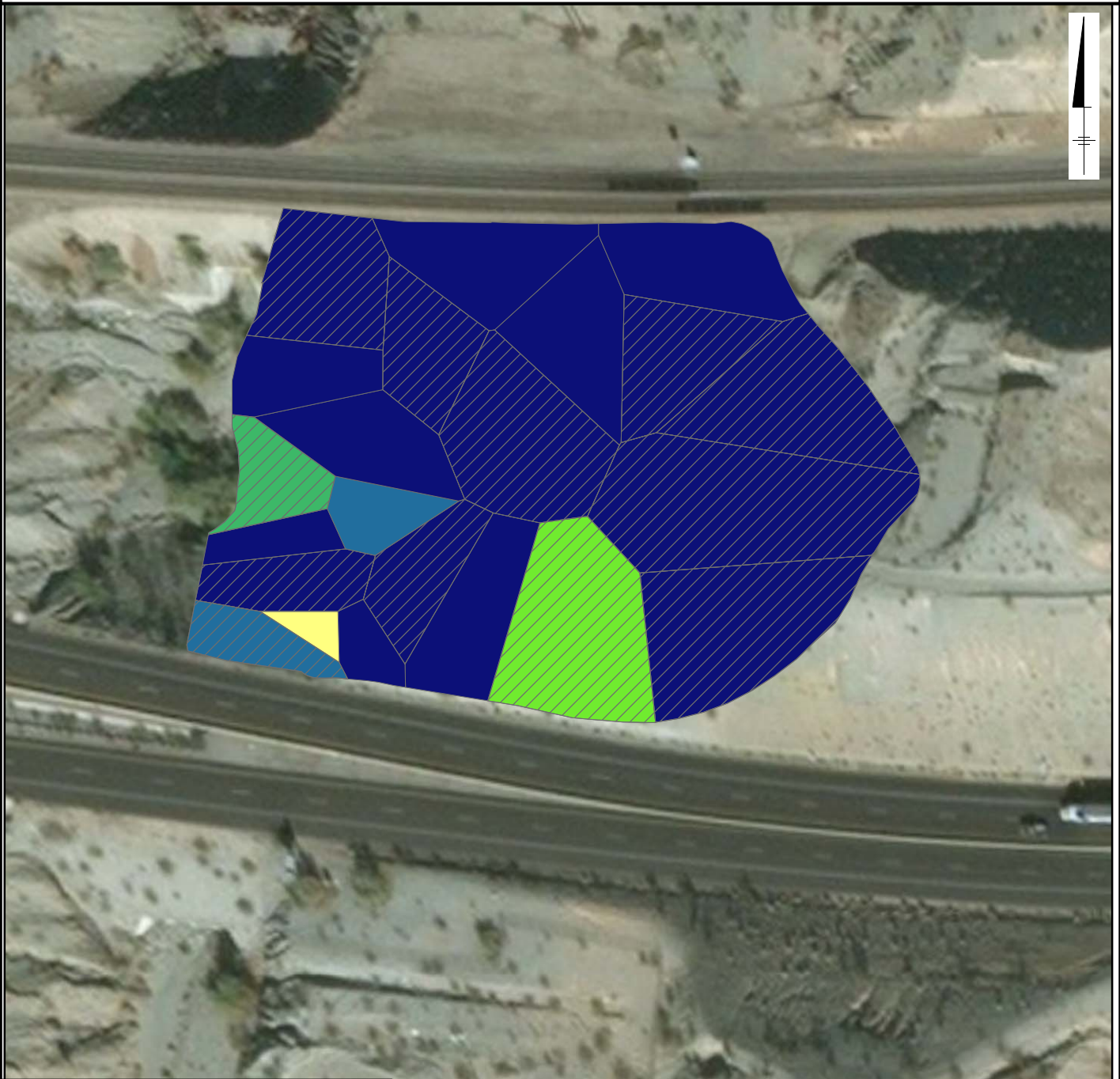


FIGURE
AOC14-A3.47

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE

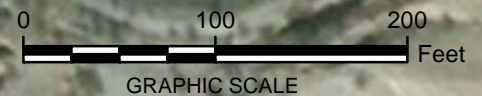


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 12.00
	≥ 12.00 - 26.00
	≥ 26.00 - 60.30
	≥ 60.30 - 165.00
	≥ 165.00 - 561.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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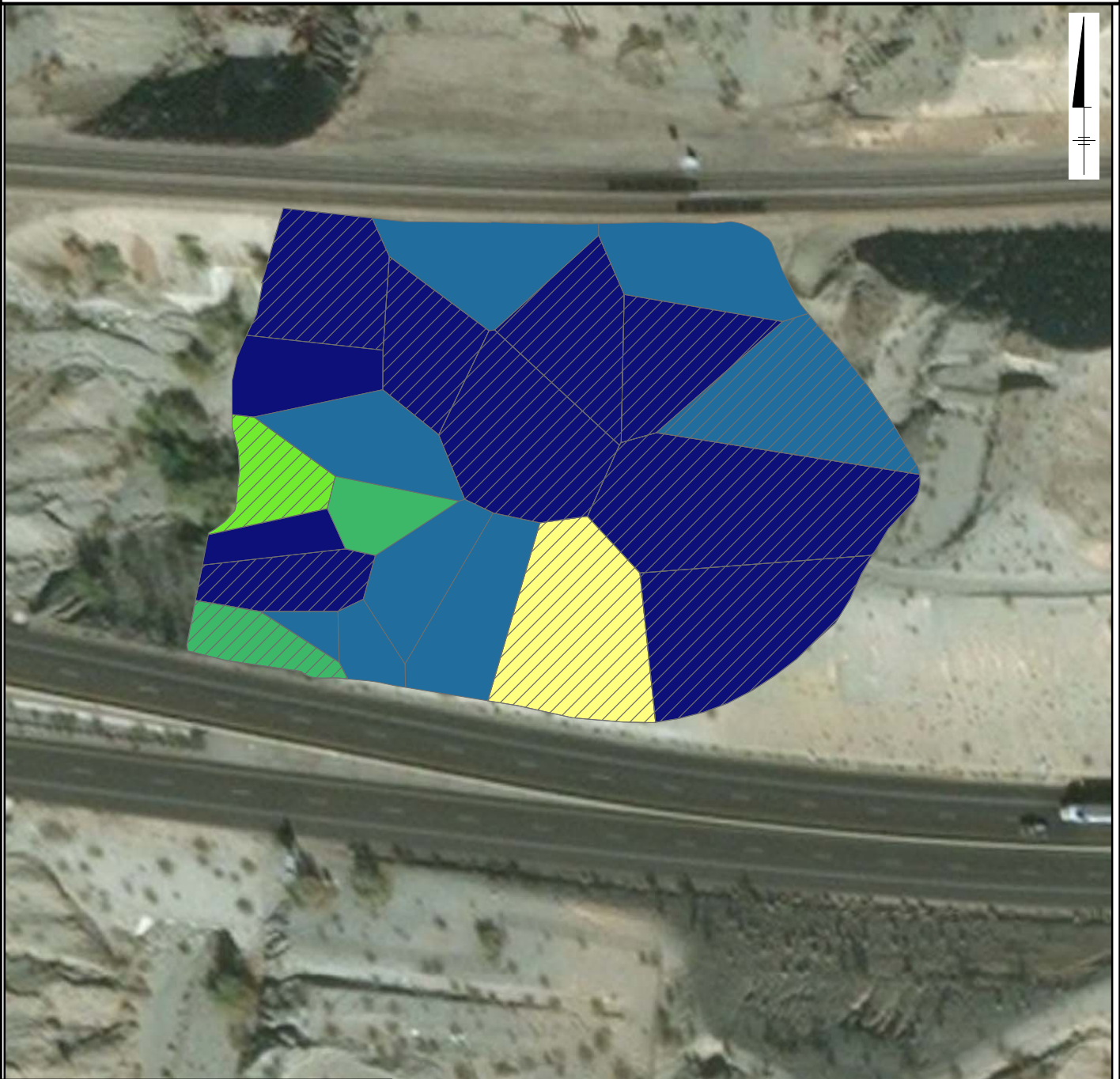


FIGURE
AOC14-A3.48

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE

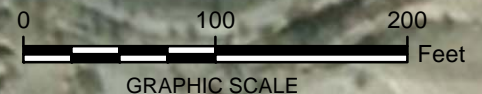


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 4.83
	≥4.83 - 9.18
	≥9.18 - 26.00
	≥26.00 - 60.30
	≥60.30 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



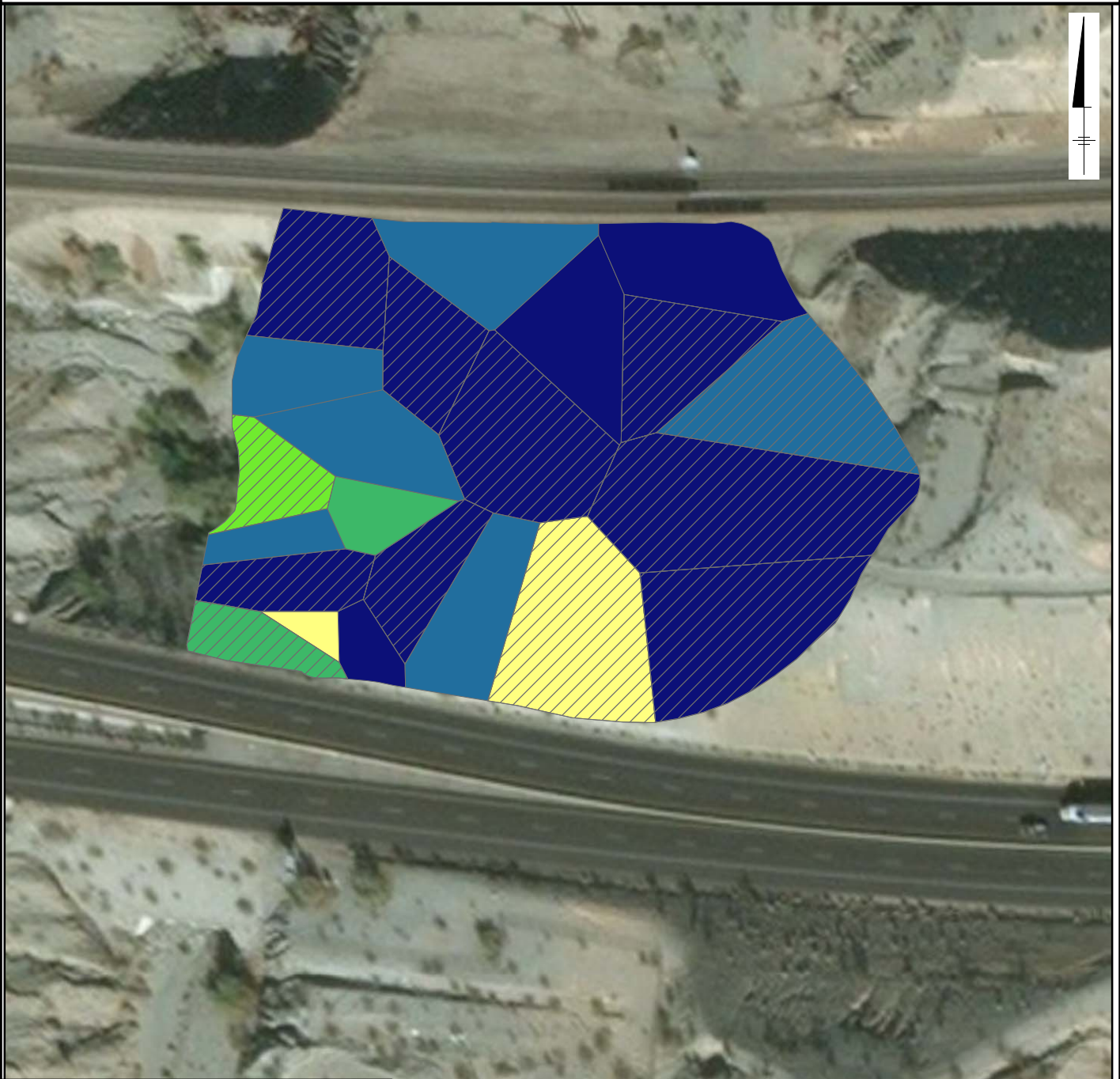
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FIGURE
AOC14-A3.49

AOC 14 0 - 3 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

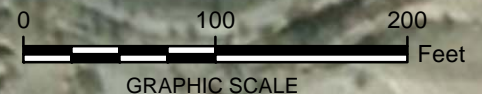


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 5.12
	≥5.12 - 9.18
	≥9.18 - 26.00
	≥26.00 - 60.30
	≥60.30 - 241.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



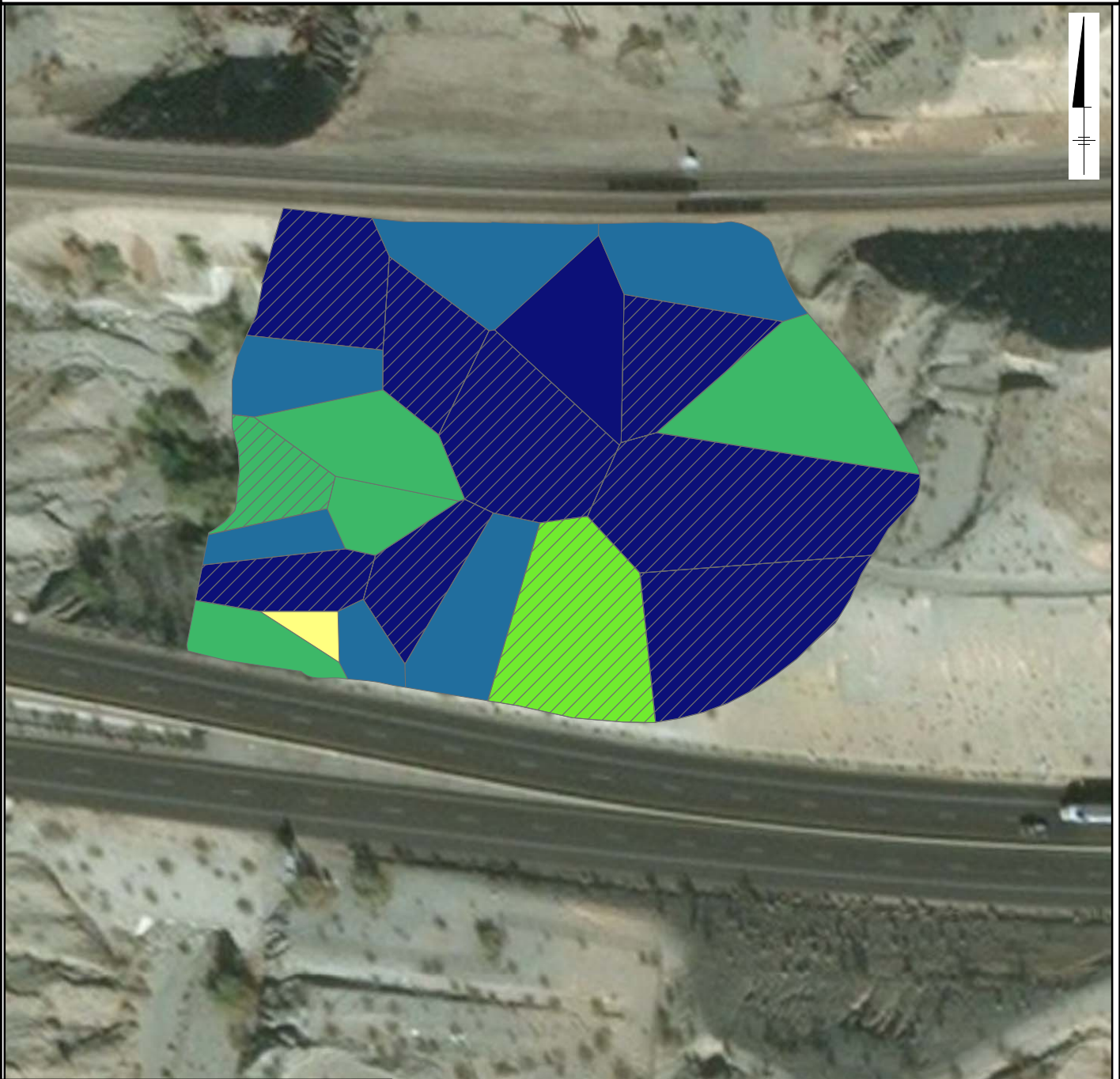
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FIGURE
AOC14-A3.50

AOC 14 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE

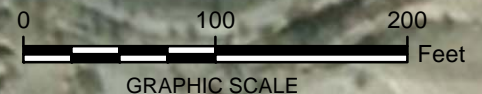


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 4.30
- ≥4.30 - 9.67
- ≥9.67 - 21.30
- ≥21.30 - 165.00
- ≥165.00 - 734.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



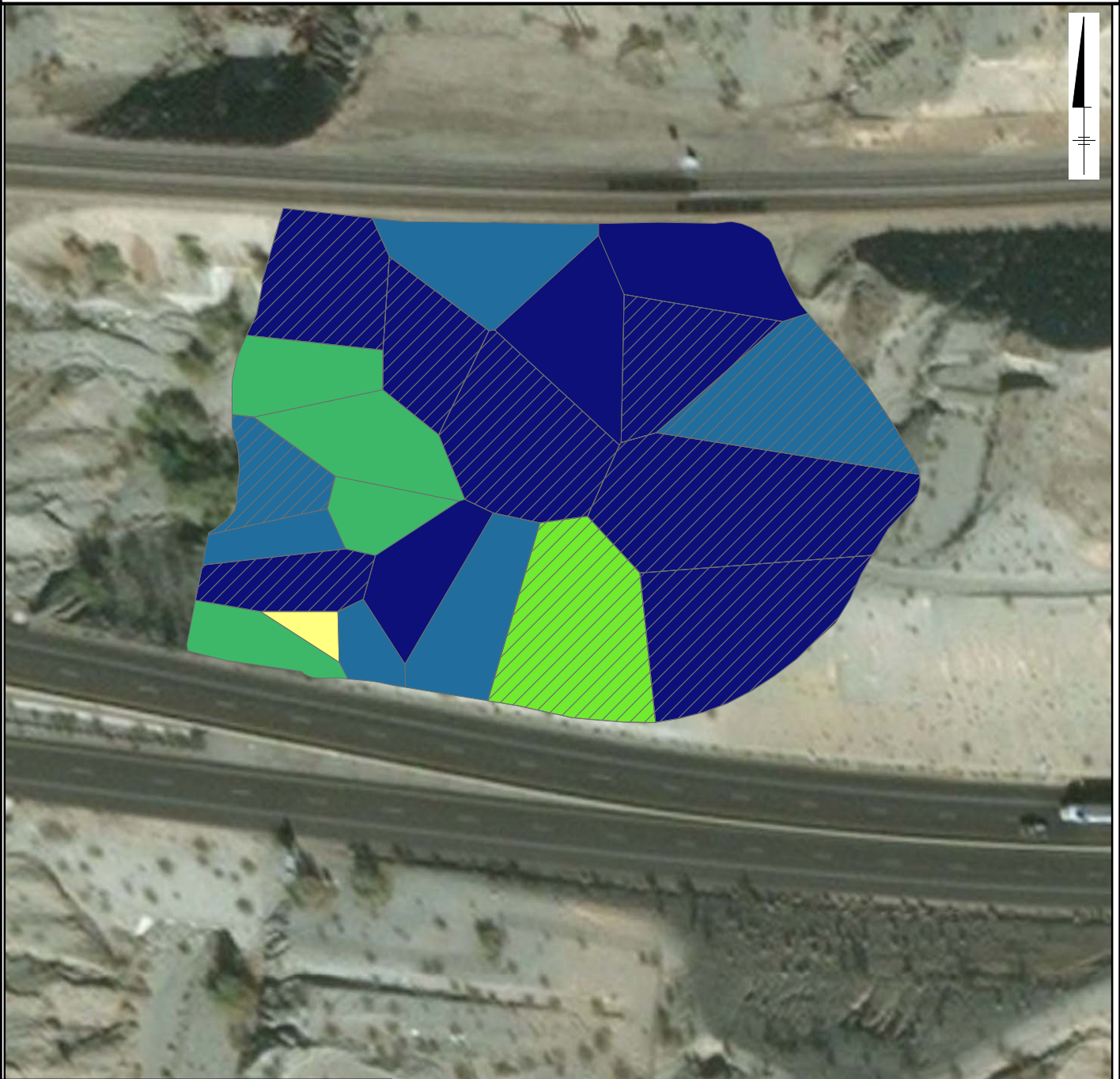
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FIGURE
AOC14-A3.51

AOC 14 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE

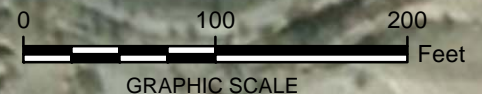


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 4.83
- ≥4.83 - 10.70
- ≥10.70 - 27.30
- ≥27.30 - 165.00
- ≥165.00 - 1400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



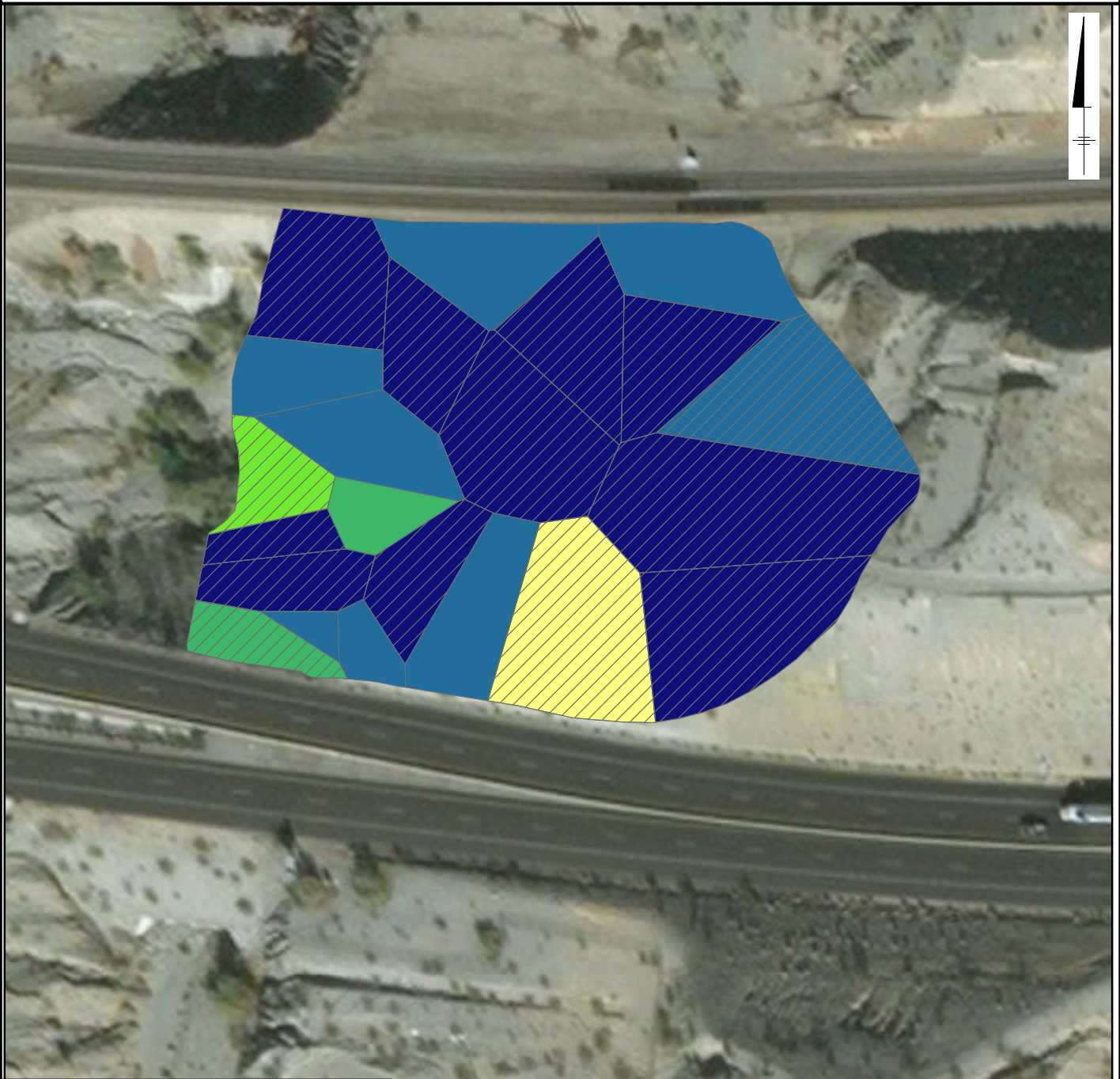
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FIGURE
AOC14-A3.52

AOC 14 0 - 3 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

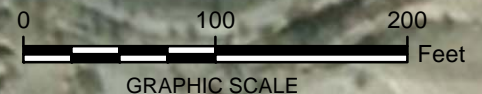


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.60
	≥2.60 - 9.18
	≥9.18 - 26.00
	≥26.00 - 60.30
	≥60.30 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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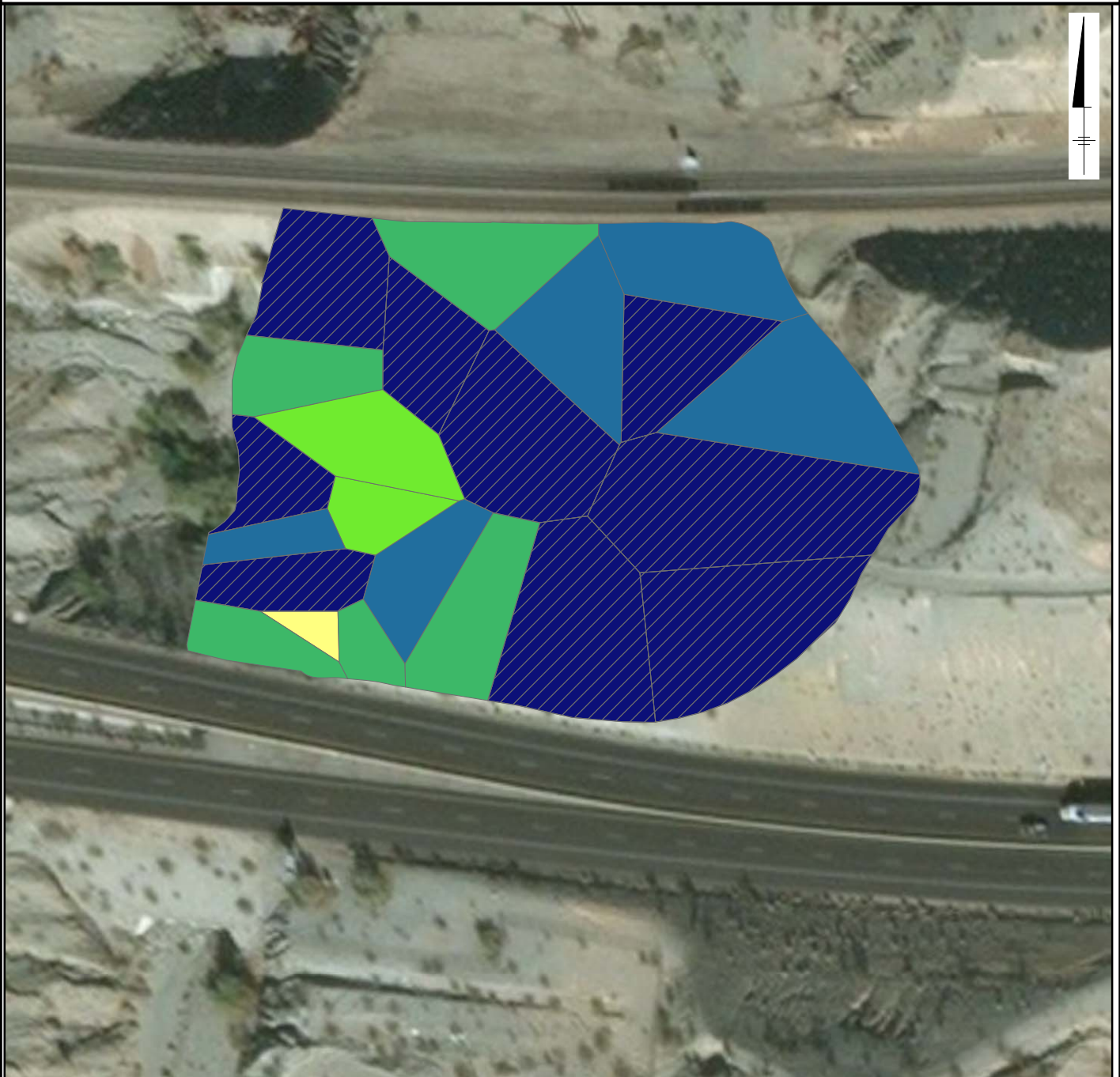


FIGURE
AOC14-A3.53

AOC 14

0 - 3 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT

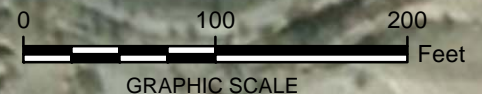


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 0.00
	≥ 0.00 - 34.90
	≥ 34.90 - 63.00
	≥ 63.00 - 100.00
	≥ 100.00 - 5380.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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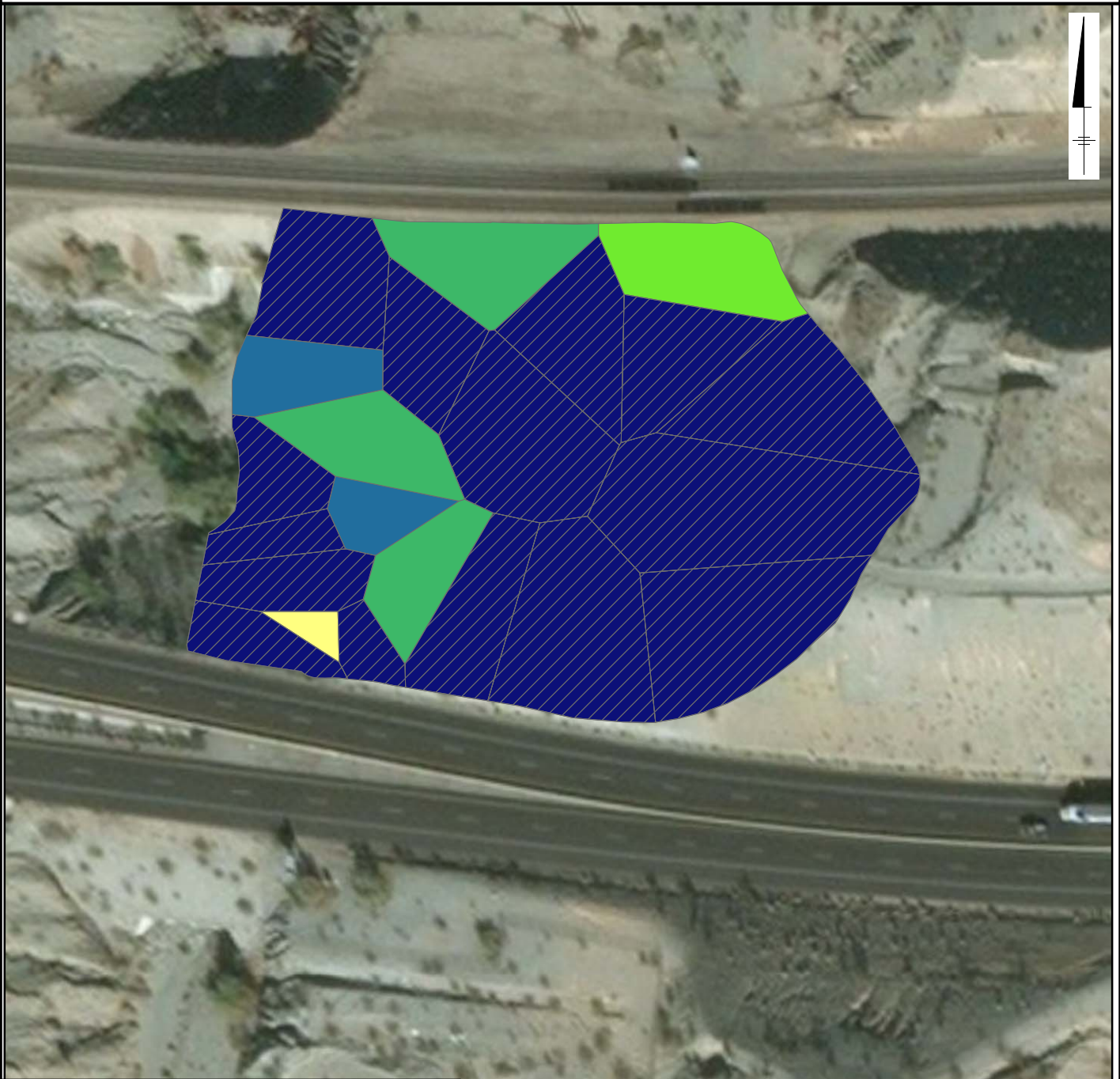
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FIGURE
AOC14-A3.54

AOC 14 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

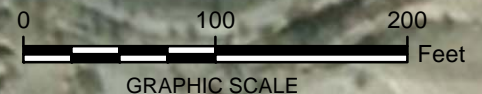


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 2.43
	≥2.43 - 4.00
	≥4.00 - 7.93
	≥7.93 - 253.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



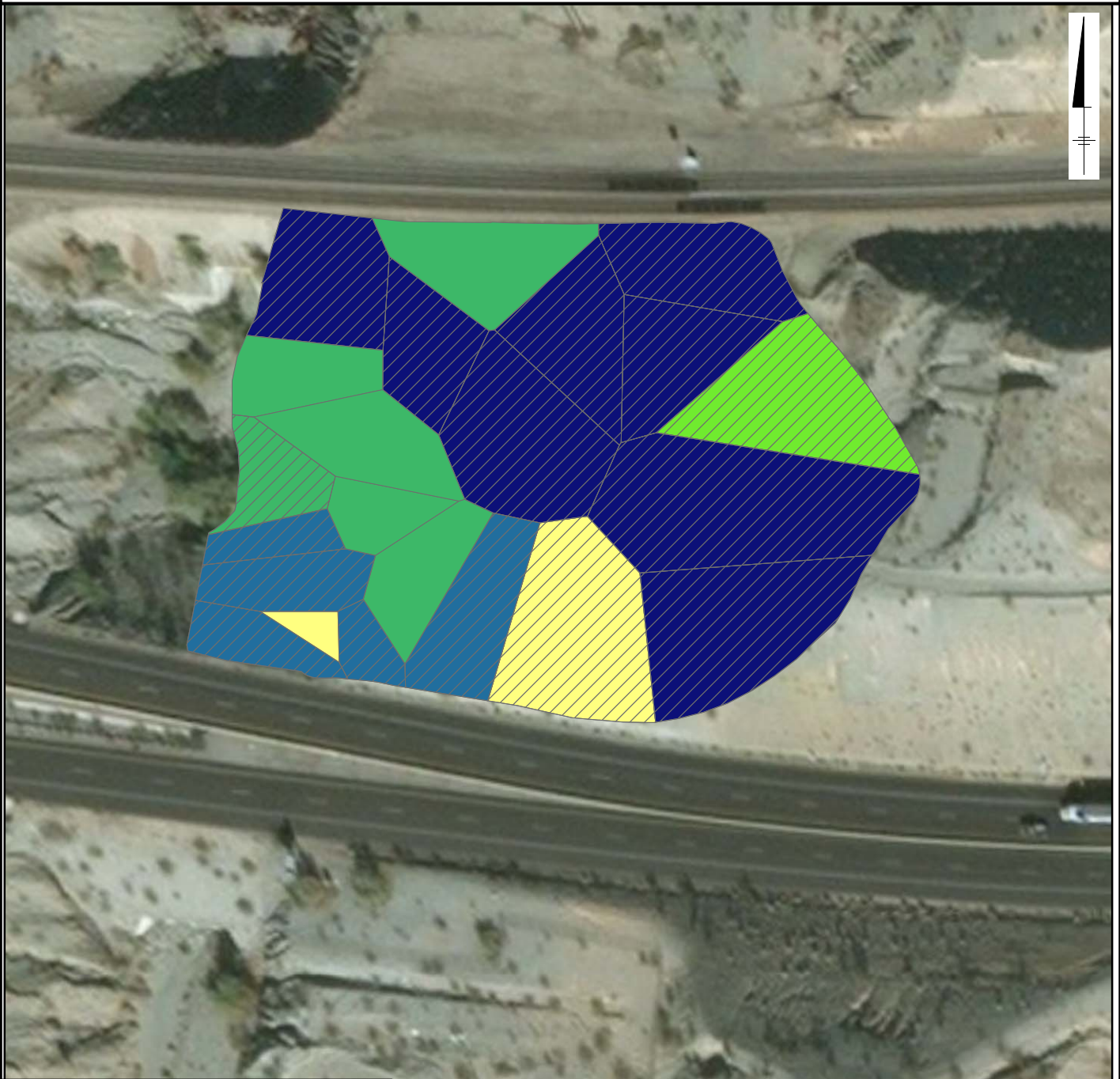
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FIGURE
AOC14-A3.55

AOC 14 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE

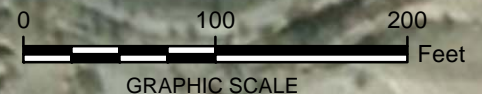


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.53
	≥2.54 - 2.60
	≥2.61 - 6.03
	≥6.04 - 9.18
	≥9.19 - 254.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



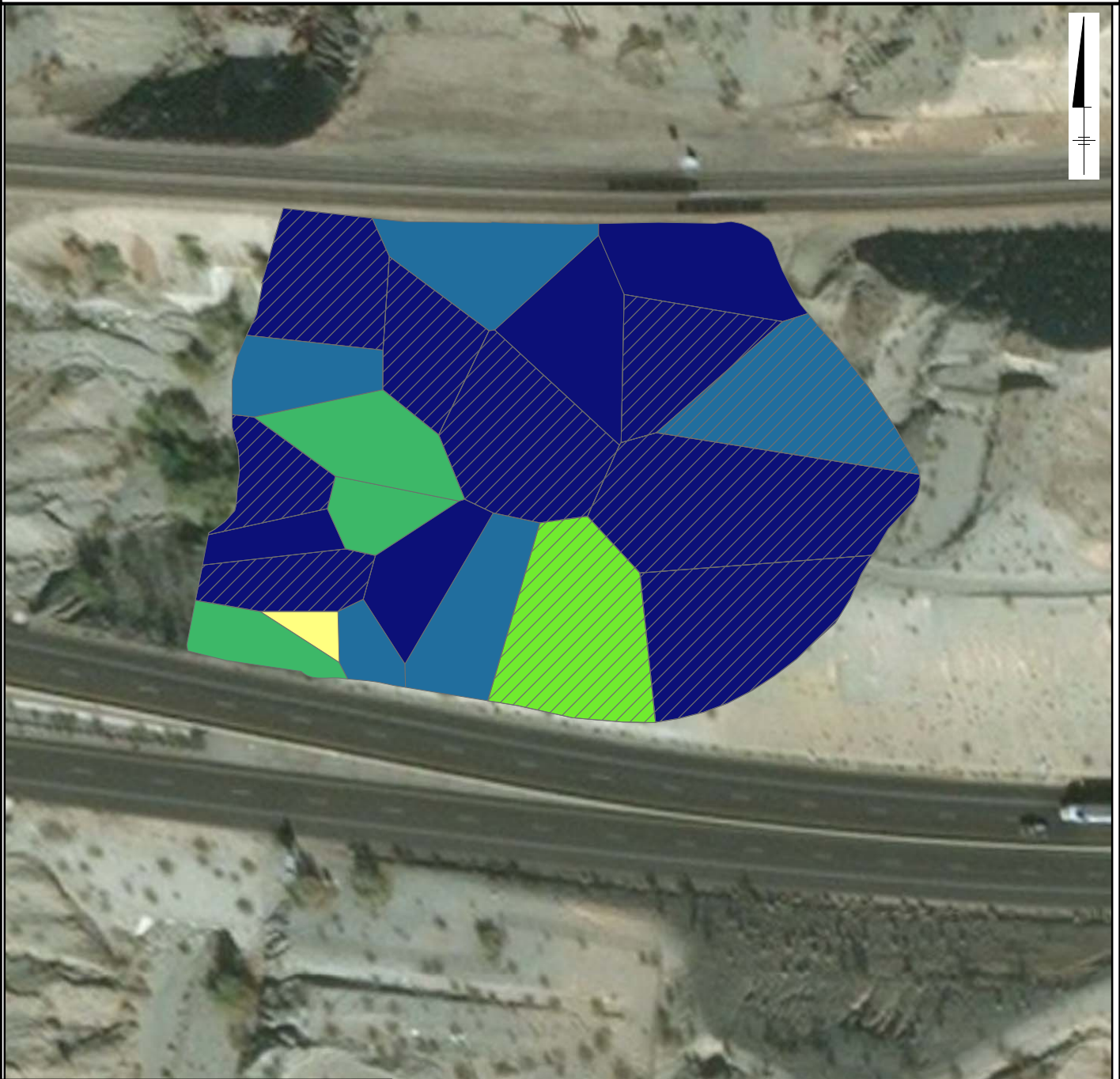
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FIGURE
AOC14-A3.56

AOC 14 0 - 3 FEET BELOW GROUND SURFACE PYRENE

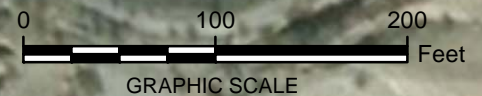


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.03
- ≥6.03 - 12.40
- ≥12.40 - 24.30
- ≥24.30 - 165.00
- ≥165.00 - 1400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



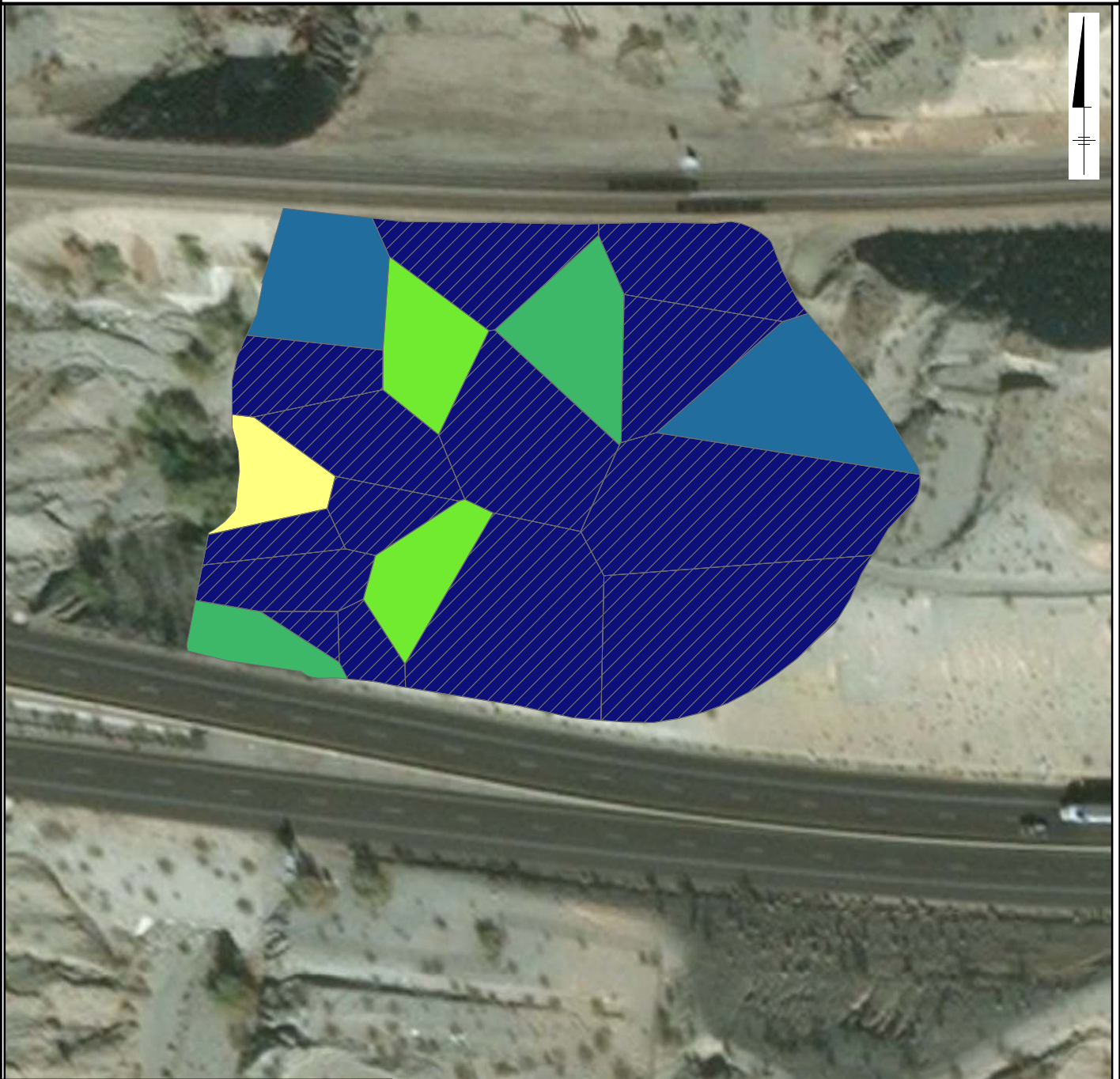
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FIGURE
AOC14-A3.57

AOC 14 0 - 3 FEET BELOW GROUND SURFACE TPH AS DIESEL

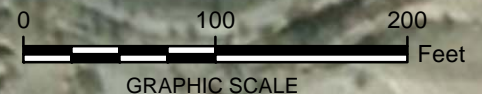


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

-  NOT DETECTED
-  5.00 - 5.00
-  ≥5.00 - 10.00
-  ≥10.00 - 13.00
-  ≥13.00 - 27.40
-  ≥27.40 - 213.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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THIESSEN POLYGONS FOR AREA WEIGHTING









FIGURE
AOC14-A3.58

AOC 14 0 - 3 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL

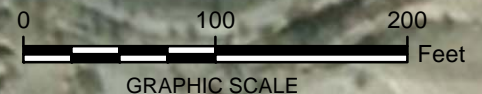


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS MOTOR OIL (MG/KG)

-  NOT DETECTED
-  5.00 - 18.80
-  ≥ 18.80 - 48.50
-  ≥ 48.50 - 120.00
-  ≥ 120.00 - 189.00
-  ≥ 189.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



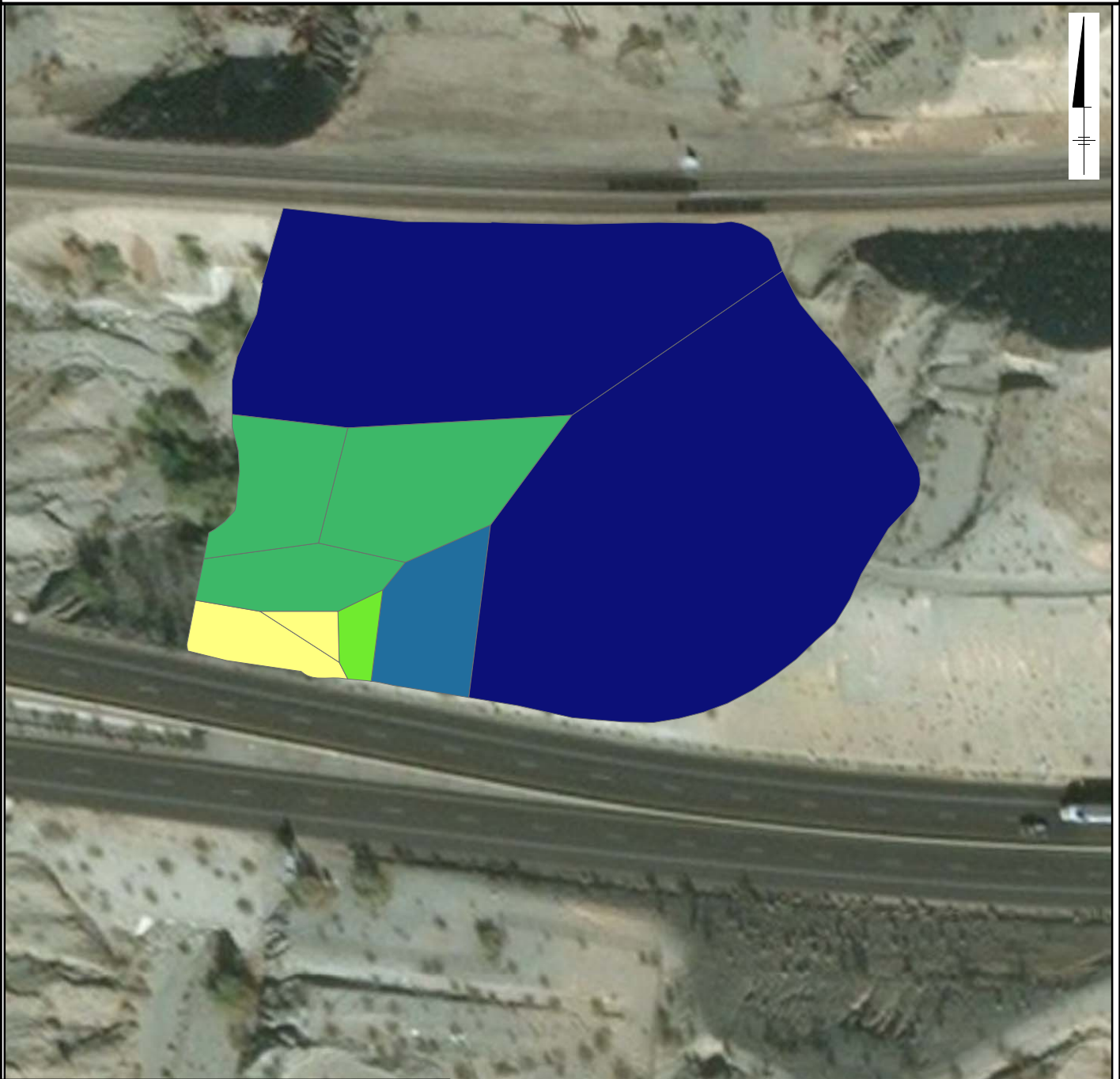
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FIGURE
AOC14-A3.59

AOC 14 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN

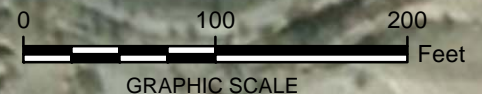


BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.35 - 0.43
	≥0.43 - 1.50
	≥1.50 - 3.57
	≥3.57 - 8.07
	≥8.07 - 131.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



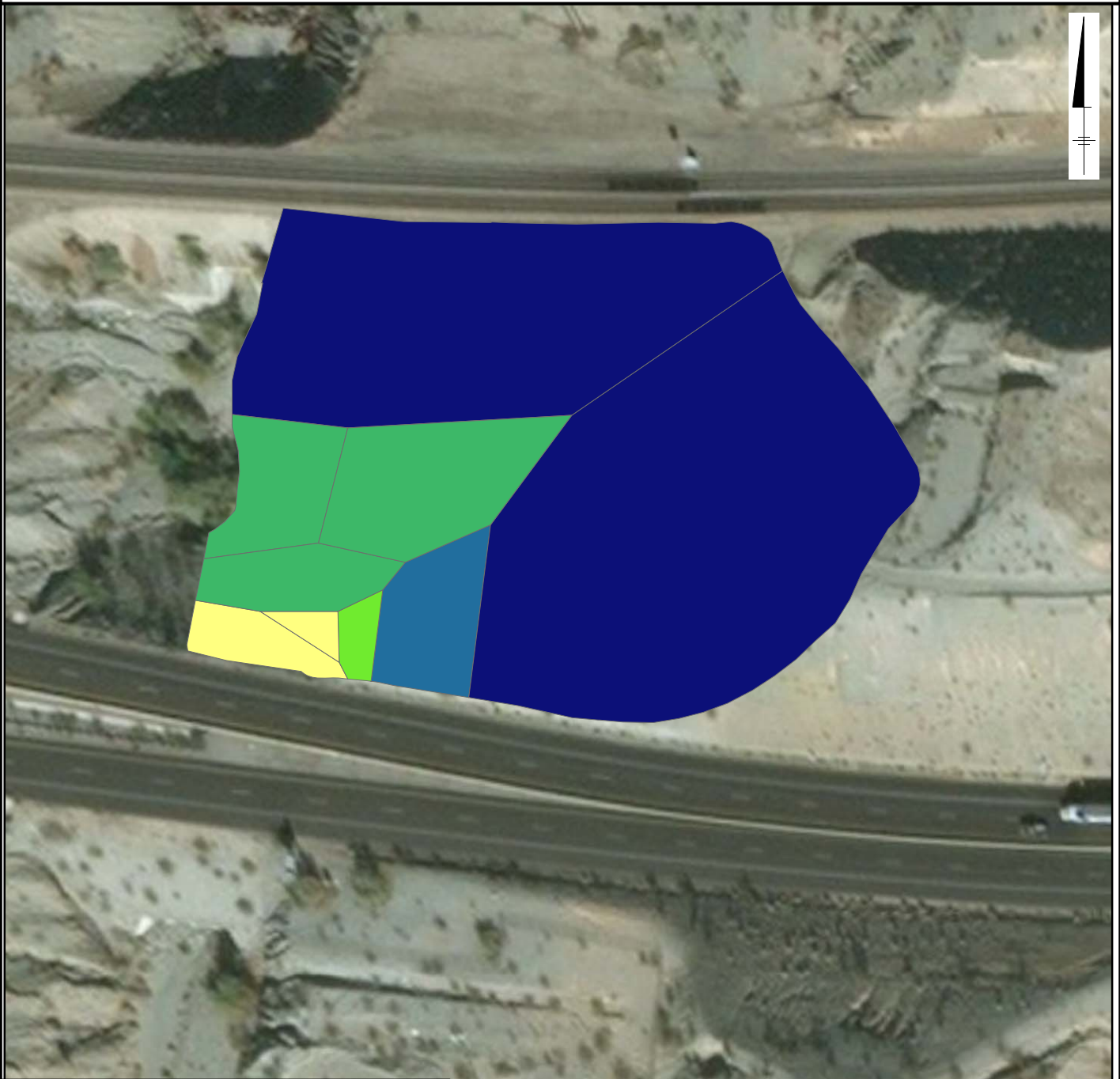
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FIGURE
AOC14-A3.60

AOC 14 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN

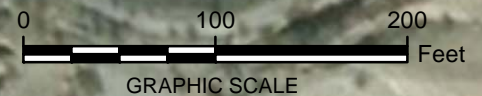


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

	NOT DETECTED
	0.33 - 0.45
	≥0.45 - 1.92
	≥1.92 - 4.85
	≥4.85 - 13.90
	≥13.90 - 81.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



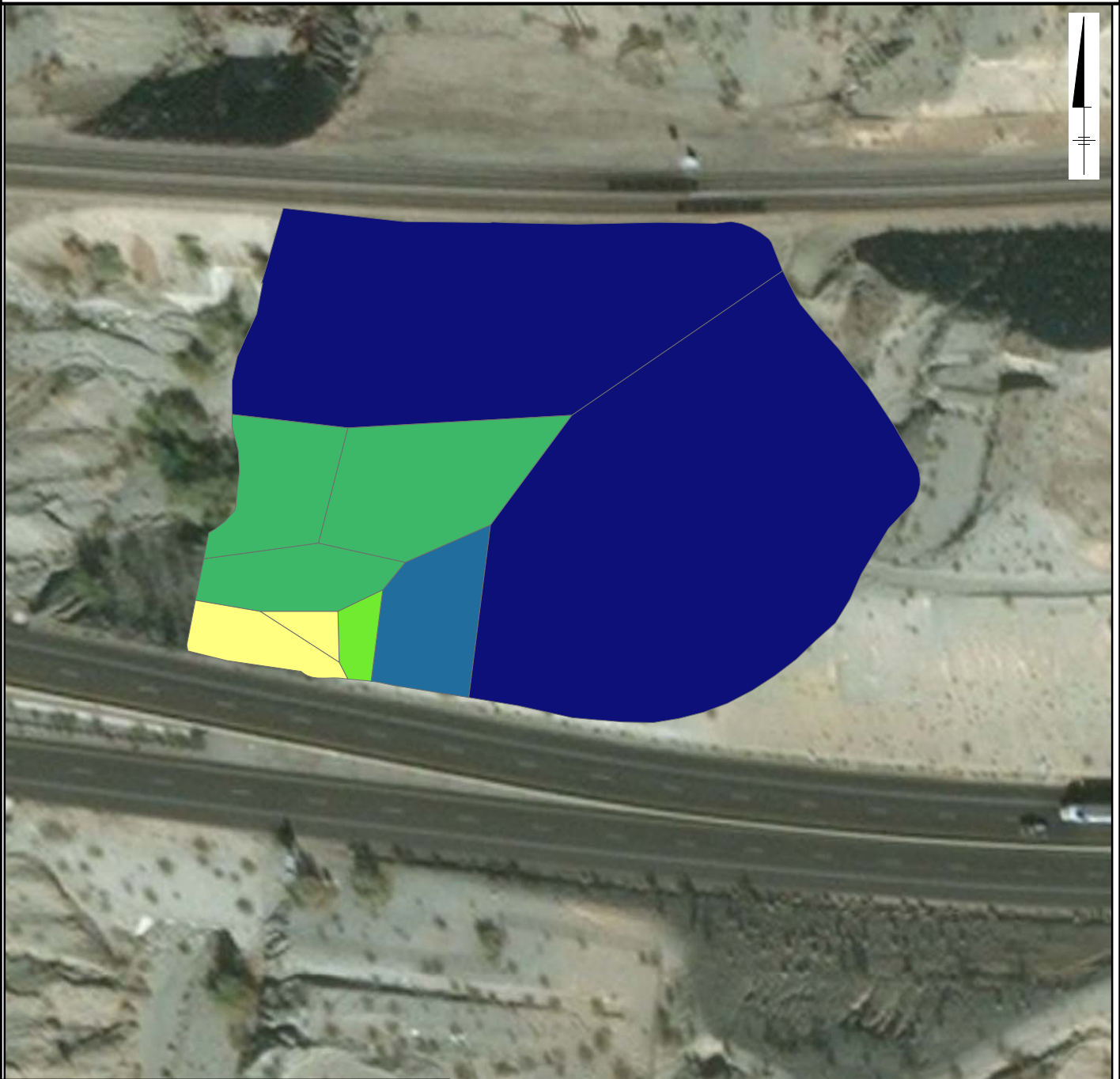
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FIGURE
AOC14-A3.61

AOC 14 0 - 6 FEET BELOW GROUND SURFACE TEQ MAMMALS

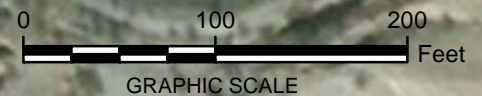


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.33 - 0.45
	≥0.45 - 1.92
	≥1.92 - 4.85
	≥4.85 - 13.90
	≥13.90 - 81.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



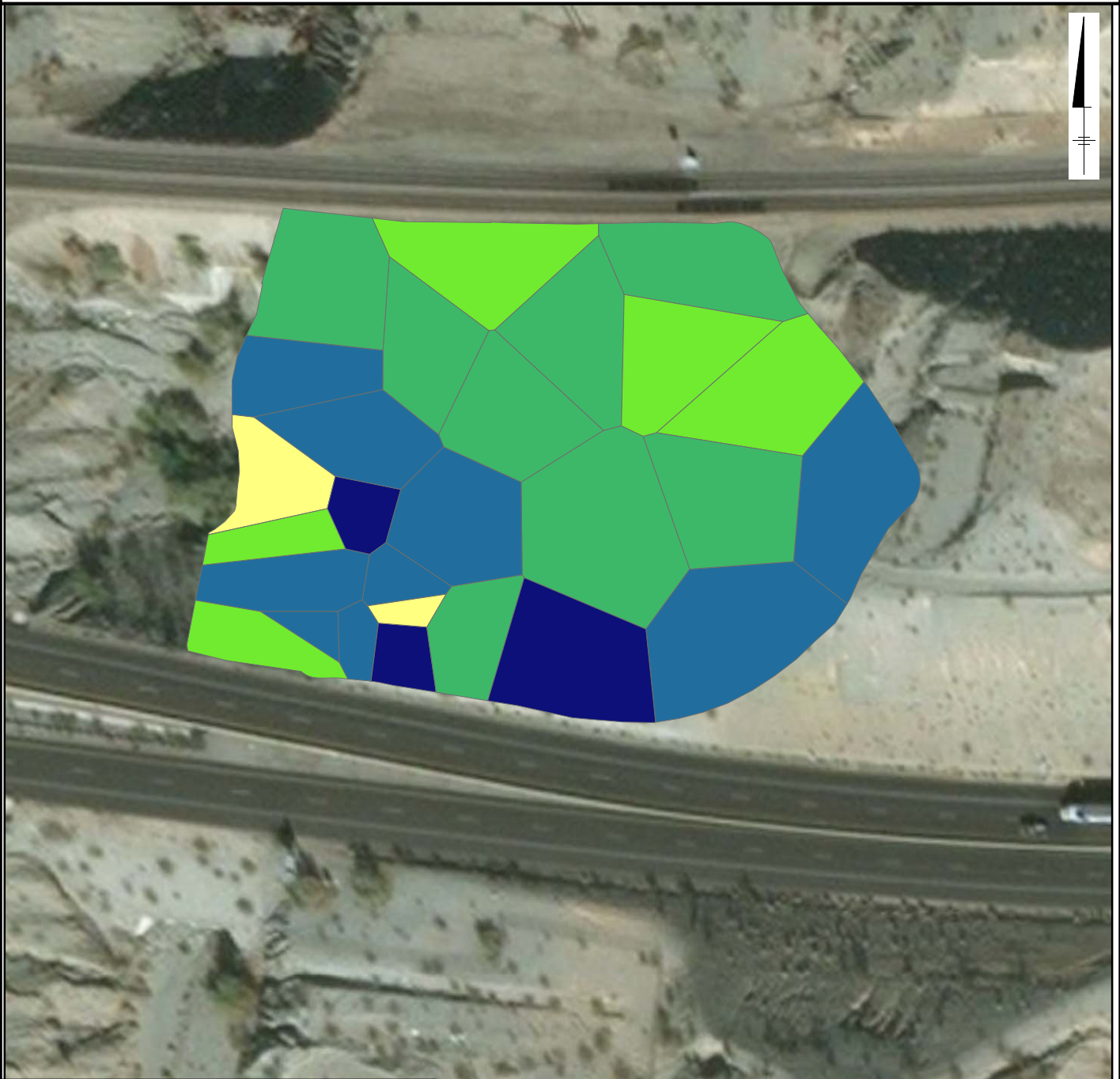
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FIGURE
AOC14-A3.62

AOC 14 0 - 6 FEET BELOW GROUND SURFACE ARSENIC

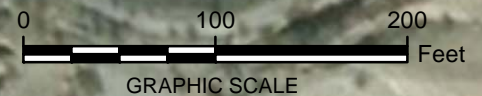


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

- NOT DETECTED
- 1.02 - 2.10
- ≥2.10 - 3.98
- ≥3.98 - 5.50
- ≥5.50 - 8.15
- ≥8.15 - 10.90

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



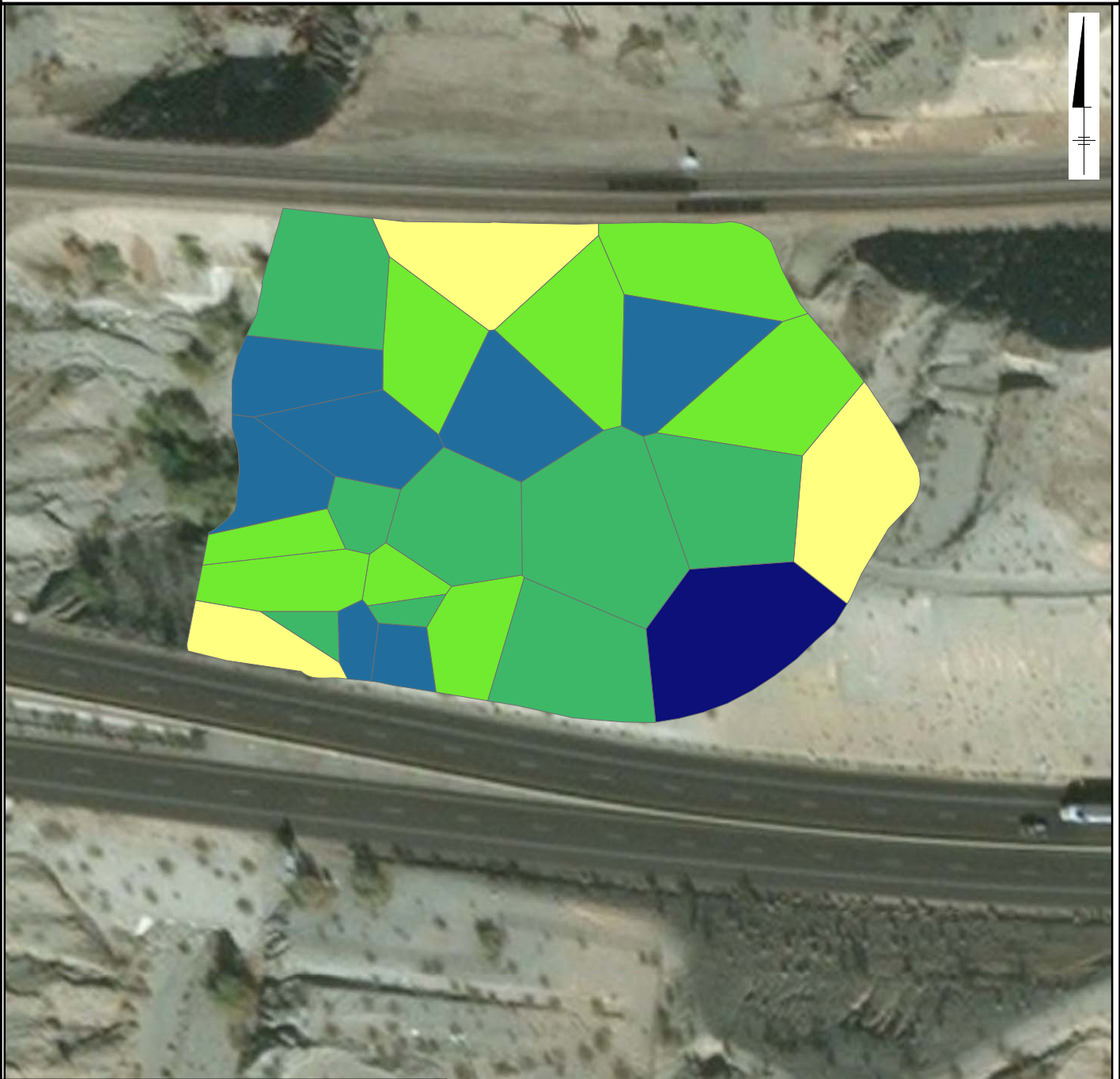
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FIGURE
AOC14-A3.63

AOC 14 0 - 6 FEET BELOW GROUND SURFACE BARIUM

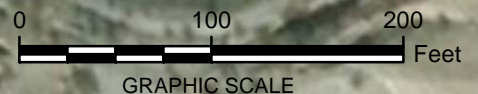


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

- NOT DETECTED
- 73.80 - 73.80
- ≥73.80 - 122.00
- ≥122.00 - 150.00
- ≥150.00 - 203.00
- ≥203.00 - 300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
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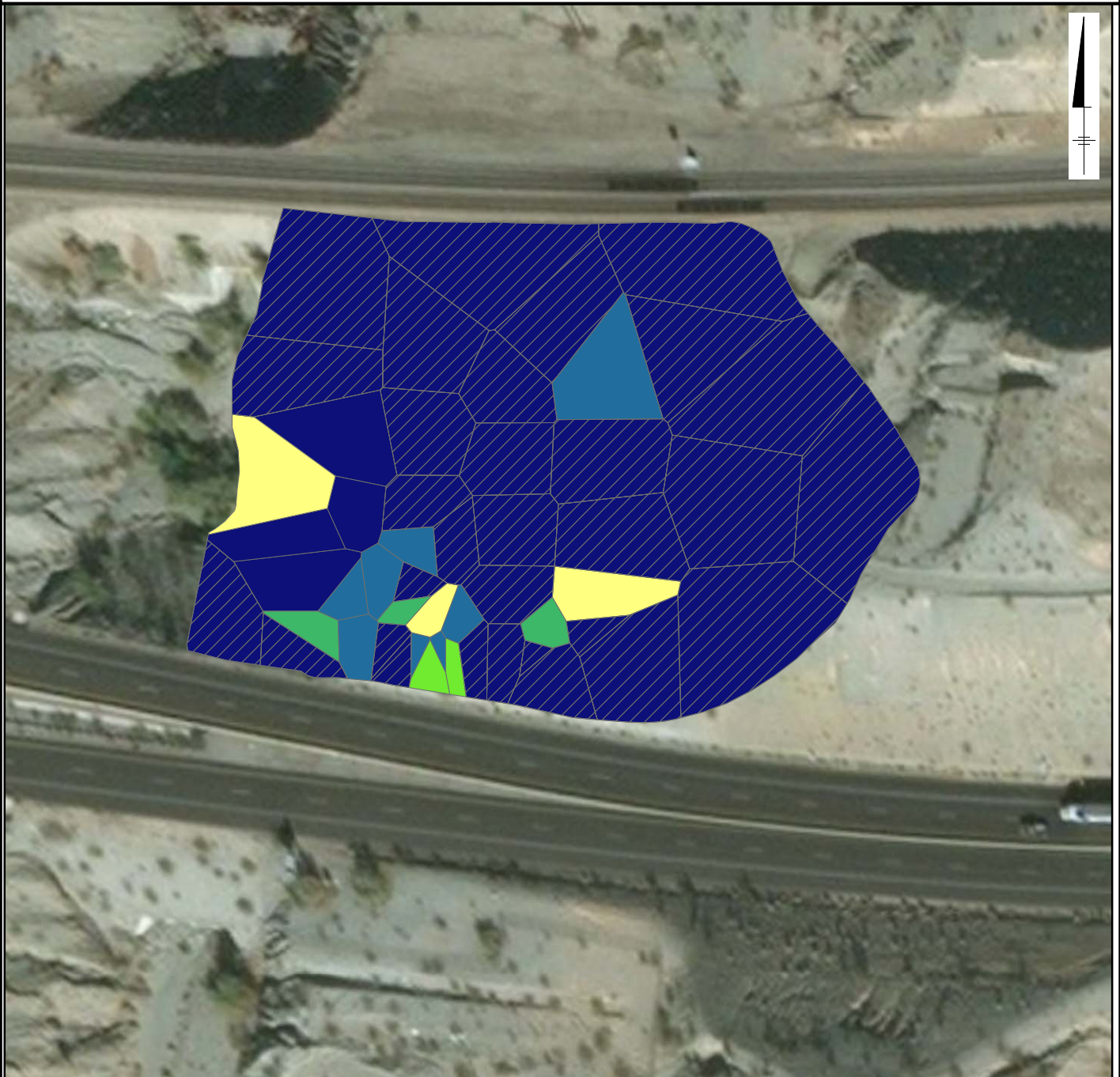


FIGURE
AOC14-A3.64

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT

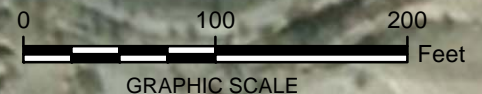


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.33
	≥0.33 - 0.75
	≥0.75 - 2.70
	≥2.70 - 5.80
	≥5.80 - 14.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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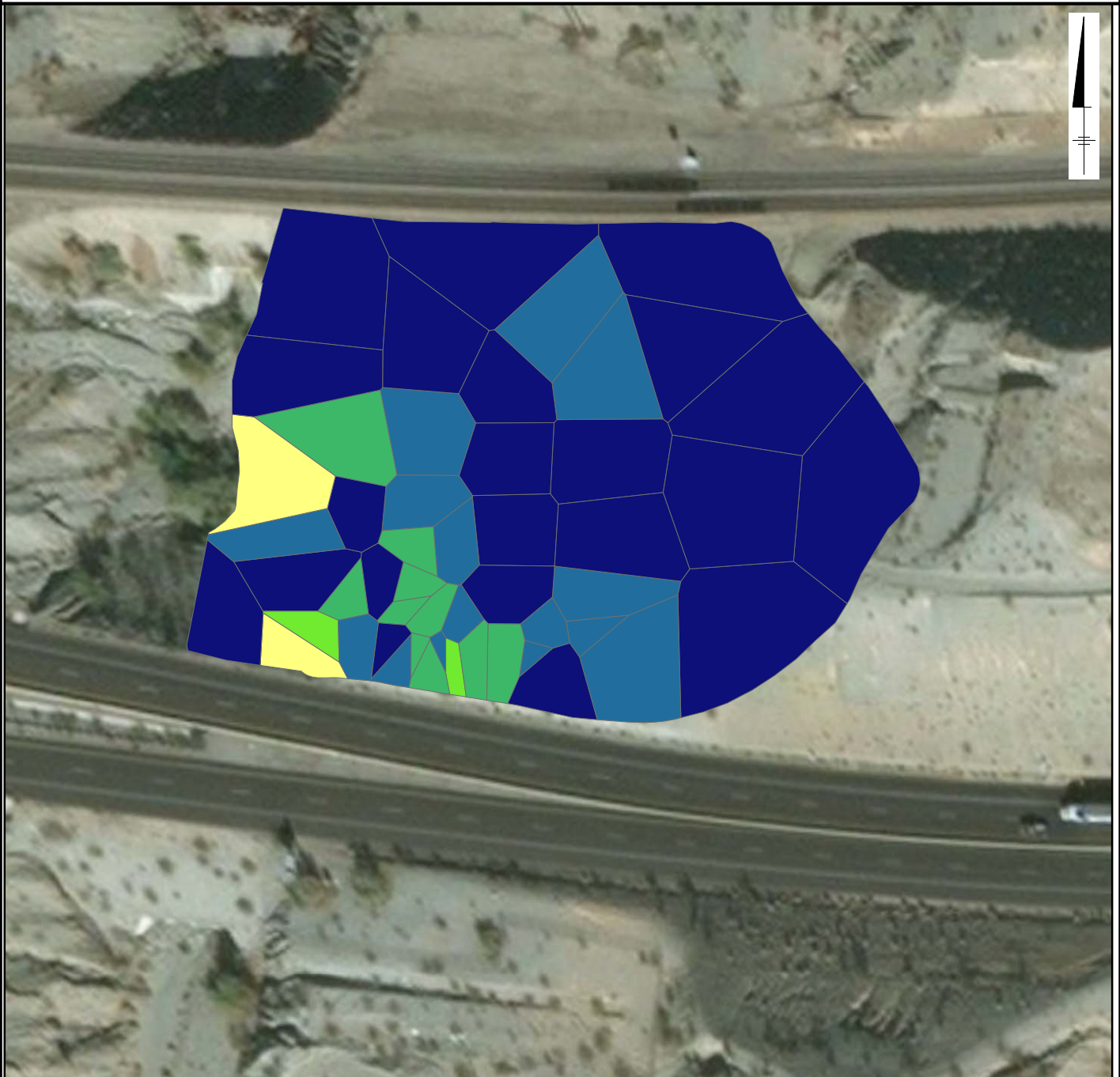
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FIGURE
AOC14-A3.65

AOC 14 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

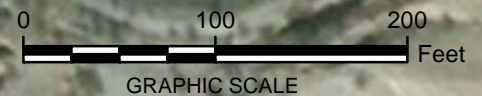


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	10.80 - 16.70
	≥16.70 - 25.30
	≥25.30 - 44.60
	≥44.60 - 81.80
	≥81.80 - 197.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



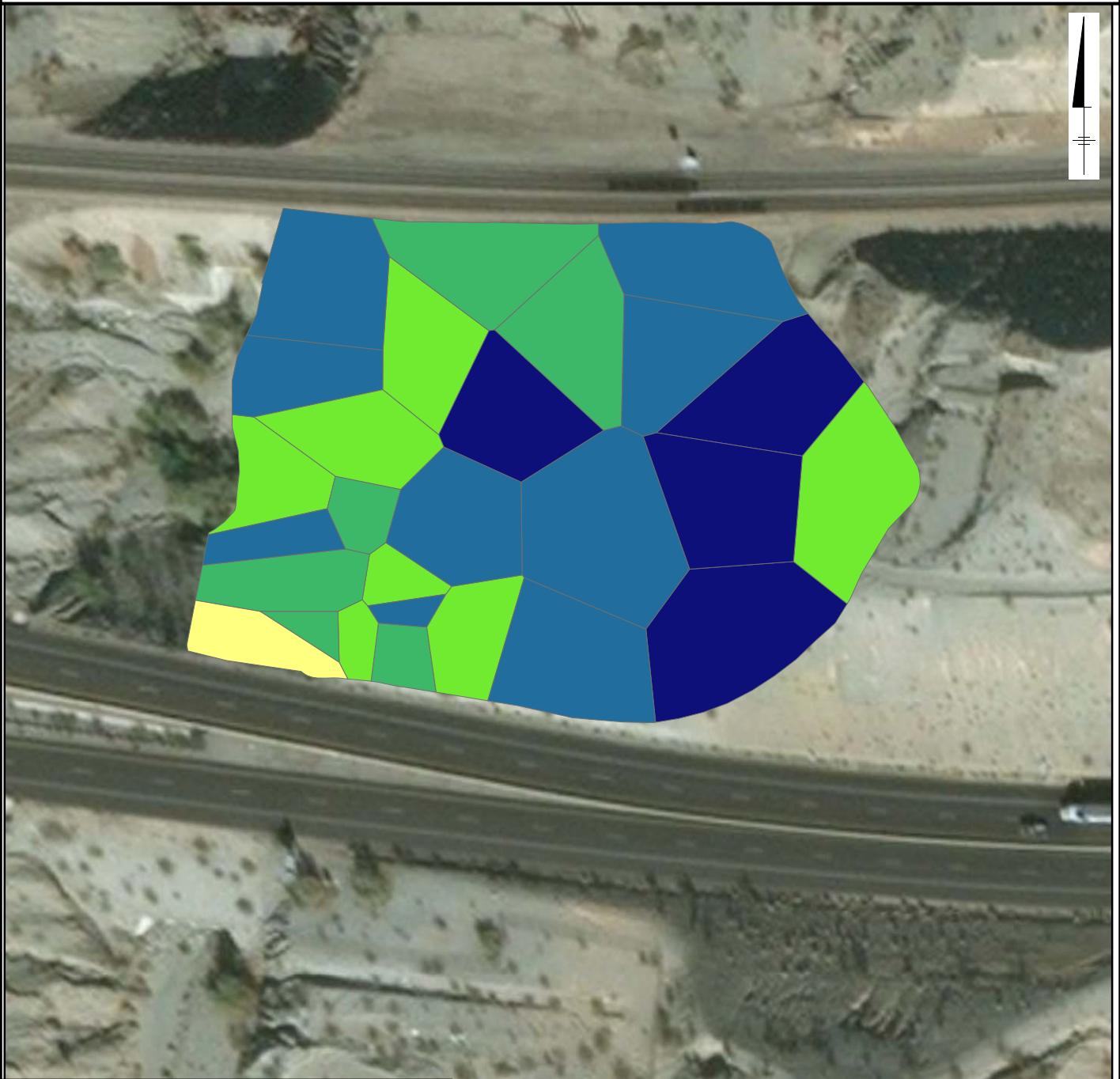
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FIGURE
AOC14-A3.66

AOC 14 0 - 6 FEET BELOW GROUND SURFACE COBALT

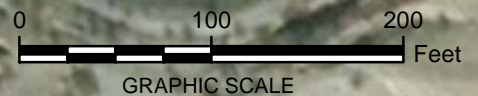


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	2.48 - 4.75
	≥4.75 - 6.27
	≥6.27 - 7.23
	≥7.23 - 8.85
	≥8.85 - 11.90

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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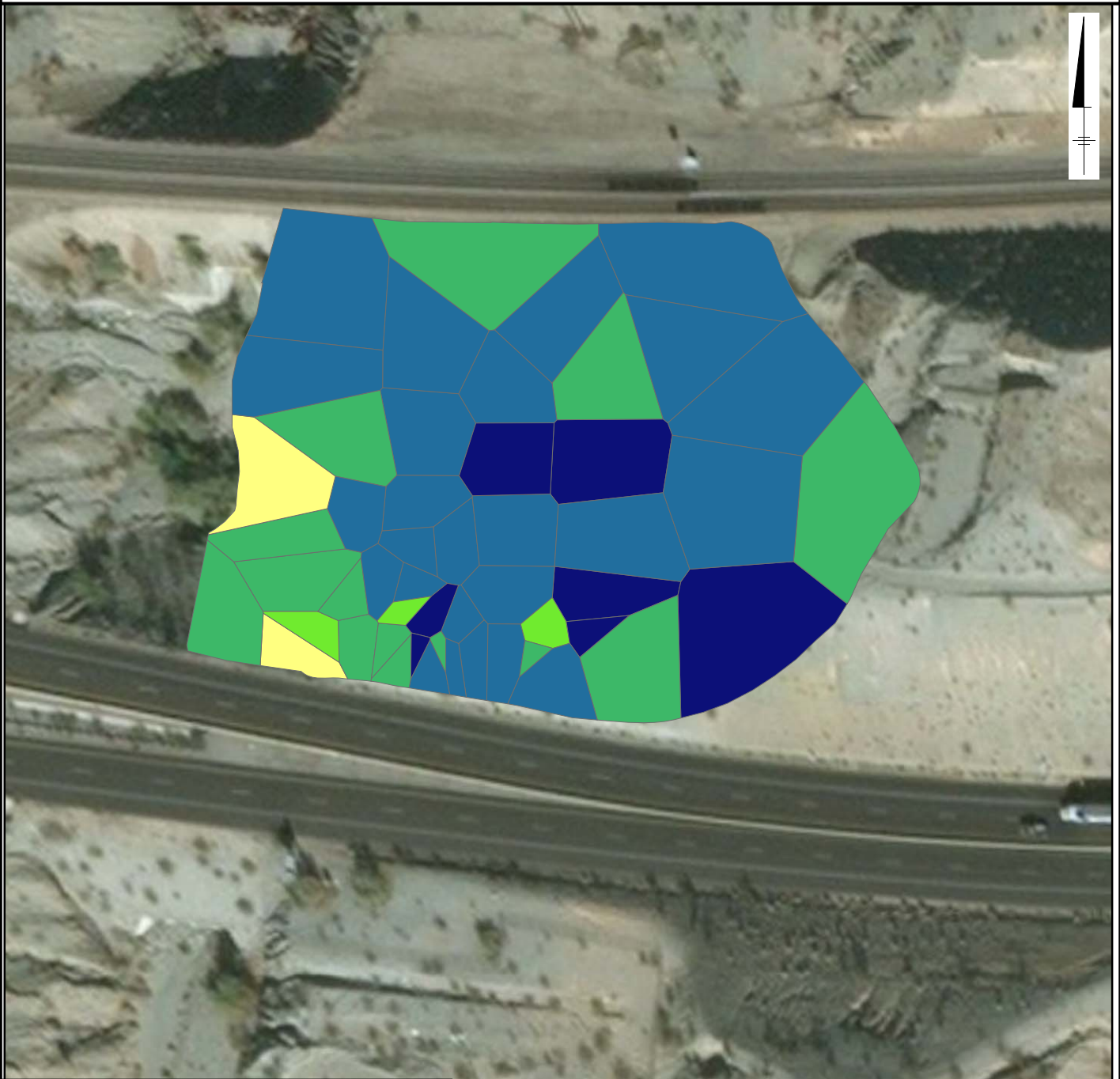
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FIGURE
AOC14-A3.67

AOC 14 0 - 6 FEET BELOW GROUND SURFACE COPPER

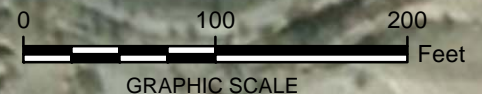


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

-  NOT DETECTED
-  2.20 - 5.40
-  ≥5.40 - 11.00
-  ≥11.00 - 20.20
-  ≥20.20 - 38.30
-  ≥38.30 - 910.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



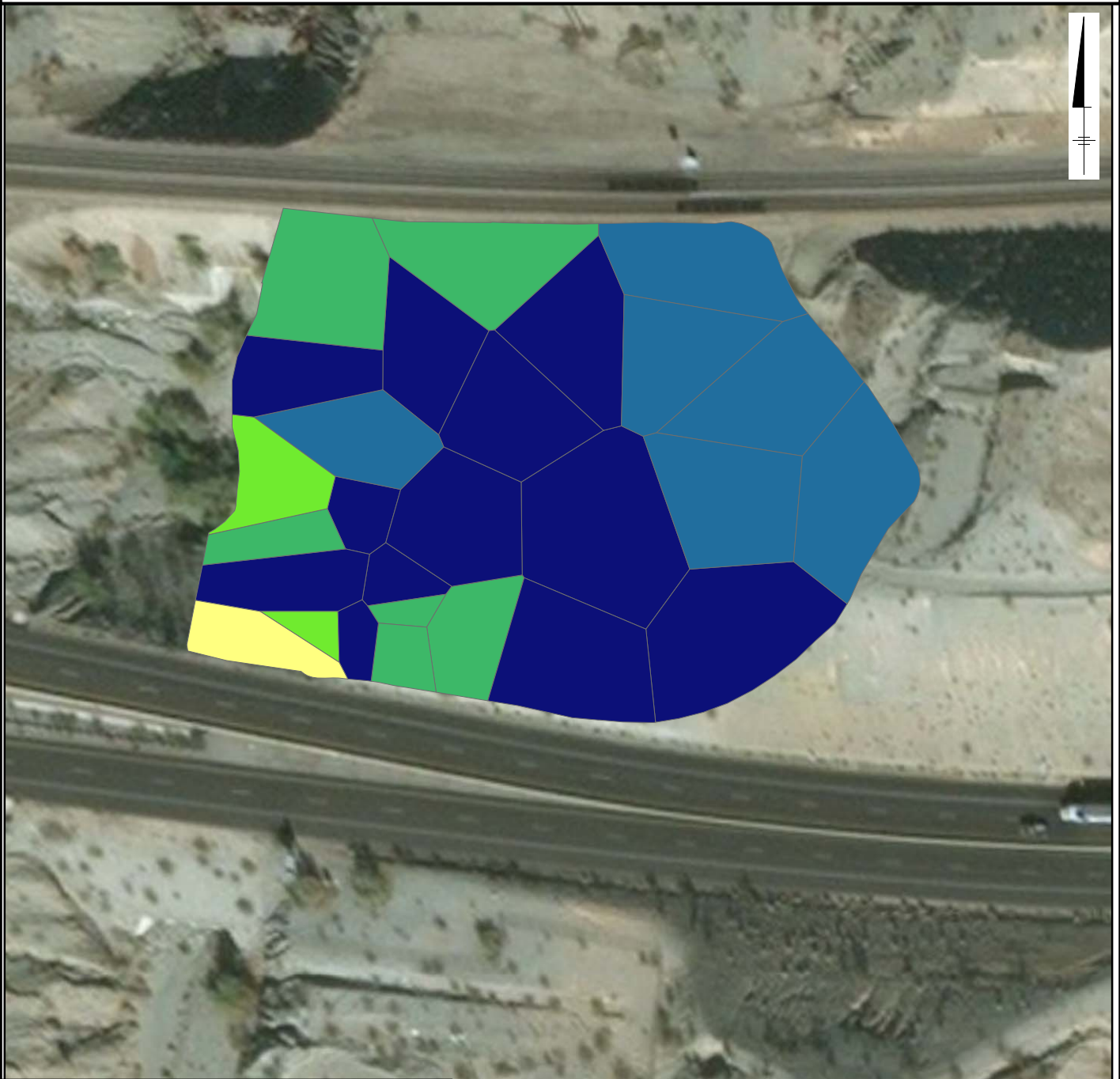
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FIGURE
AOC14-A3.68

AOC 14 0 - 6 FEET BELOW GROUND SURFACE LEAD

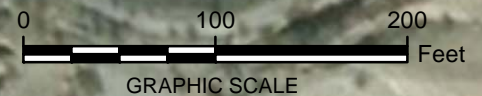


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

-  NOT DETECTED
-  2.95 - 4.73
-  ≥4.73 - 7.50
-  ≥7.50 - 11.00
-  ≥11.00 - 60.60
-  ≥60.60 - 803.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



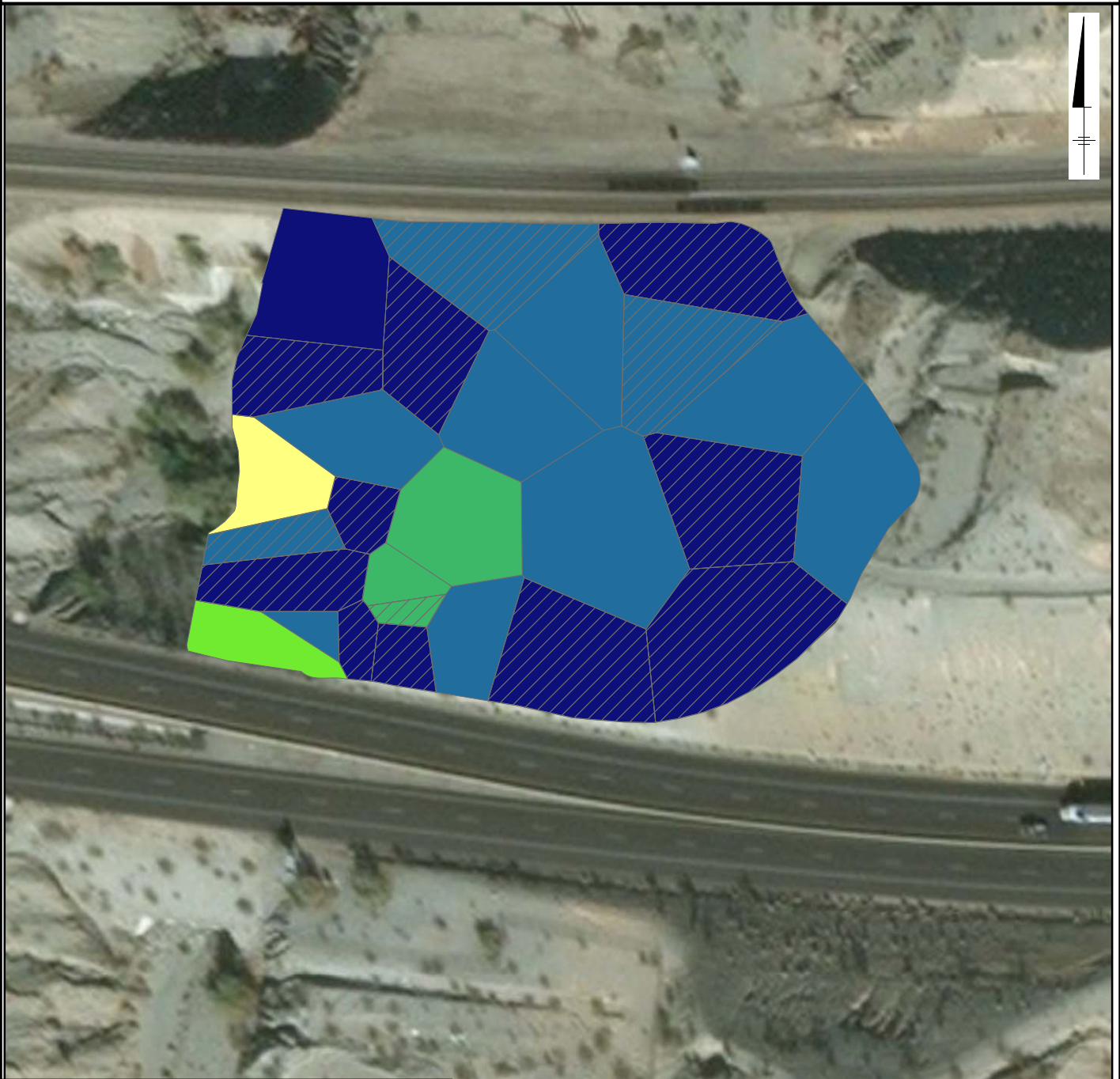
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FIGURE
AOC14-A3.69

AOC 14 0 - 6 FEET BELOW GROUND SURFACE MOLYBDENUM

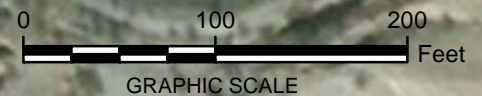


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

-  NOT DETECTED
-  0.50 - 0.75
-  ≥ 0.75 - 1.68
-  ≥ 1.68 - 3.52
-  ≥ 3.52 - 8.25
-  ≥ 8.25 - 34.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



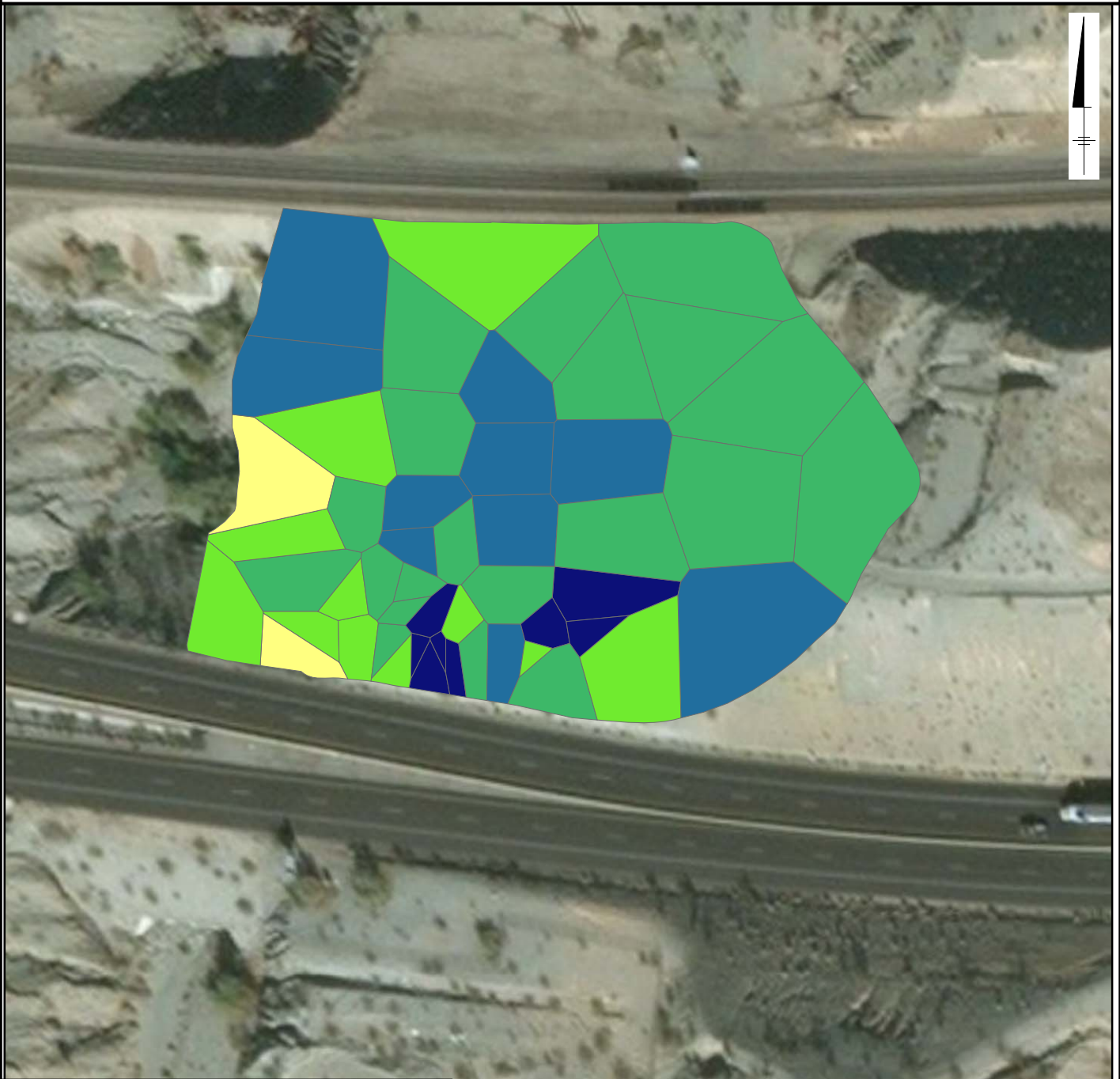
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FIGURE
AOC14-A3.70

AOC 14 0 - 6 FEET BELOW GROUND SURFACE NICKEL

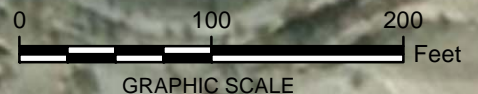


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

-  NOT DETECTED
-  0.28 - 2.20
-  $\geq 2.20 - 7.82$
-  $\geq 7.82 - 10.90$
-  $\geq 10.90 - 14.00$
-  $\geq 14.00 - 140.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



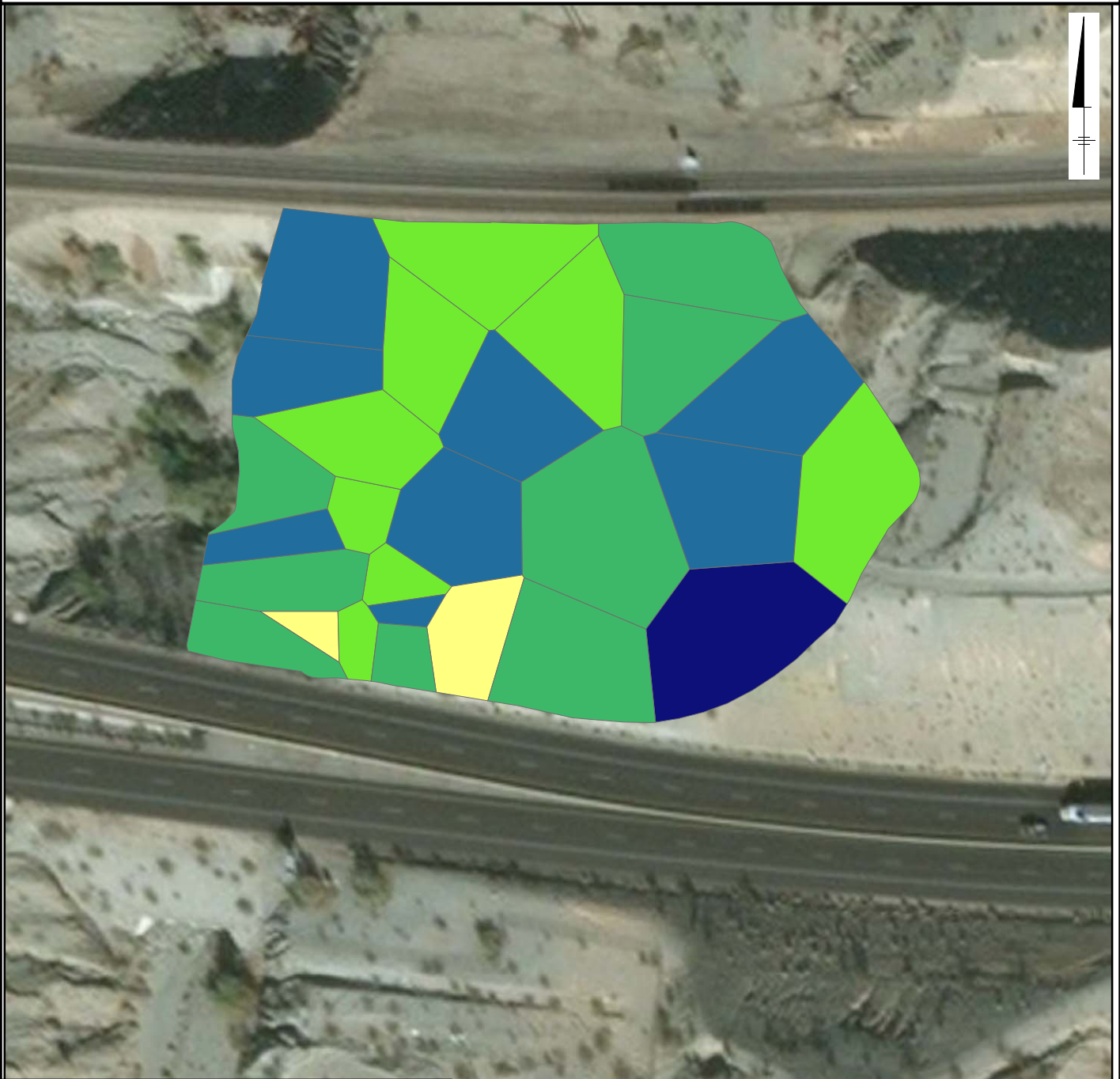
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FIGURE
AOC14-A3.71

AOC 14 0 - 6 FEET BELOW GROUND SURFACE VANADIUM

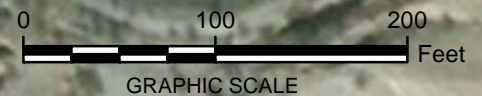


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	12.20 - 12.20
	≥12.20 - 23.30
	≥23.30 - 28.00
	≥28.00 - 31.30
	≥31.30 - 34.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



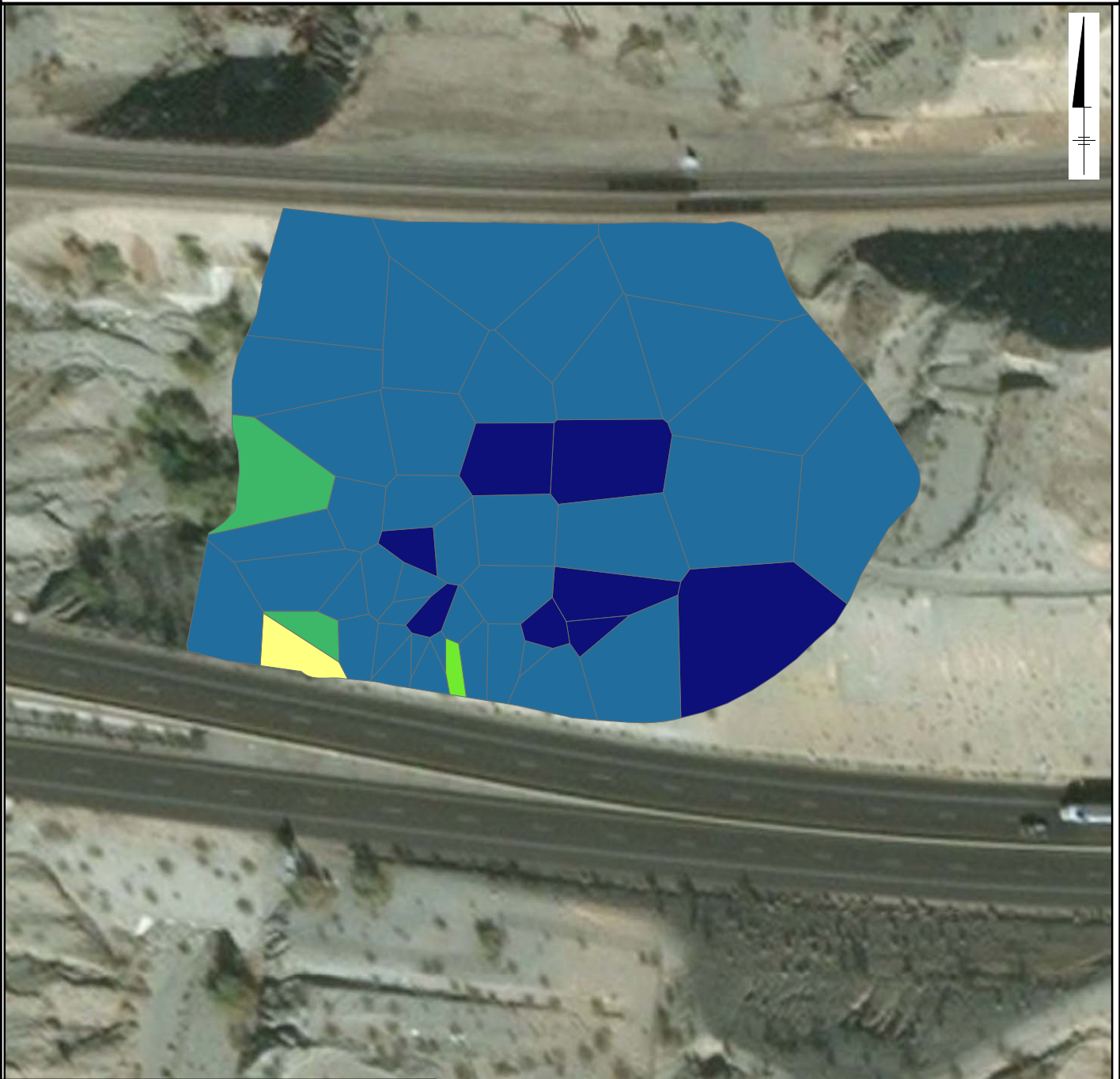
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FIGURE
AOC14-A3.72

AOC 14 0 - 6 FEET BELOW GROUND SURFACE ZINC

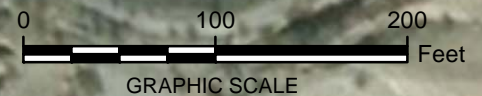


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	4.46 - 18.90
	≥ 18.90 - 53.20
	≥ 53.20 - 89.30
	≥ 89.30 - 243.00
	≥ 243.00 - 1020.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



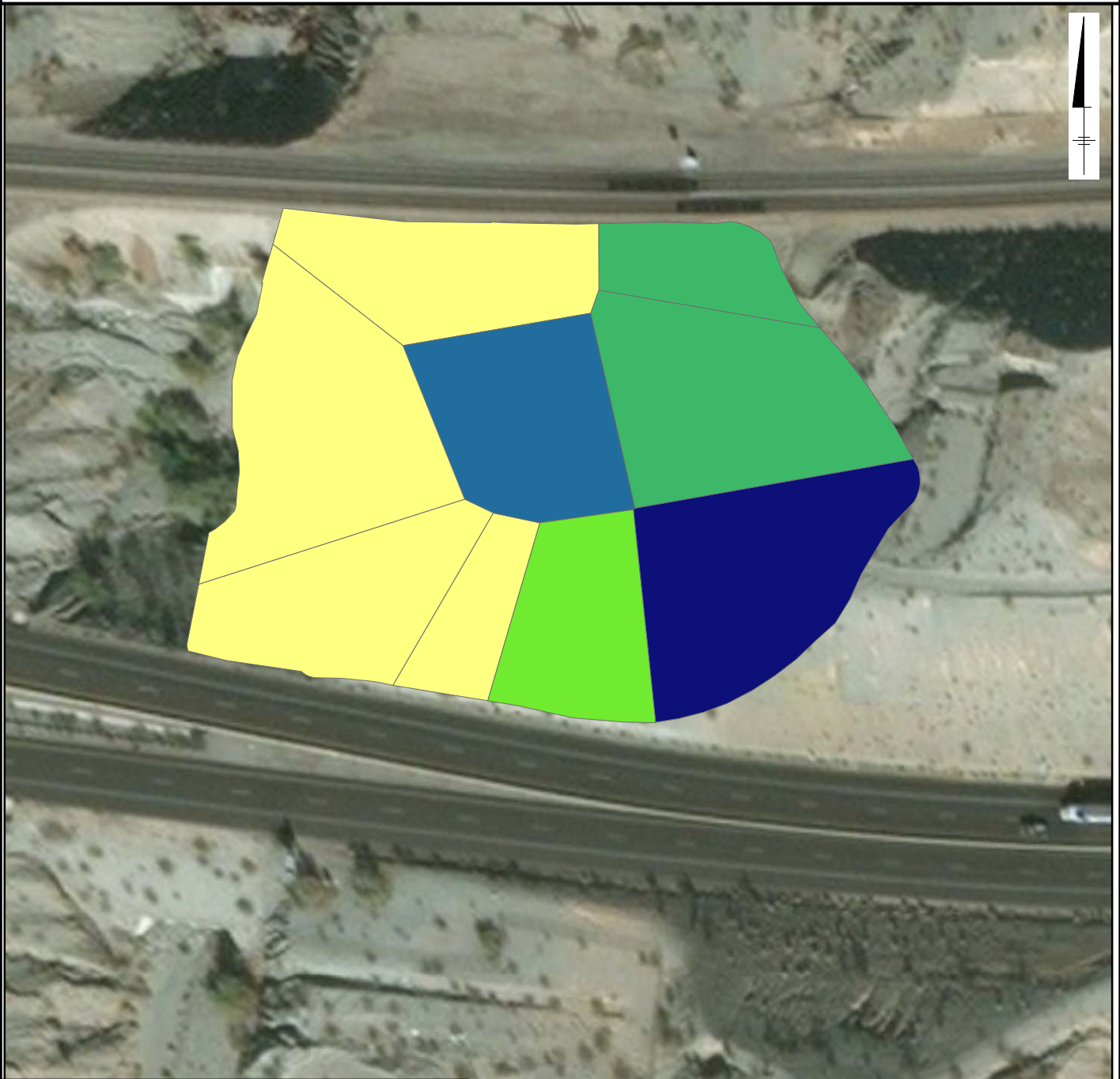
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FIGURE
AOC14-A3.73

AOC 14 0 - 6 FEET BELOW GROUND SURFACE ALUMINUM

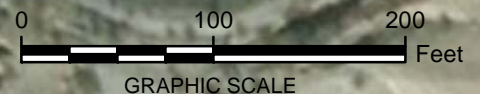


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

	NOT DETECTED
	3000.00 - 3000.00
	≥3000.00 - 5400.00
	≥5400.00 - 6800.00
	≥6800.00 - 7700.00
	≥7700.00 - 9000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



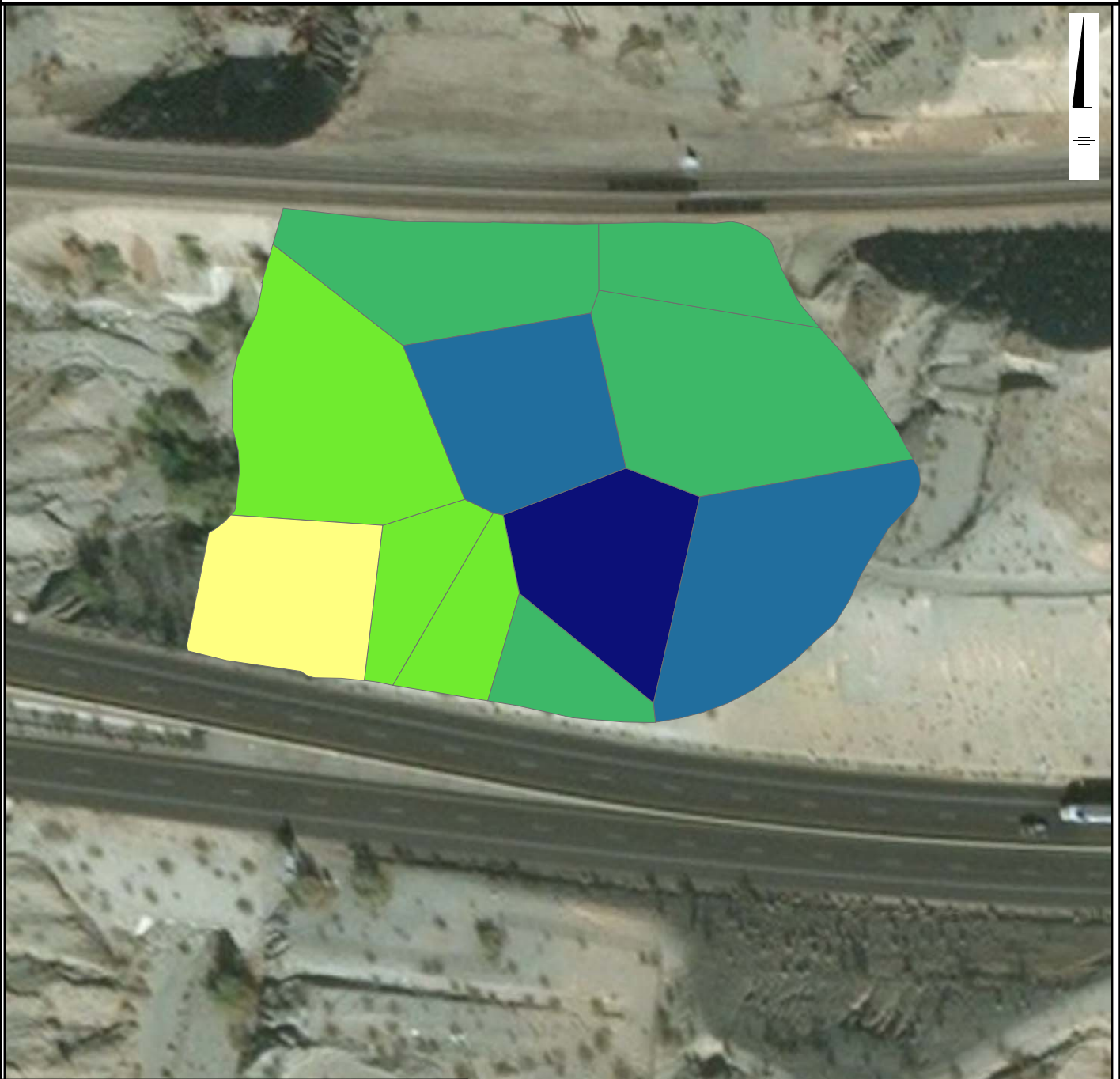
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FIGURE
AOC14-A3.74

AOC 14 0 - 6 FEET BELOW GROUND SURFACE IRON

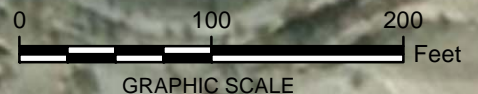


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	425.00 - 425.00
	≥425.00 - 11000.00
	≥11000.00 - 17000.00
	≥17000.00 - 20000.00
	≥20000.00 - 23100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



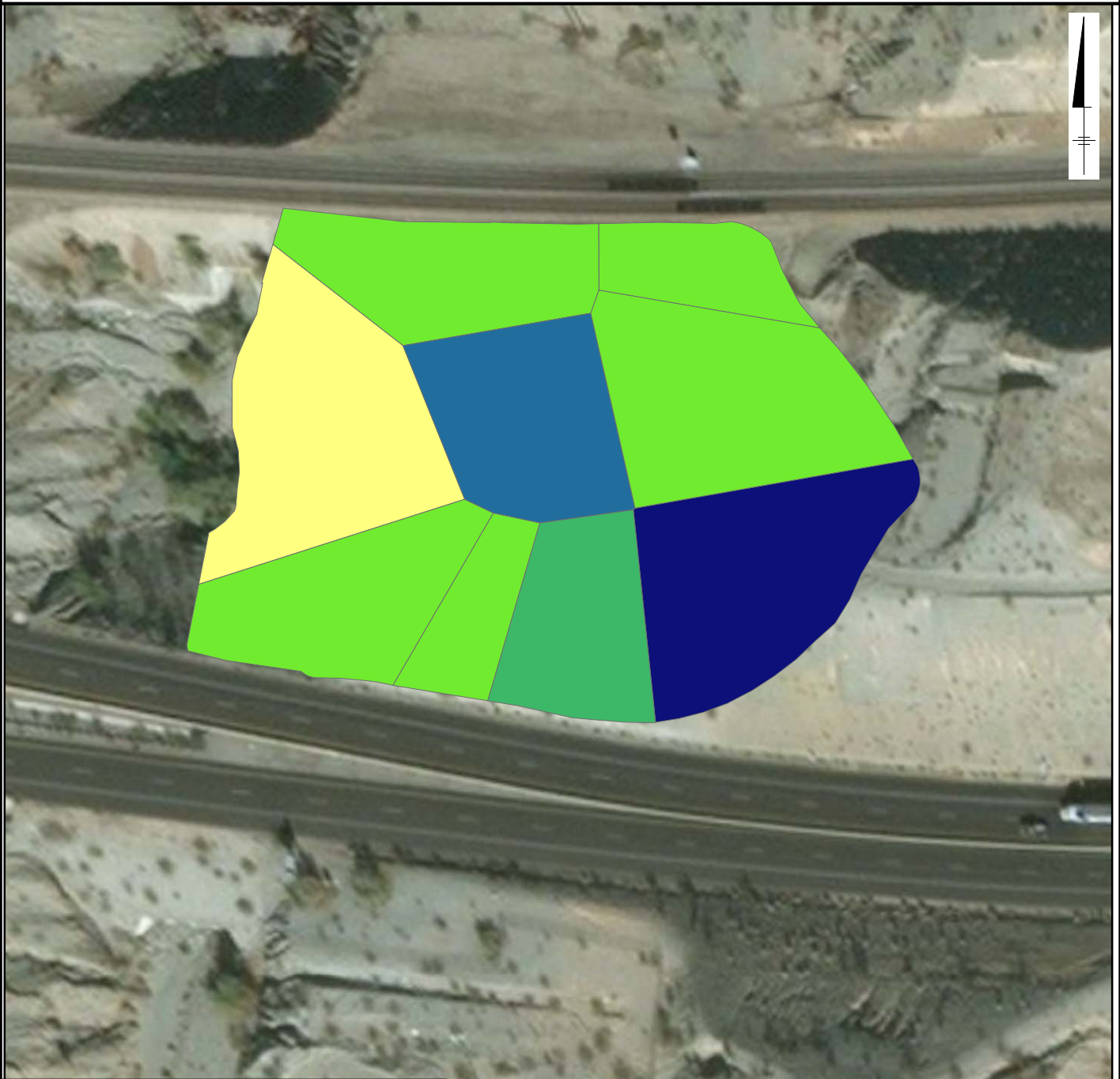
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FIGURE
AOC14-A3.75

AOC 14 0 - 6 FEET BELOW GROUND SURFACE MANGANESE

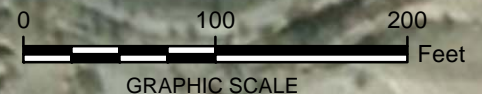


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	120.00 - 120.00
	≥ 120.00 - 170.00
	≥ 170.00 - 230.00
	≥ 230.00 - 270.00
	≥ 270.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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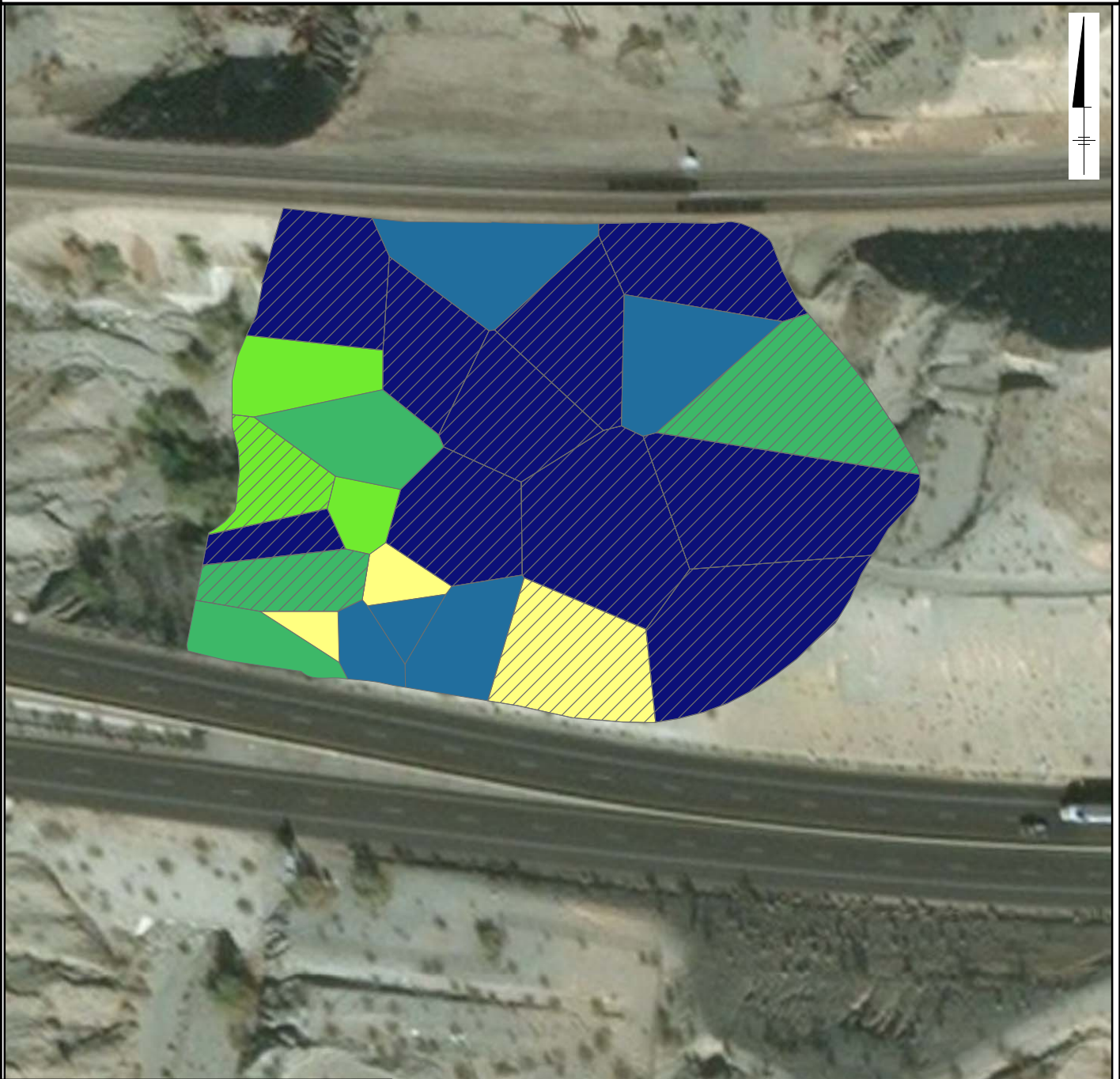


FIGURE
AOC14-A3.76

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

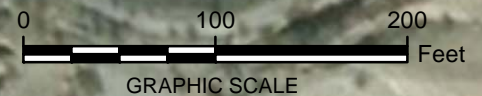


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 5.03
	≥5.03 - 7.30
	≥7.30 - 15.50
	≥15.50 - 335.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



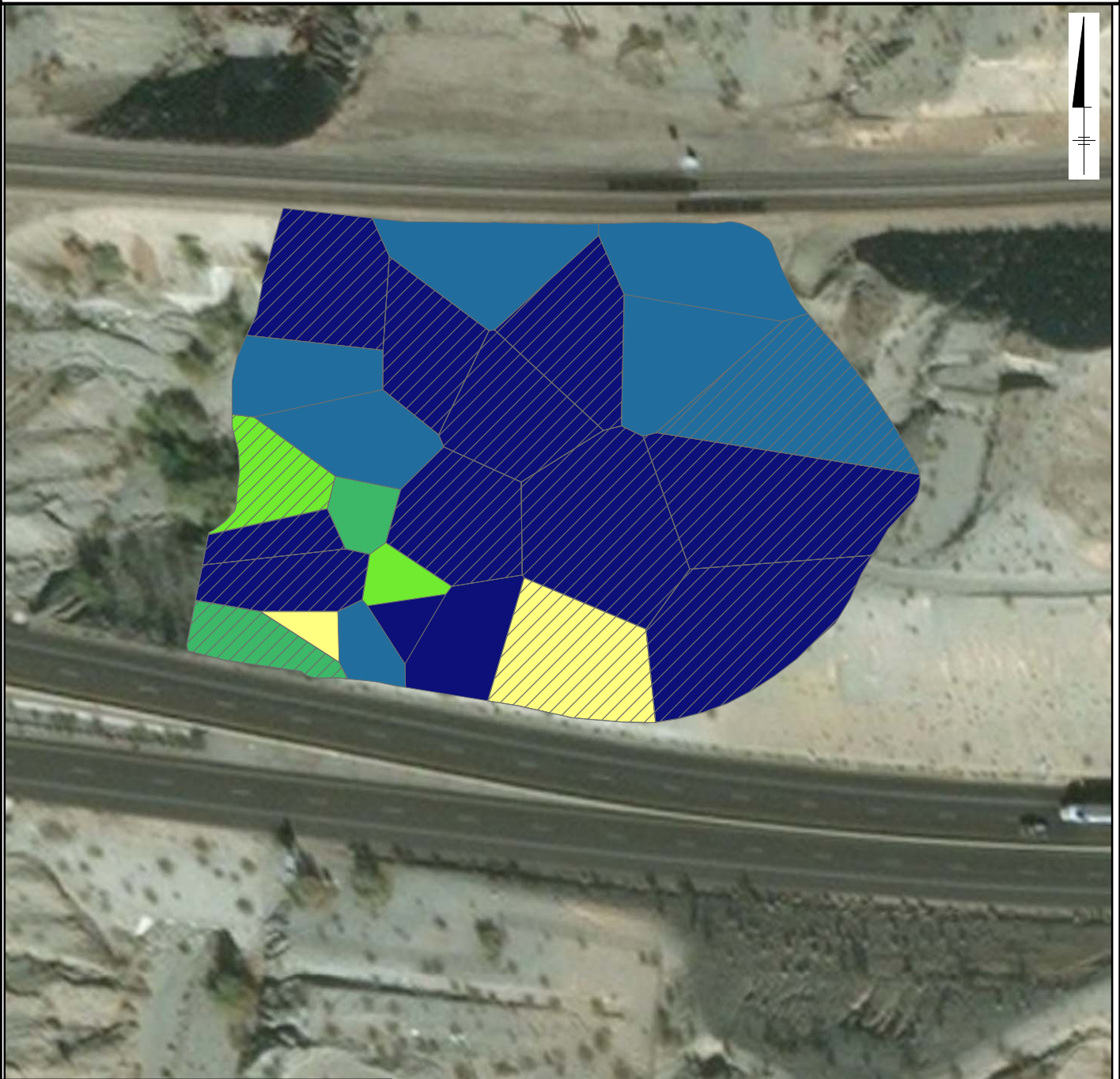
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FIGURE
AOC14-A3.77

AOC 14 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

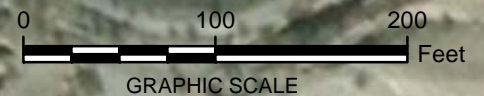


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 3.73
-  ≥ 3.73 - 8.28
-  ≥ 8.28 - 14.30
-  ≥ 14.30 - 84.00
-  ≥ 84.00 - 185.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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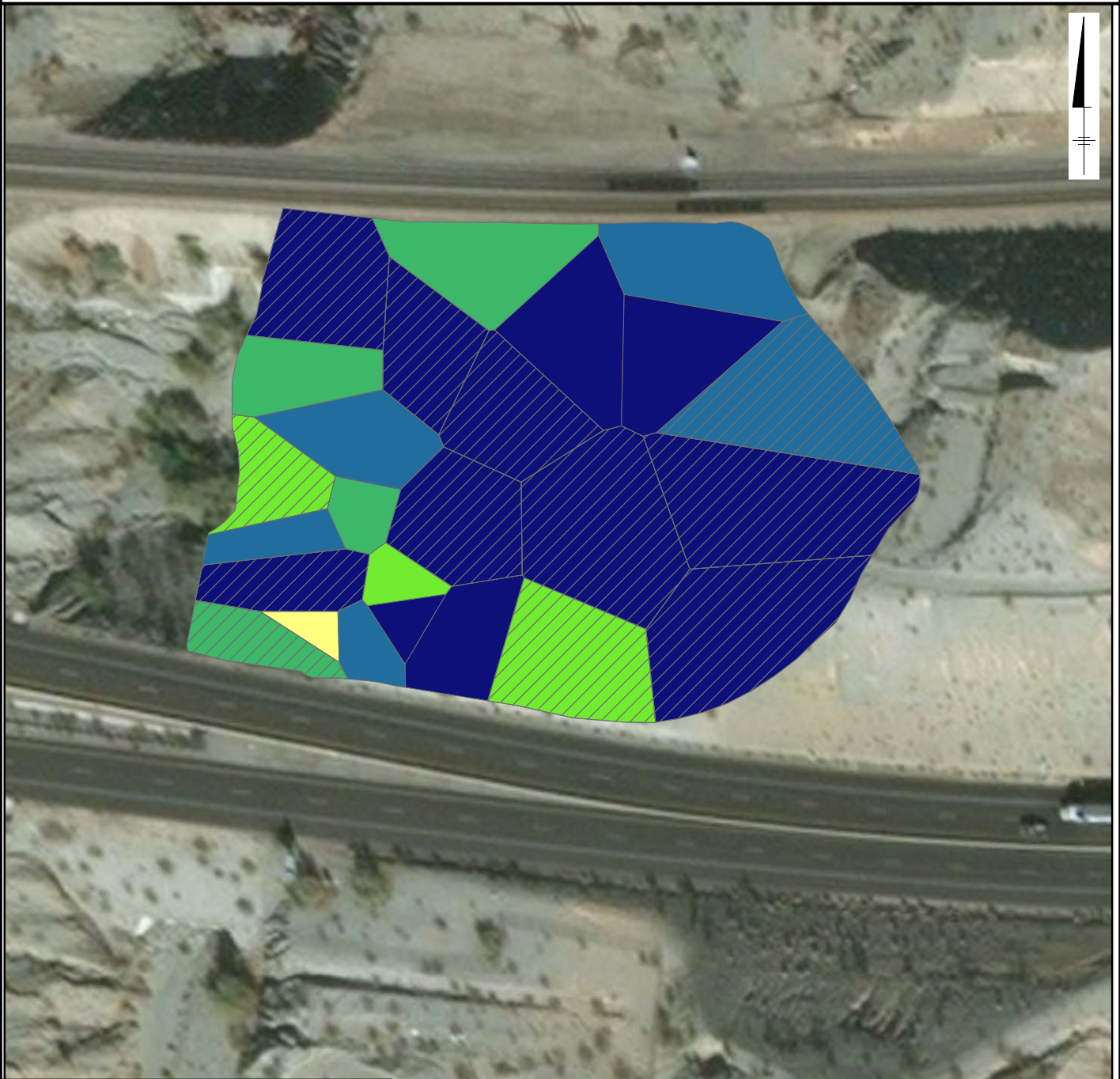


FIGURE
AOC14-A3.78

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE

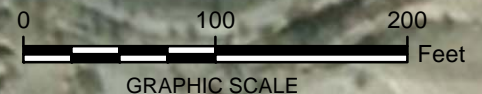


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 4.43
	≥4.43 - 9.28
	≥9.28 - 17.40
	≥17.40 - 165.00
	≥165.00 - 282.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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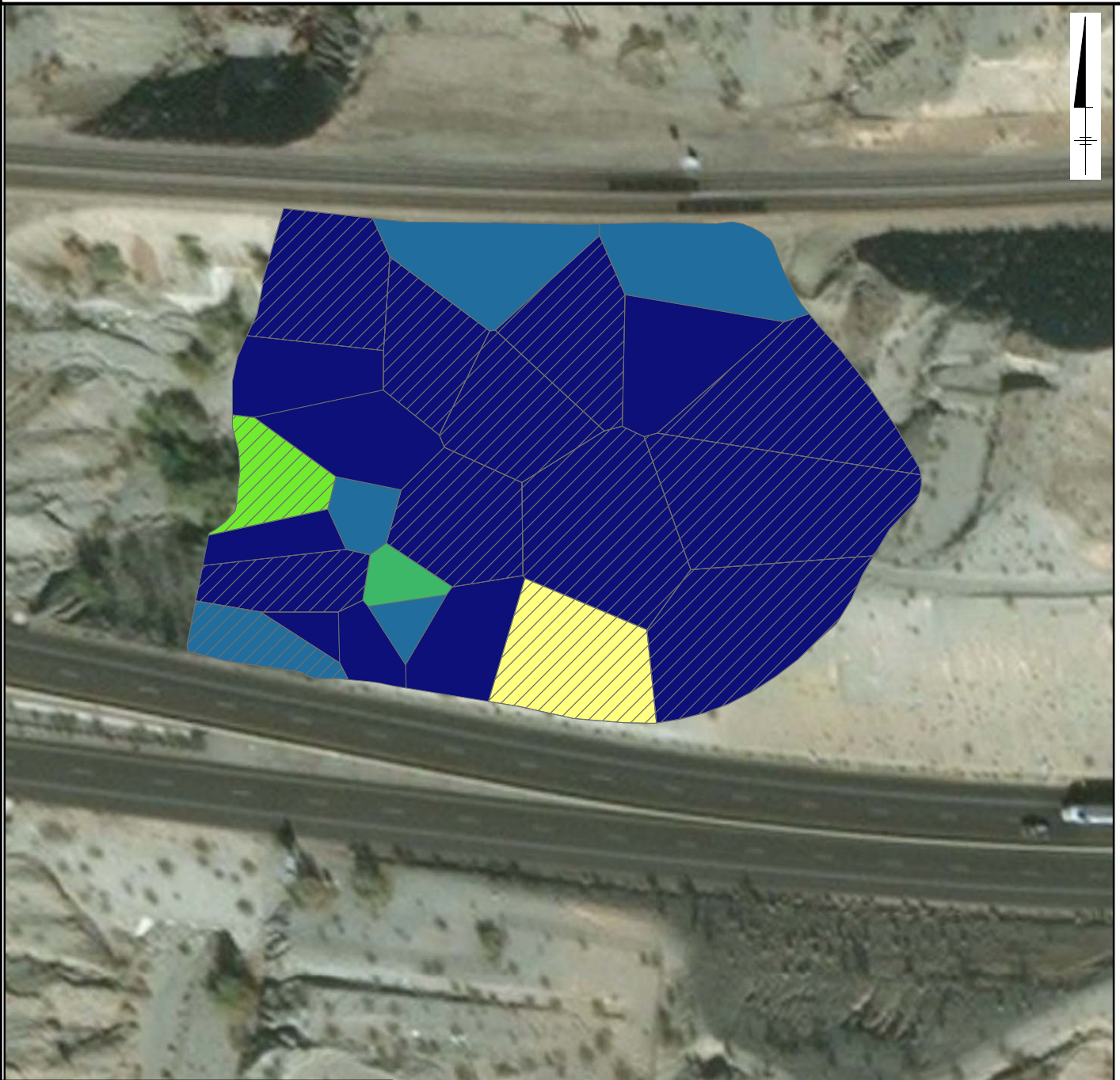


FIGURE
AOC14-A3.79

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE

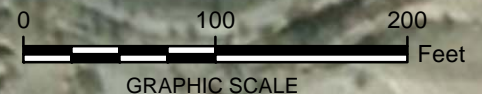


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 5.98
	≥5.98 - 14.30
	≥14.30 - 40.00
	≥40.00 - 78.10
	≥78.10 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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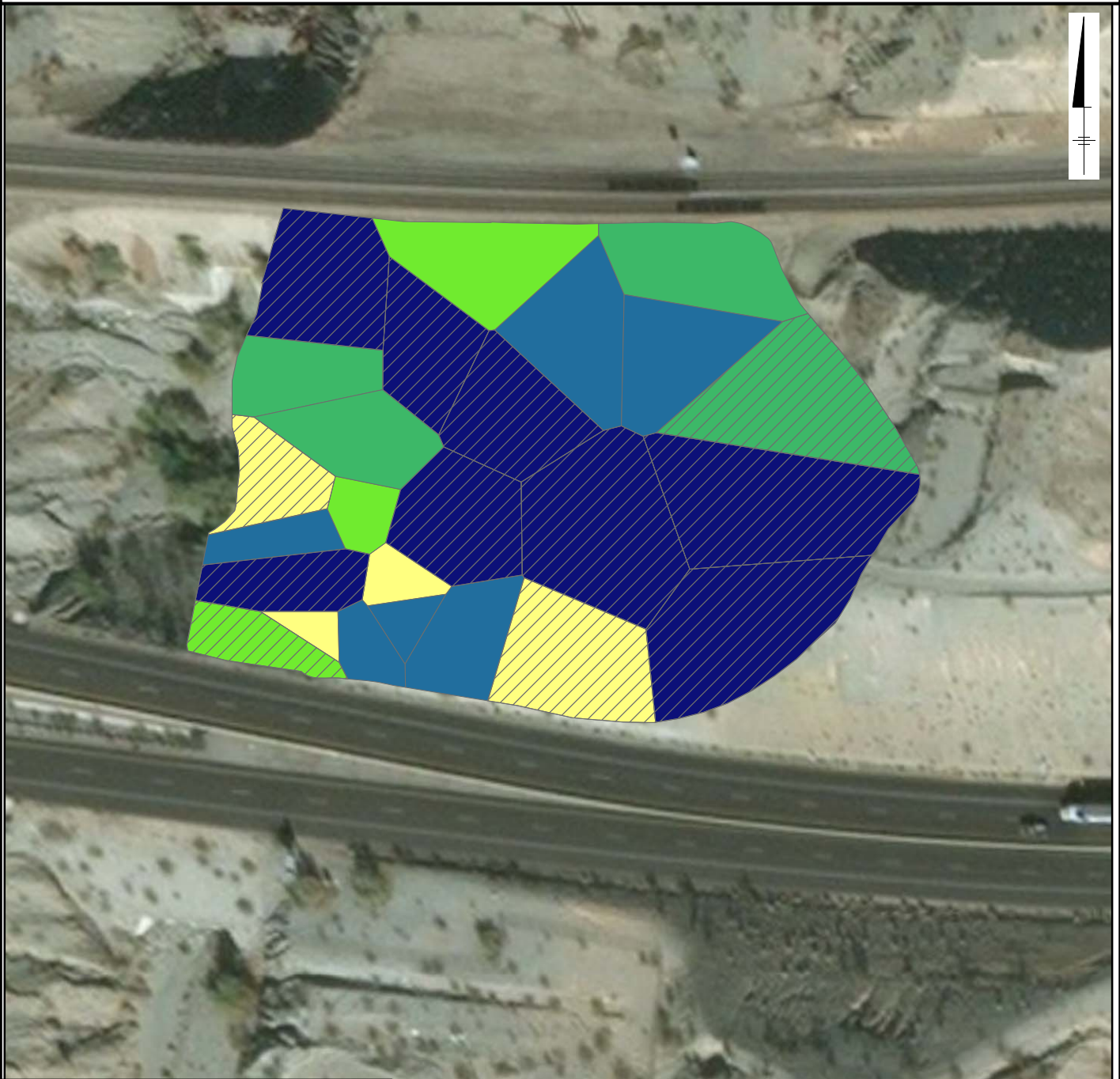
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FIGURE
AOC14-A3.80

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE

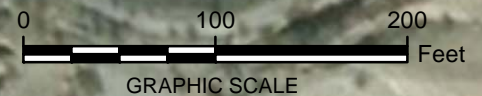


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 2.55
	≥2.55 - 4.97
	≥4.97 - 8.78
	≥8.78 - 14.90
	≥14.90 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



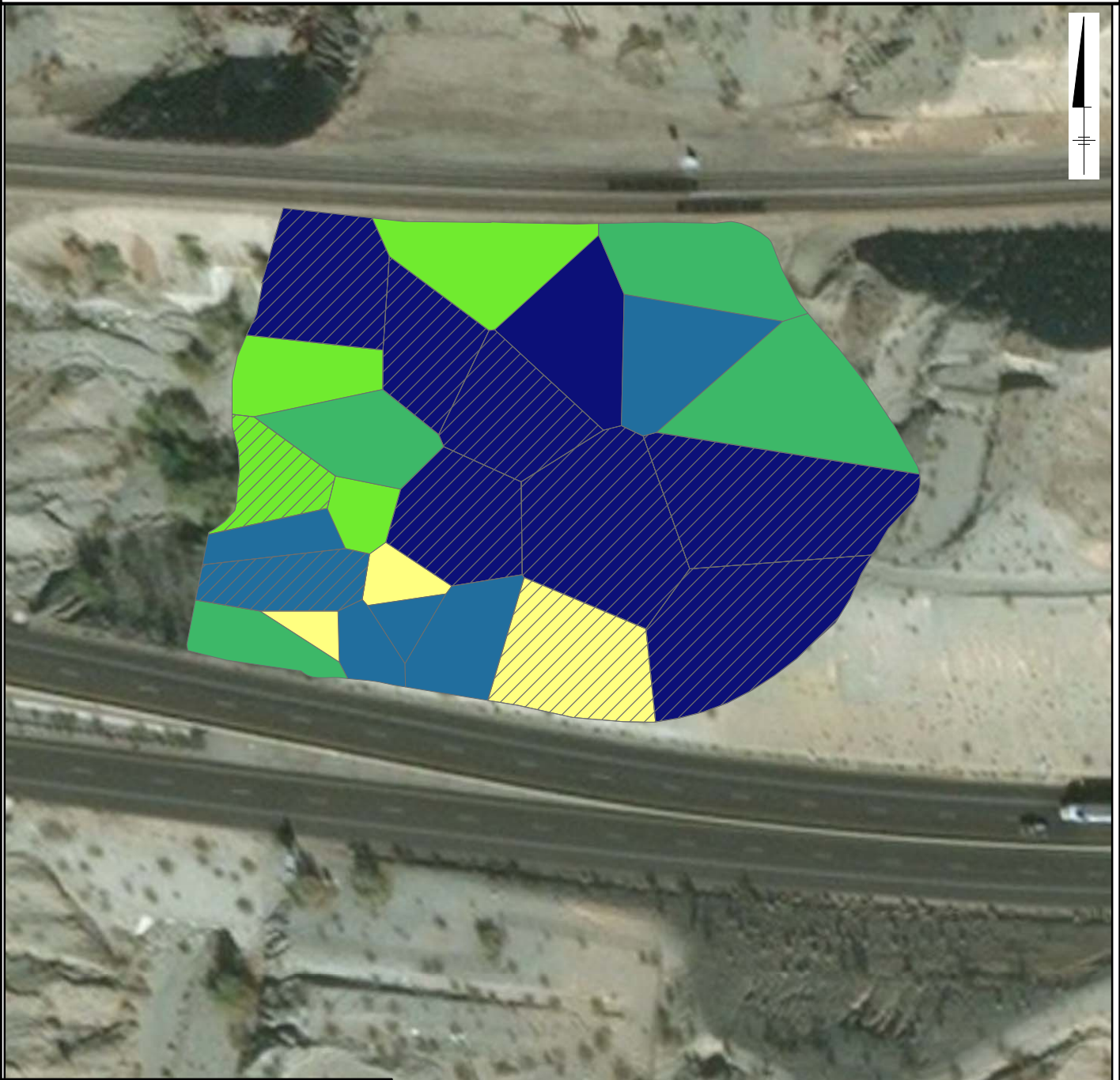
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FIGURE
AOC14-A3.81

AOC 14 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE

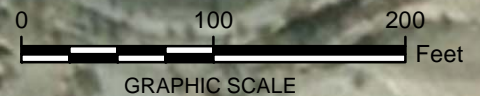


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	2.50 - 3.40
	≥3.40 - 6.38
	≥6.38 - 10.40
	≥10.40 - 15.50
	≥15.50 - 368.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



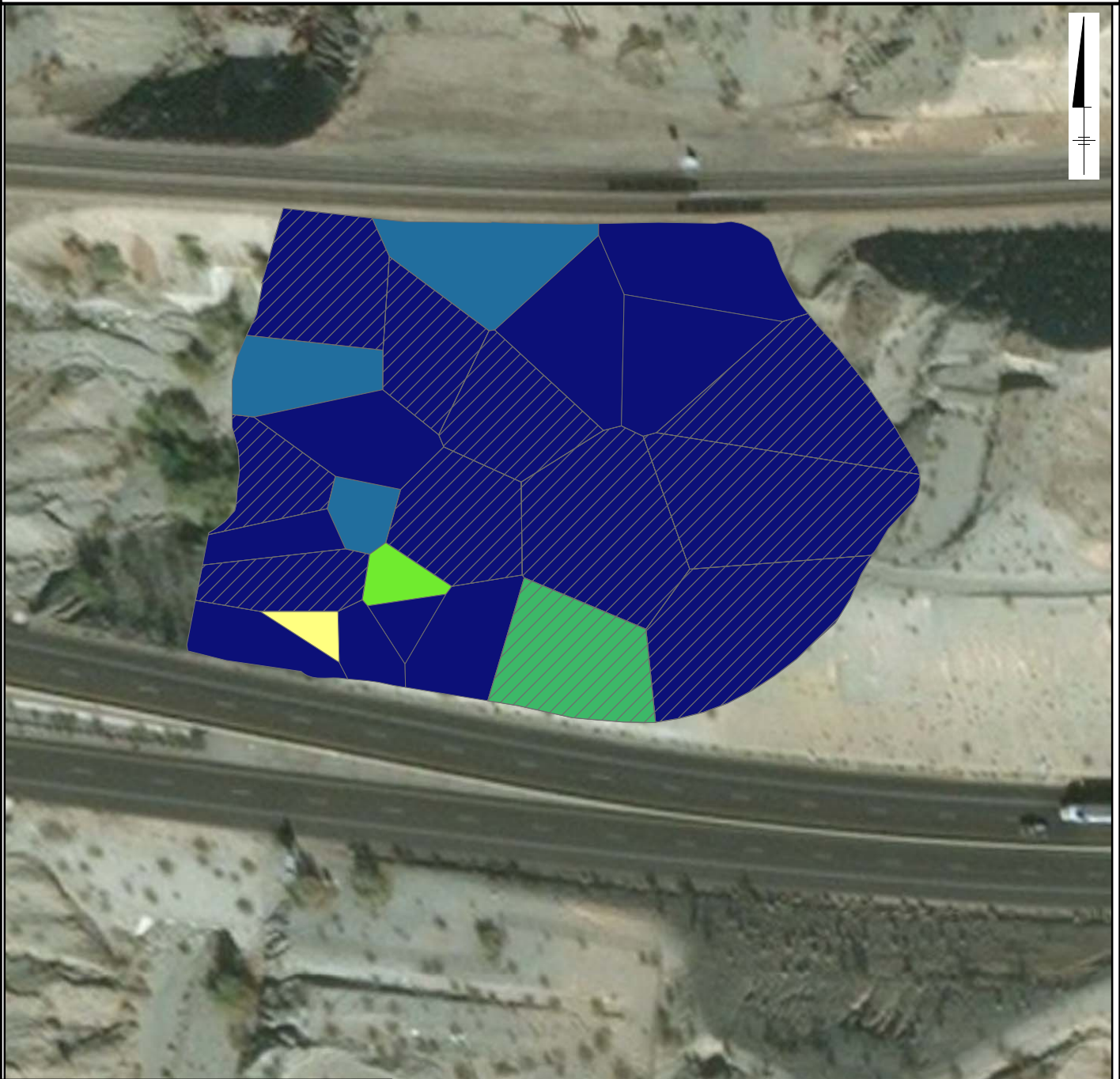
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FIGURE
AOC14-A3.82

AOC 14 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE

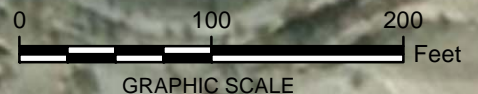


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 9.80
	≥9.80 - 26.80
	≥26.80 - 165.00
	≥165.00 - 350.00
	≥350.00 - 702.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



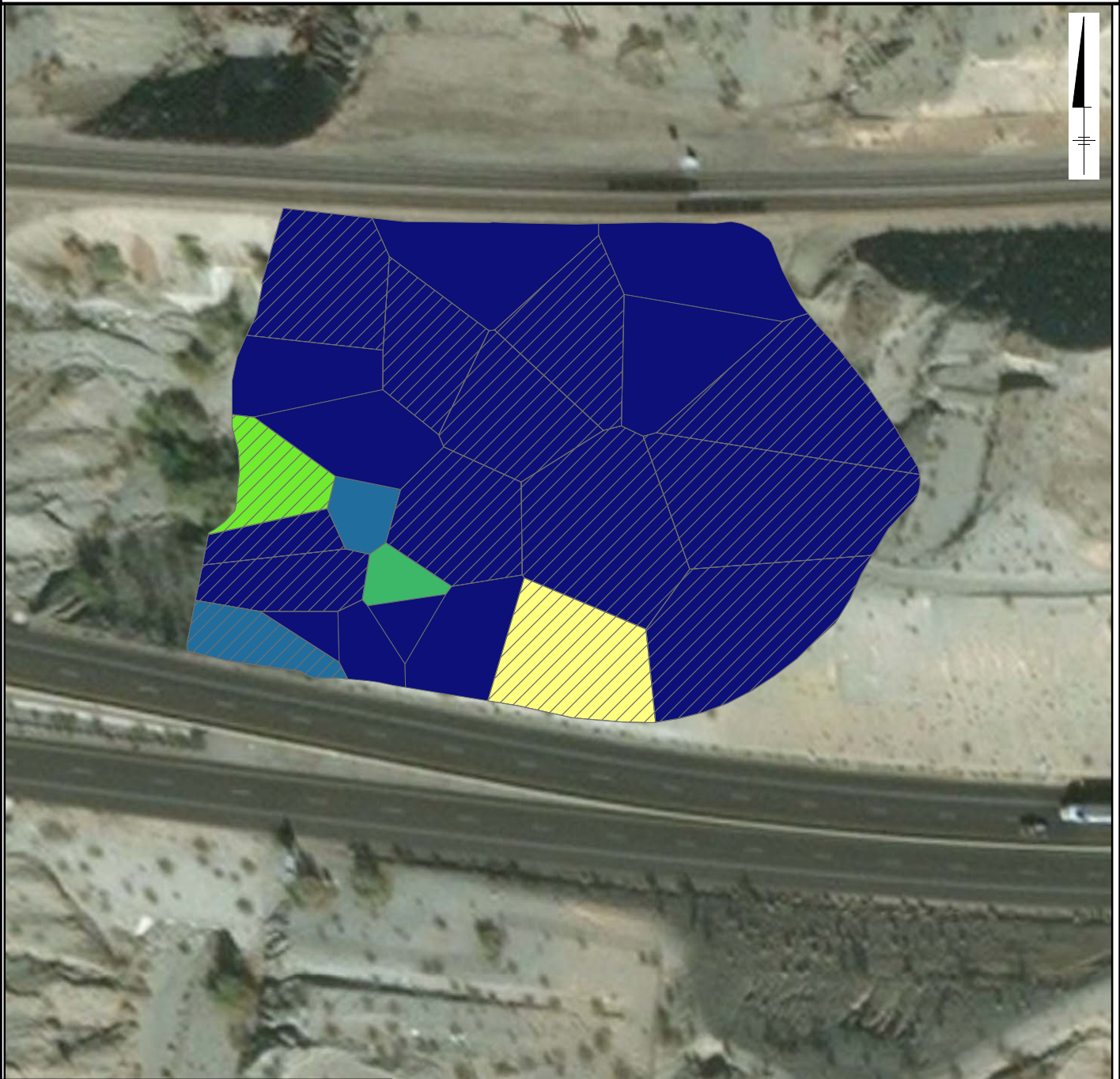
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FIGURE
AOC14-A3.83

AOC 14 0 - 6 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

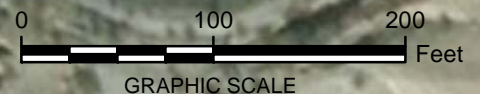


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 7.25
	≥ 7.25 - 14.30
	≥ 14.30 - 39.00
	≥ 39.00 - 78.10
	≥ 78.10 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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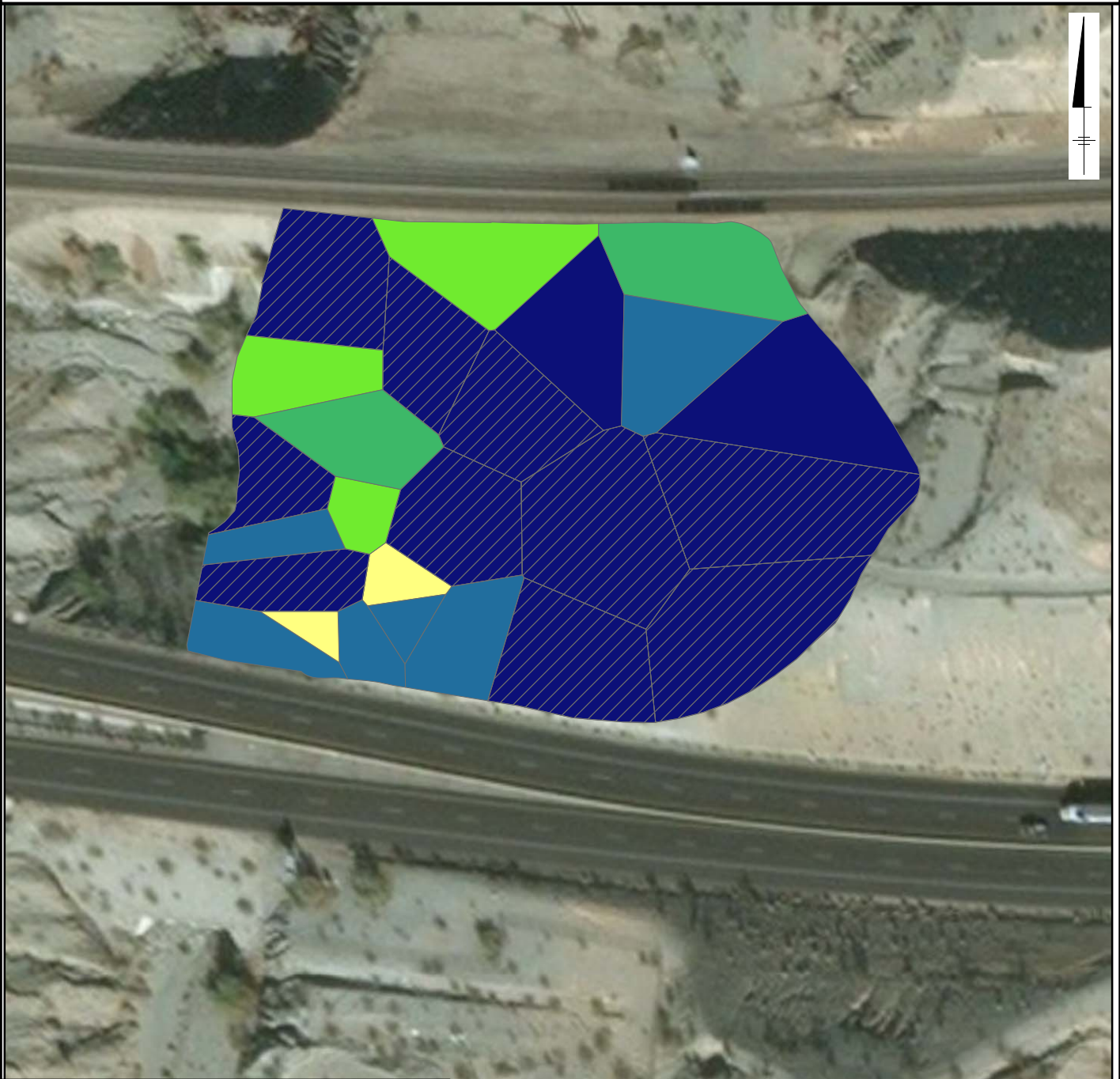


FIGURE
AOC14-A3.84

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT

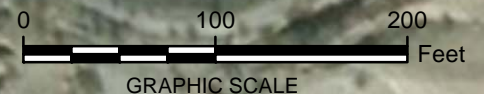


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 9.40
	≥9.40 - 31.50
	≥31.50 - 54.20
	≥54.20 - 103.00
	≥103.00 - 2690.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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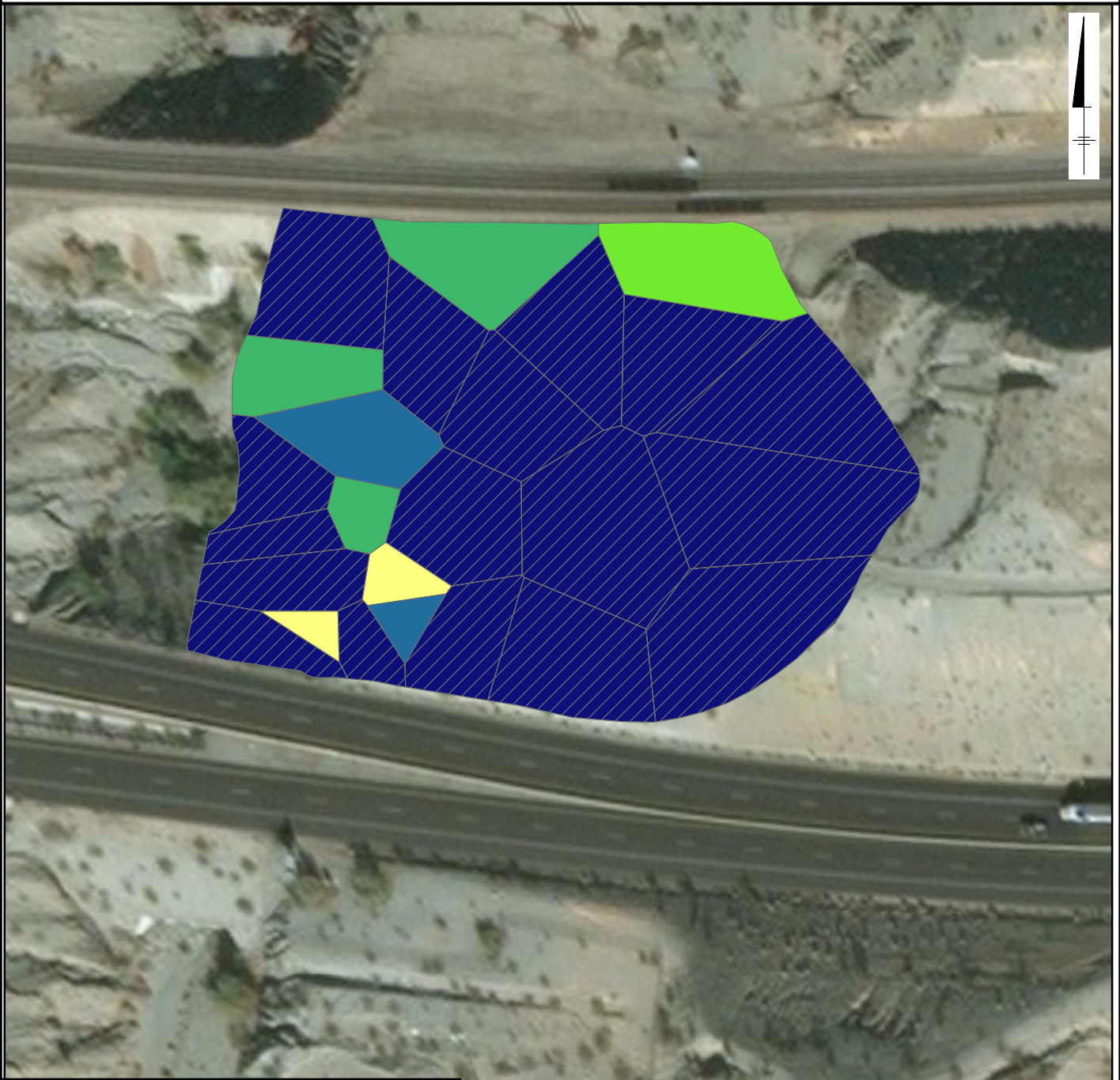
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FIGURE
AOC14-A3.85

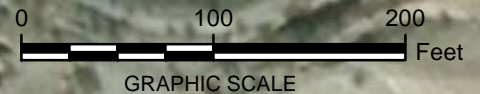
AOC 14

0 - 6 FEET BELOW GROUND SURFACE

PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG



≥
LEGEND:
PAH LOW MOLECULAR WEIGHT (UG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

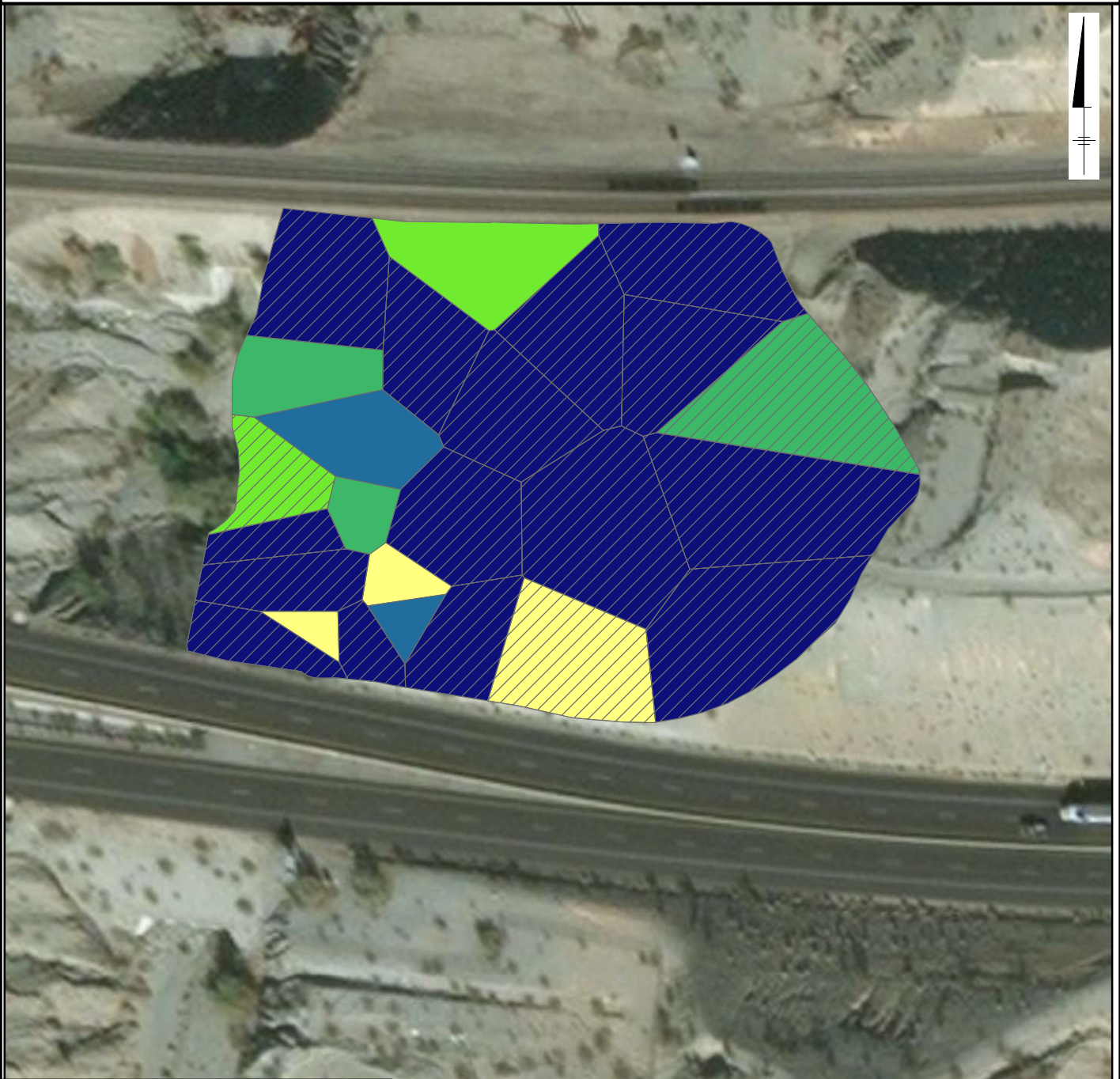
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**FIGURE
AOC14-A3.86**

AOC 14 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

0 100 200
Feet

GRAPHIC SCALE

≥
LEGEND:
PHENANTHRENE (UG/KG)

≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS
EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE
AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

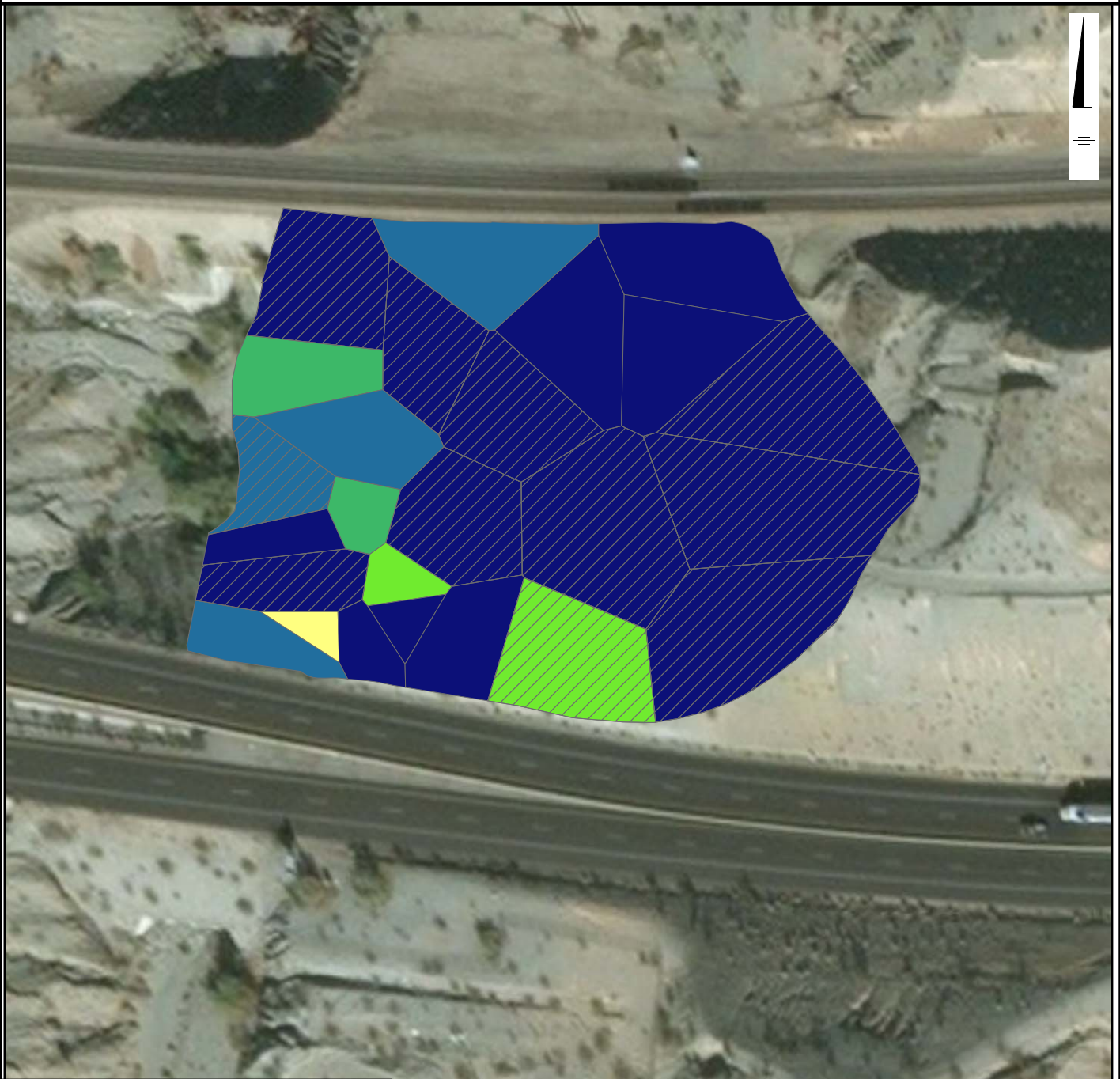
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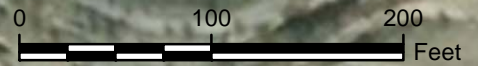
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**FIGURE
AOC14-A3.87**

AOC 14 0 - 6 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None



GRAPHIC SCALE

≥
LEGEND:
PYRENE (UG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

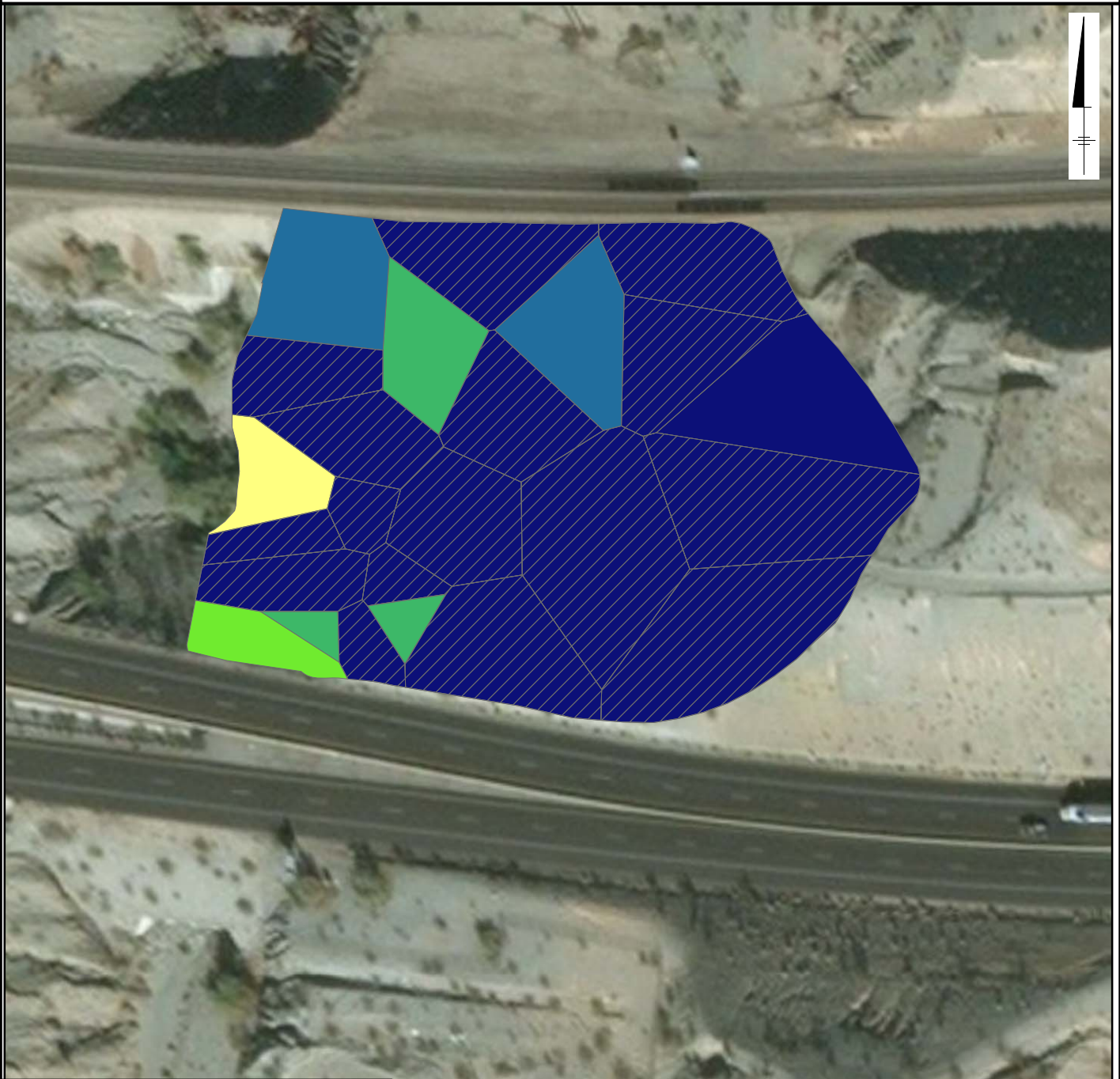
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**FIGURE
AOC14-A3.88**

AOC 14 0 - 6 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

0 100 200
Feet

GRAPHIC SCALE

≥
LEGEND:
TPH AS DIESEL (MG/KG)

≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS
EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE
AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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**FIGURE
AOC14-A3.89**

AOC 14

0 - 6 FEET BELOW GROUND SURFACE

TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

0 100 200 Feet

GRAPHIC SCALE

≥
LEGEND:
TPH AS MOTOR OIL (MG/KG)

≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

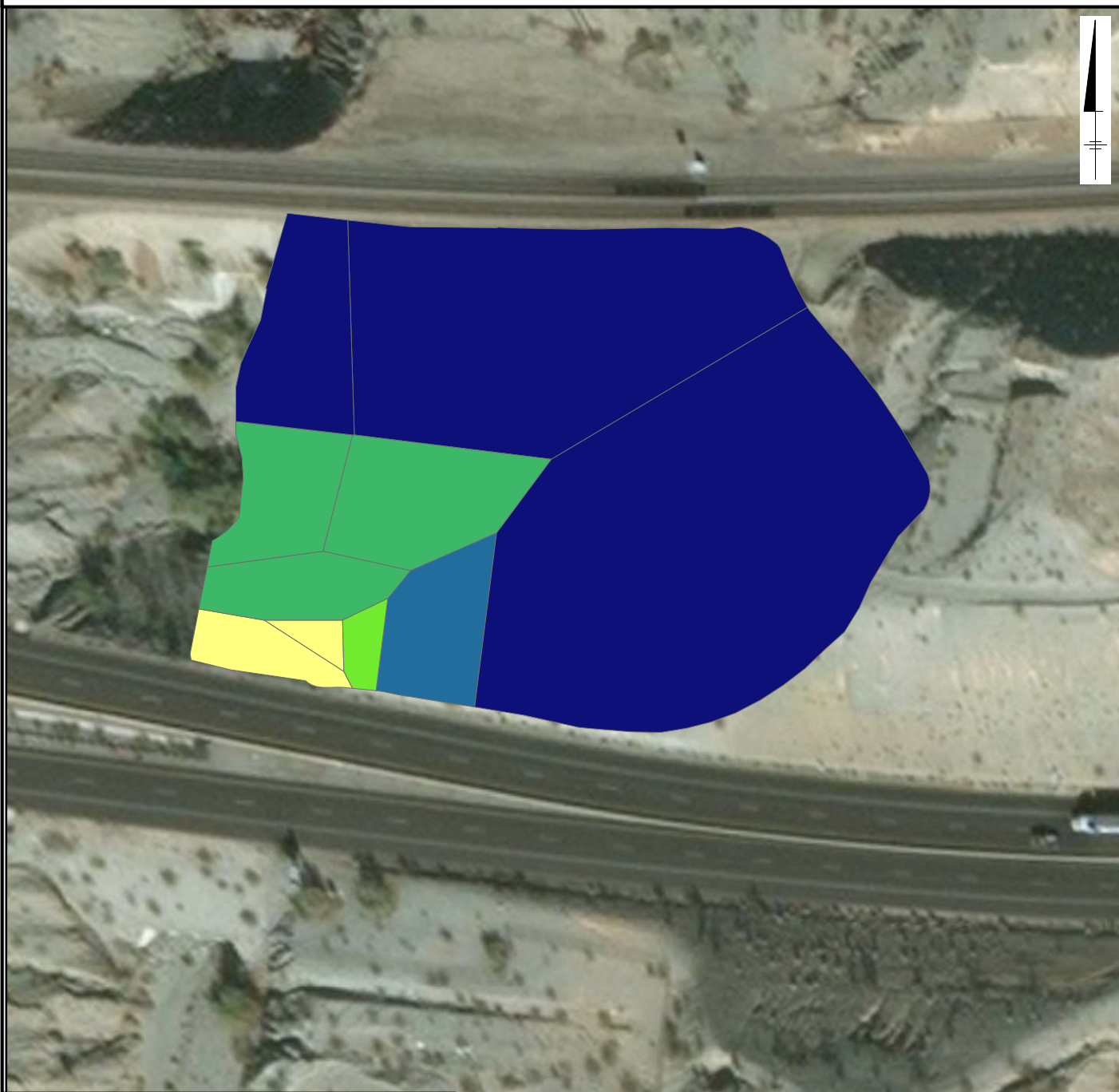
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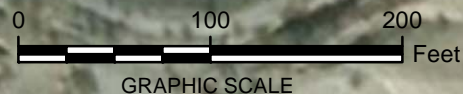
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**FIGURE
AOC14-A3.90**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG



≥
LEGEND:
TEQ AVIAN (NG/KG)
≥
/ ≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

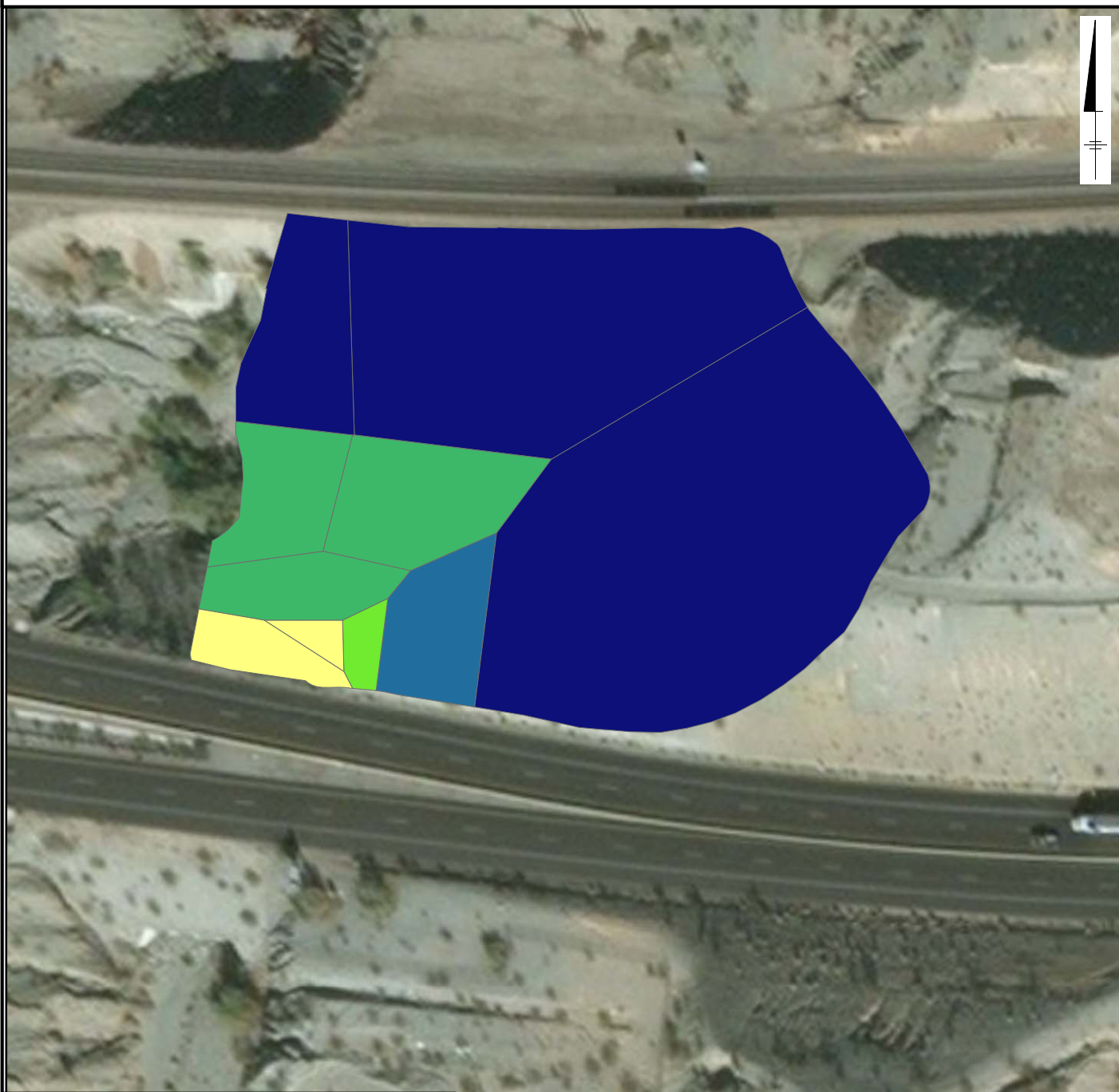
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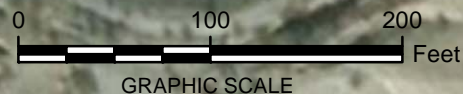
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**FIGURE
AOC14-A3.91**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG



≥
LEGEND:
TEQ HUMAN (NG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

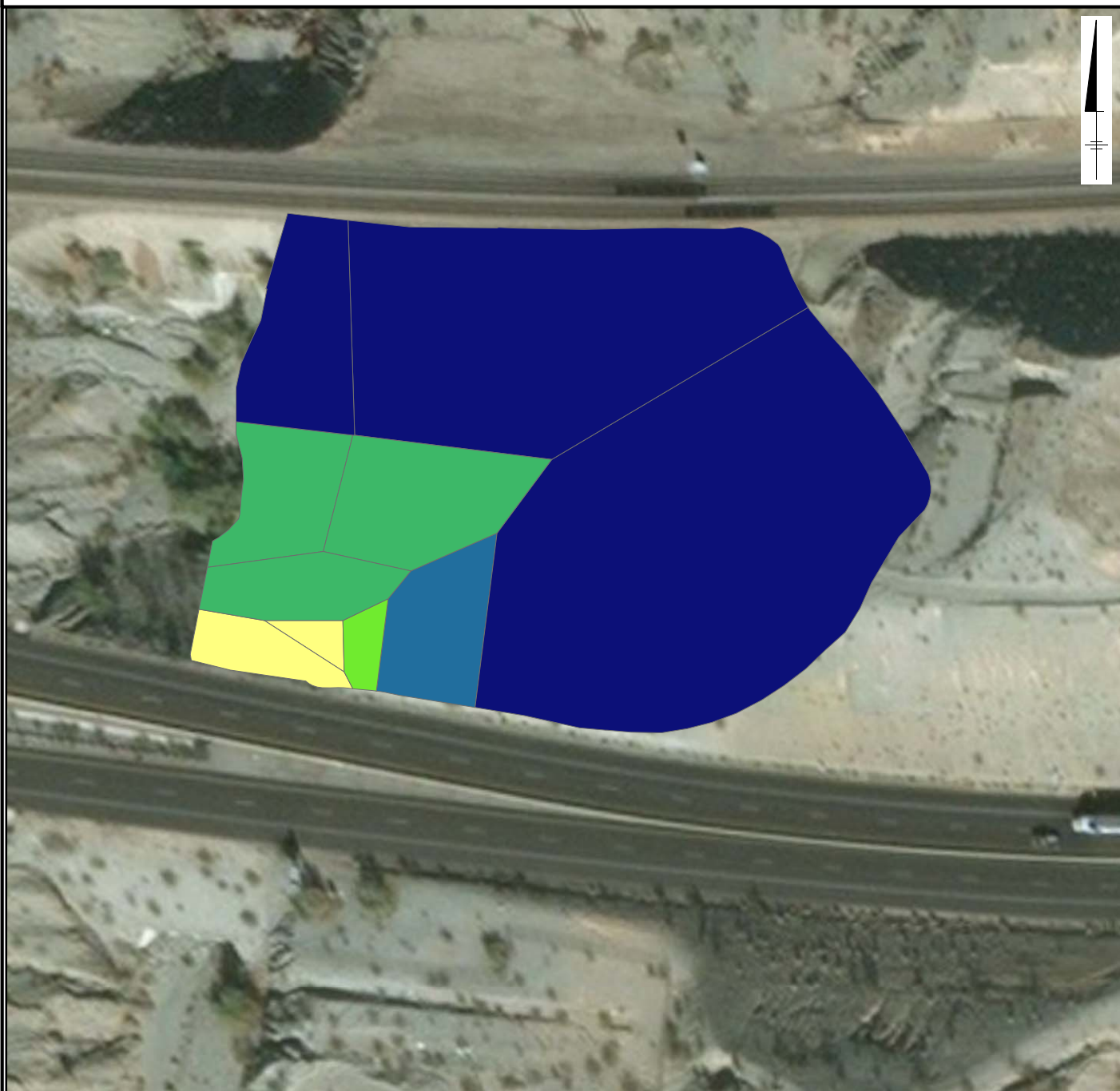
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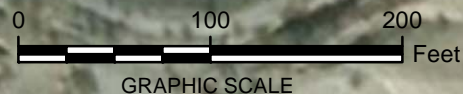
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**FIGURE
AOC14-A3.92**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG



≥
LEGEND:
TEQ MAMMALS (NG/KG)

□ ≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
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**FIGURE
AOC14-A3.93**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

0 100 200
Feet

GRAPHIC SCALE

≥
LEGEND:
ARSENIC (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

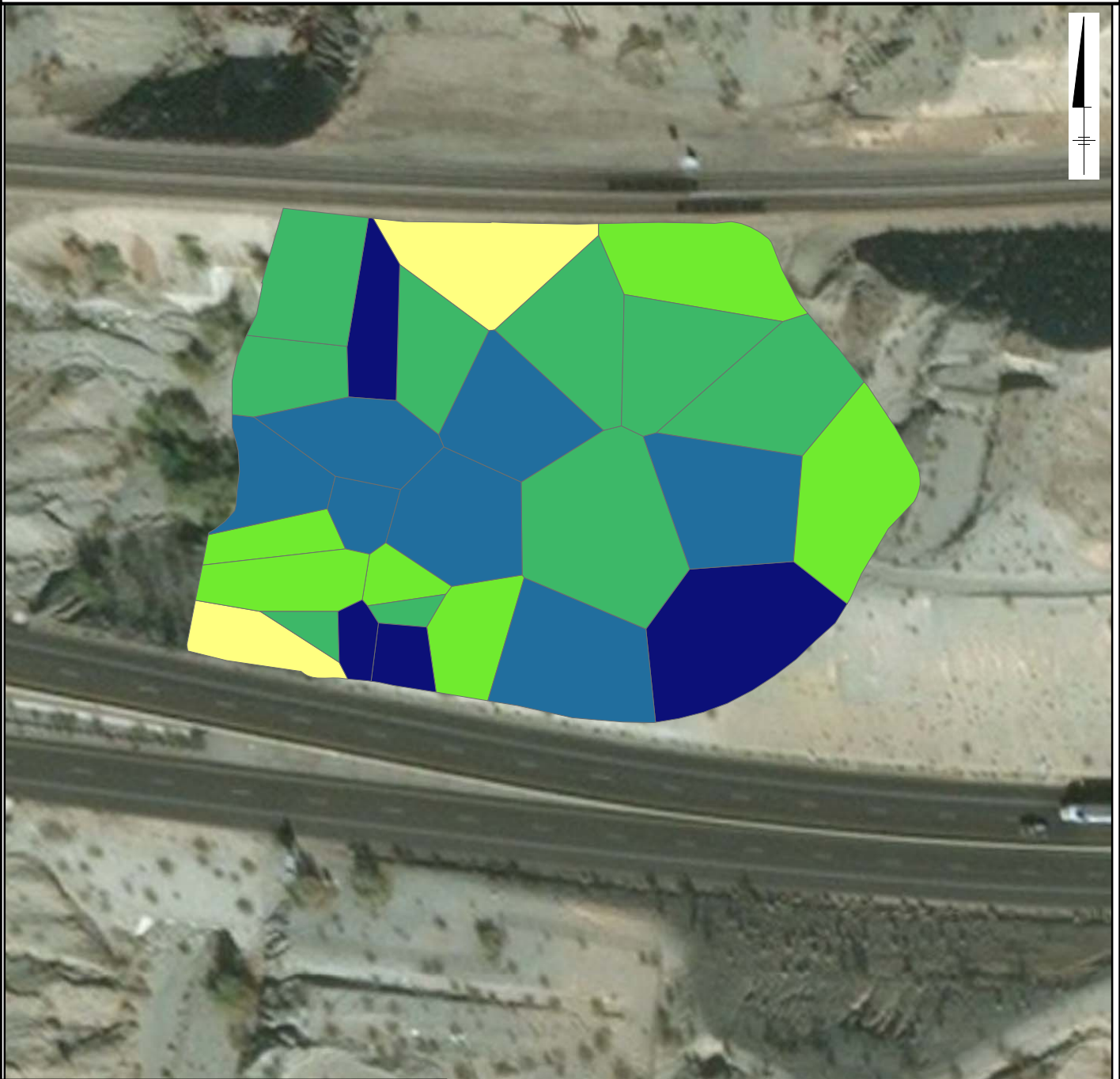
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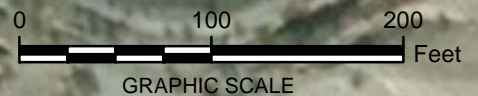
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**FIGURE
AOC14-A3.94**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG



≥
LEGEND:
BARIUM (MG/KG)
≥
/ ≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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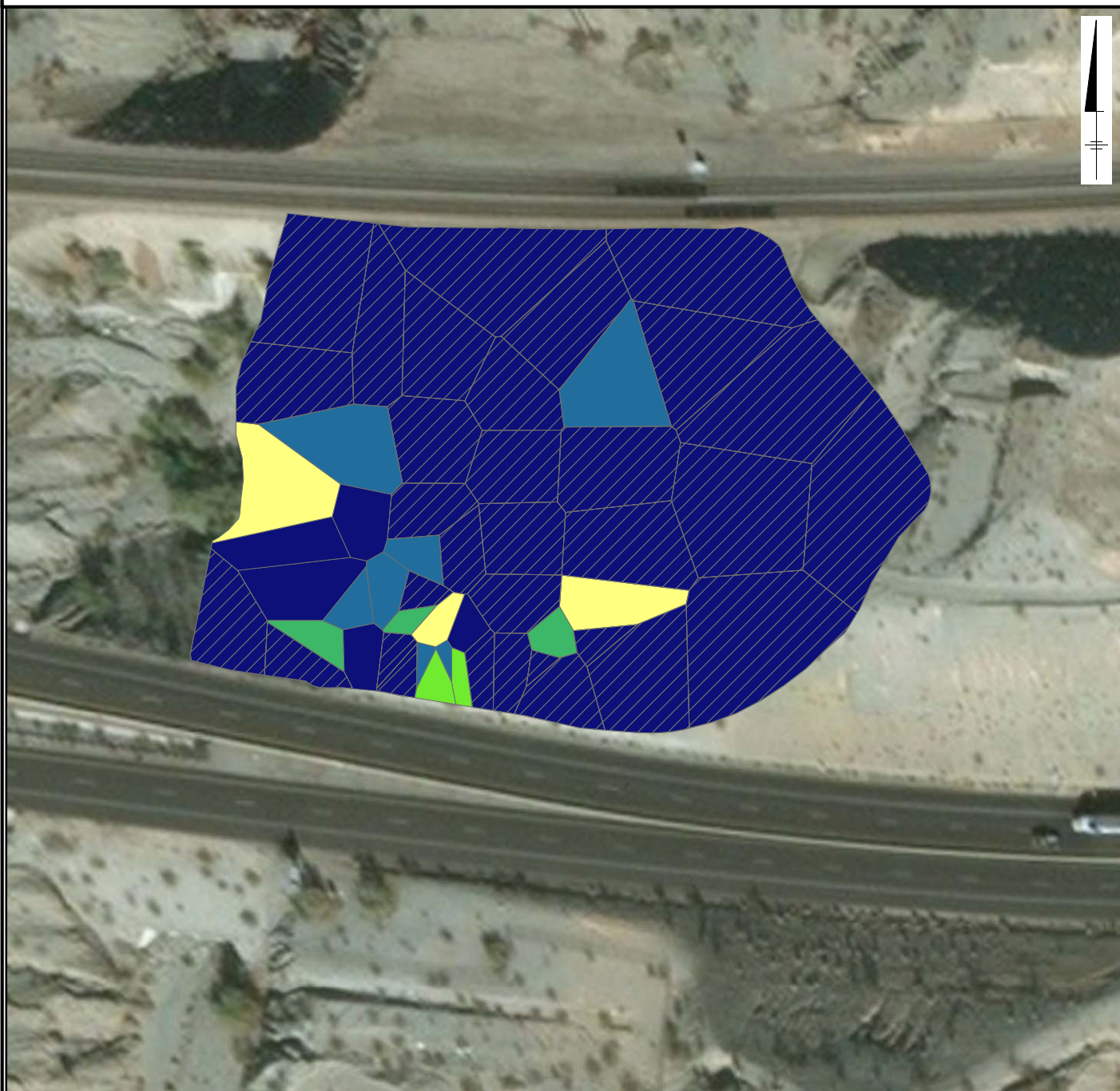
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**FIGURE
AOC14-A3.95**

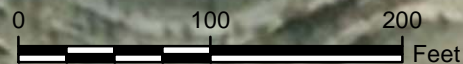
AOC 14

0 - 10 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG



GRAPHIC SCALE

≥
LEGEND:
CHROMIUM, HEXAVALENT (MG/KG)

≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

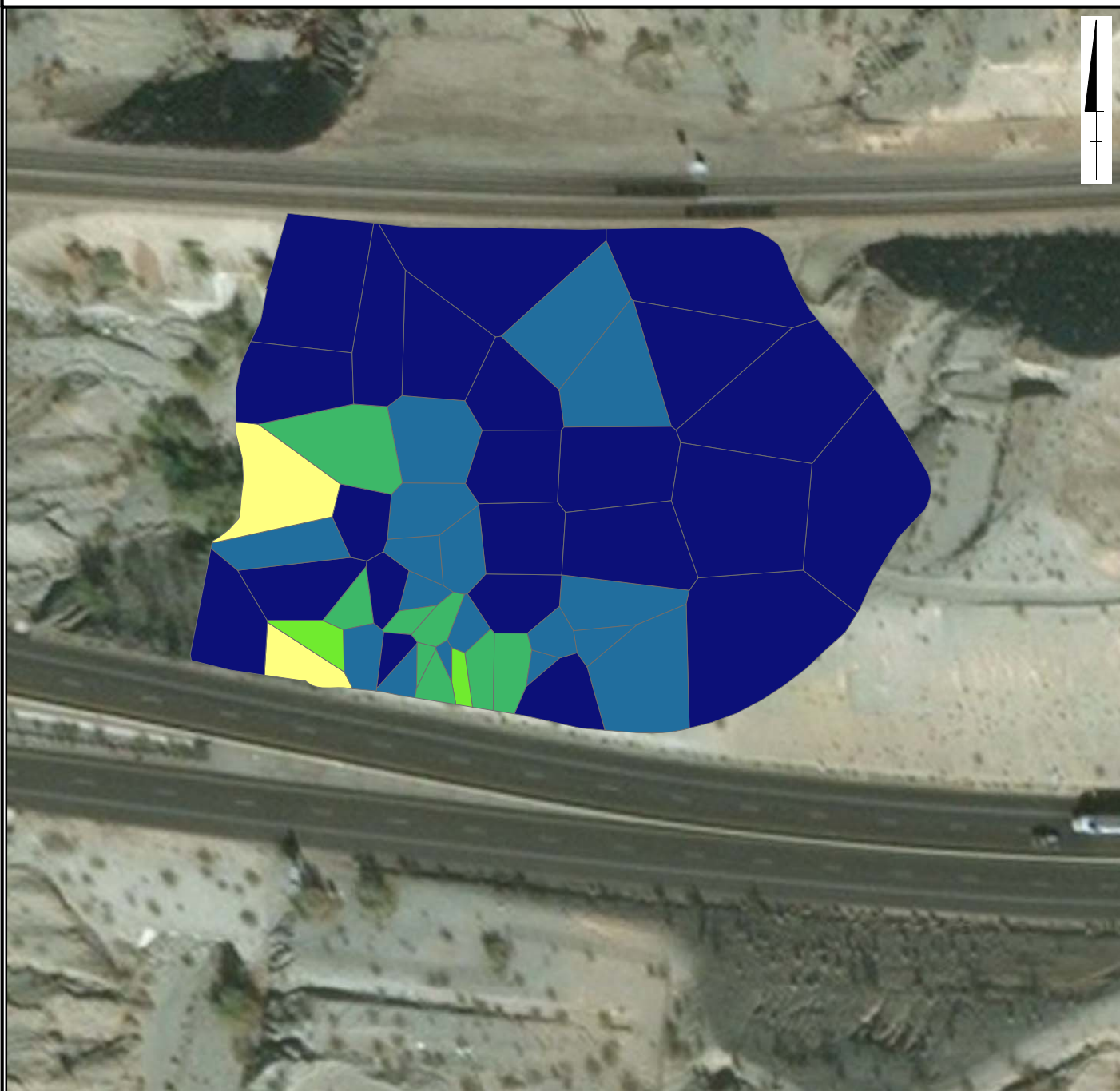
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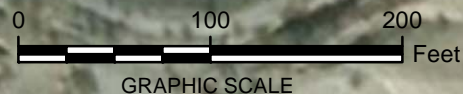


**FIGURE
AOC14-A3.96**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG



≥
LEGEND:
CHROMIUM, TOTAL (MG/KG)

□ ≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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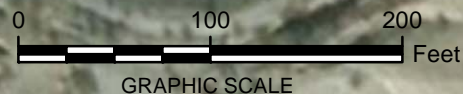
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**FIGURE
AOC14-A3.97**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG



≥
LEGEND:
COBALT (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

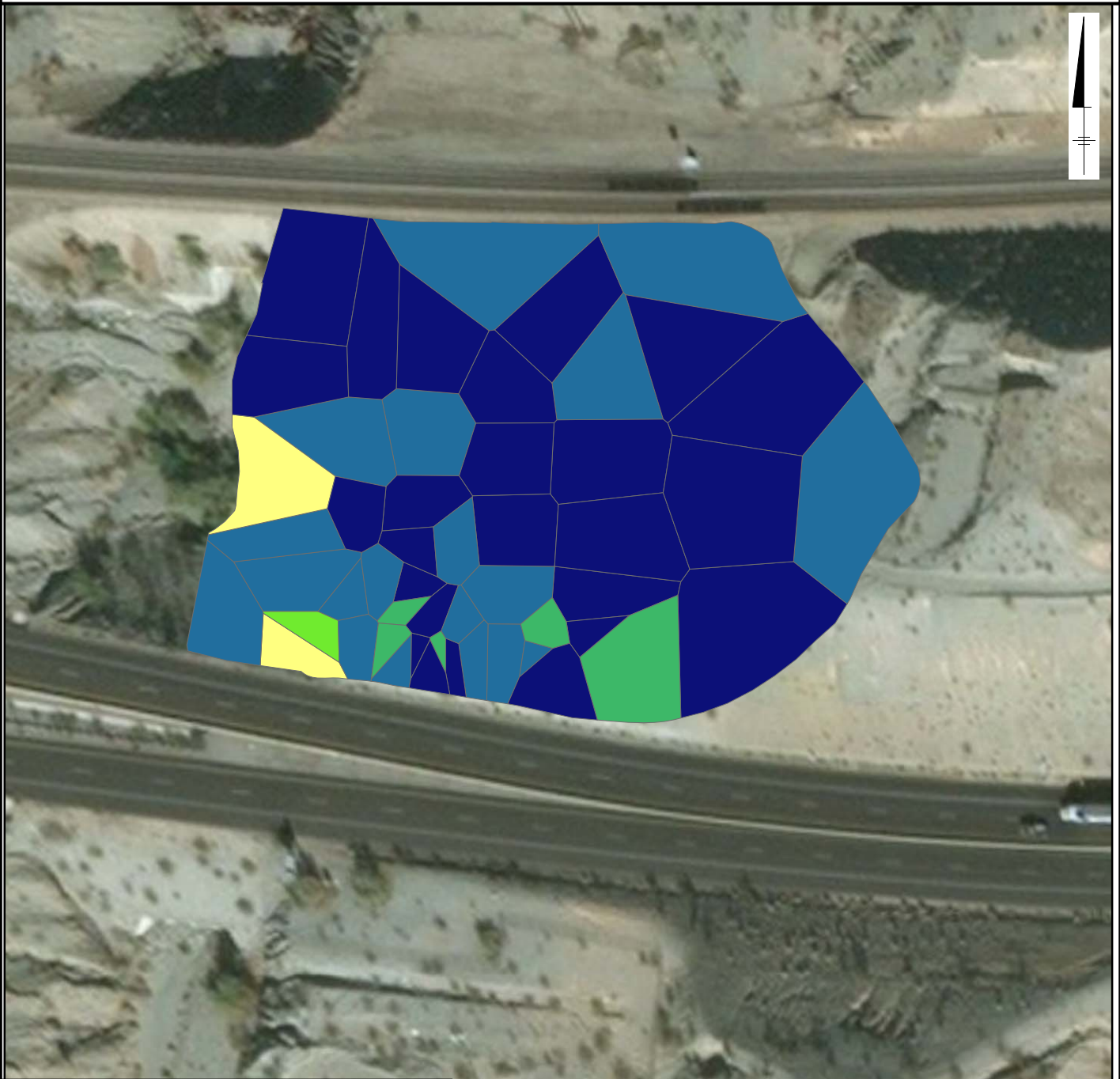
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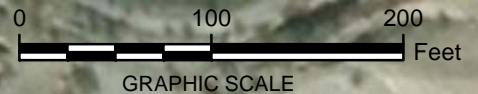
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**FIGURE
AOC14-A3.98**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG



≥
LEGEND:
COPPER (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

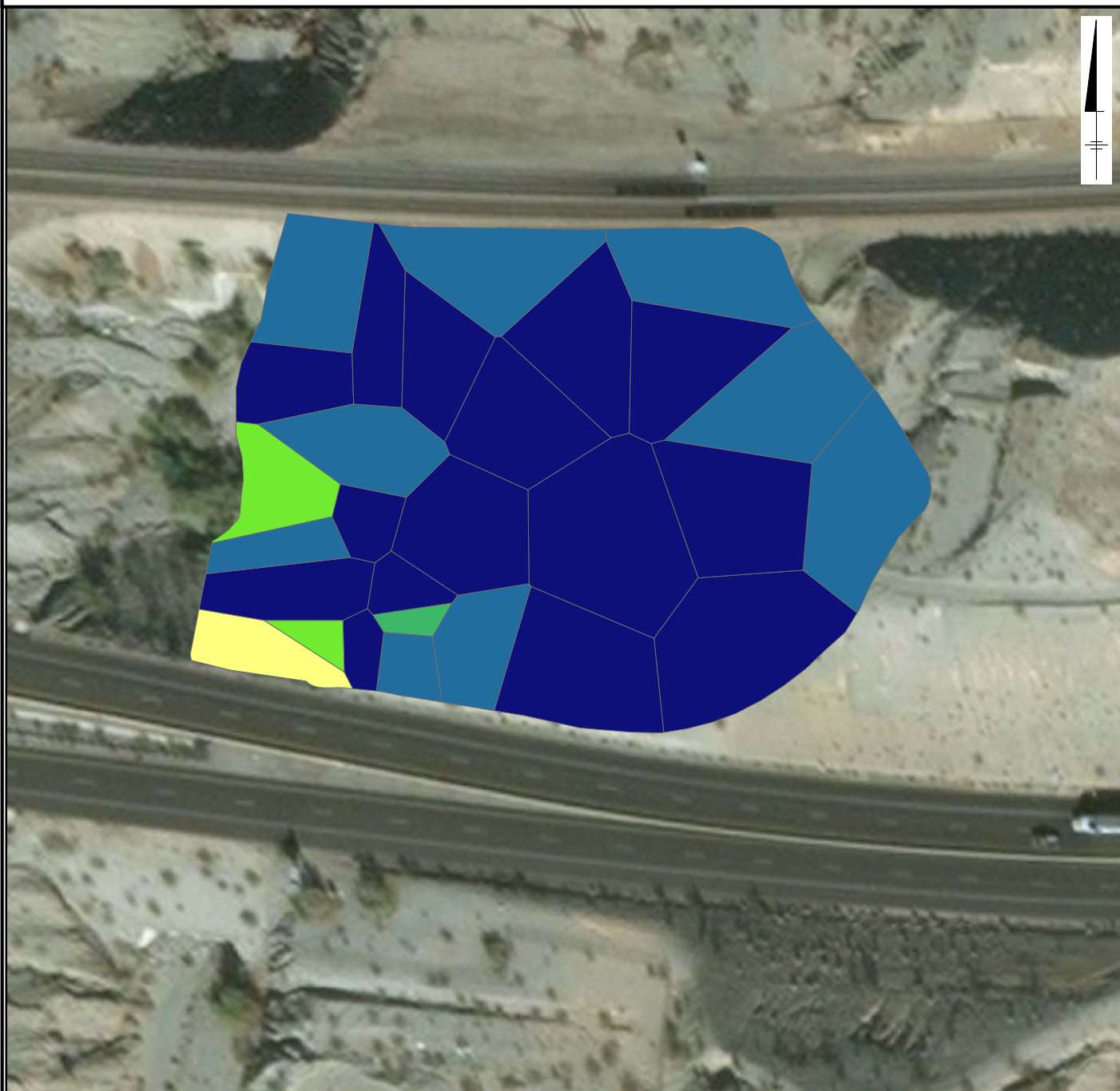
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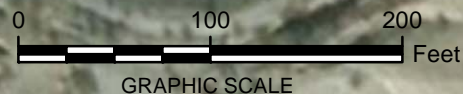
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**FIGURE
AOC14-A3.99**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG



≥
LEGEND:
LEAD_d (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

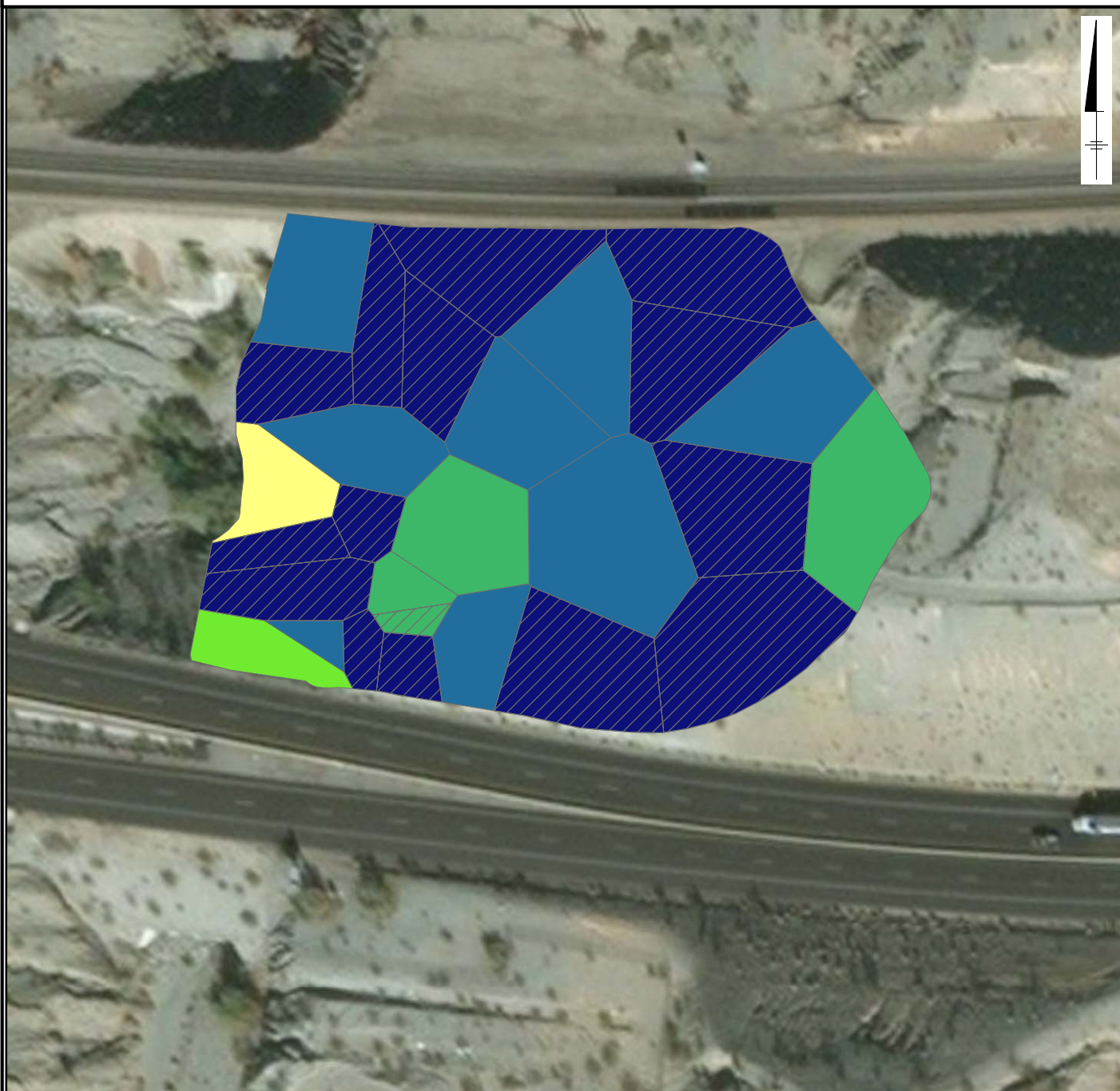
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**FIGURE
AOC14-A3.100**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE MOLYBDENUM



BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

0 100 200
Feet

GRAPHIC SCALE

≥
LEGEND:
MOLYBDENUM (MG/KG)

≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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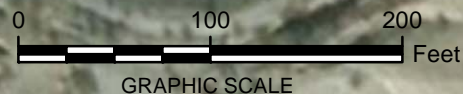
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**FIGURE
AOC14-A3.101**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG



≥
LEGEND:
NICKEL (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

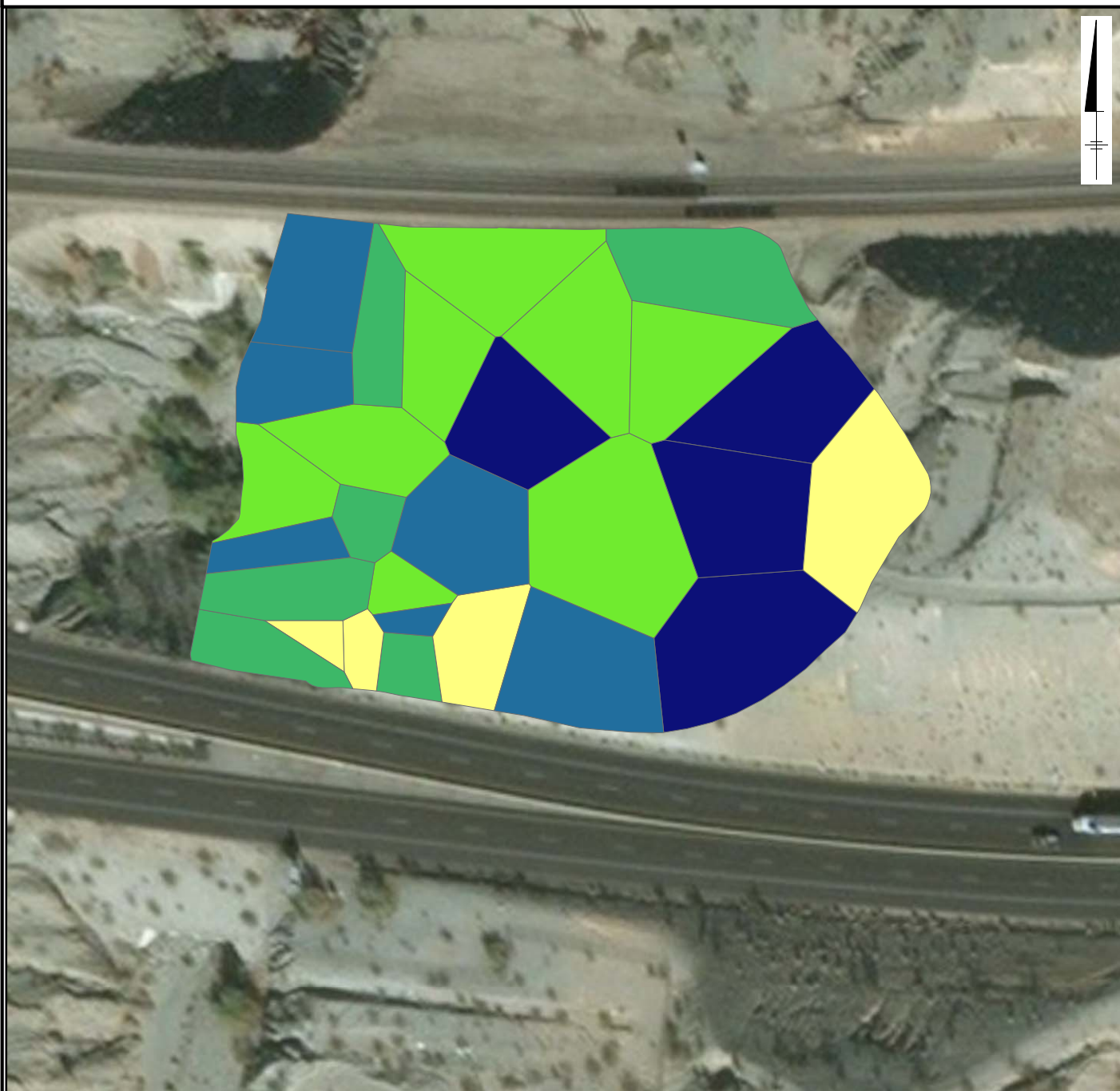
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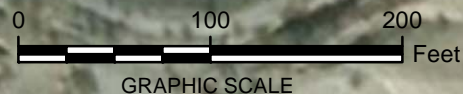
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**FIGURE
AOC14-A3.102**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG



≥
LEGEND:
VANADIUM (MG/KG)
≥ NOT DETECTED

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

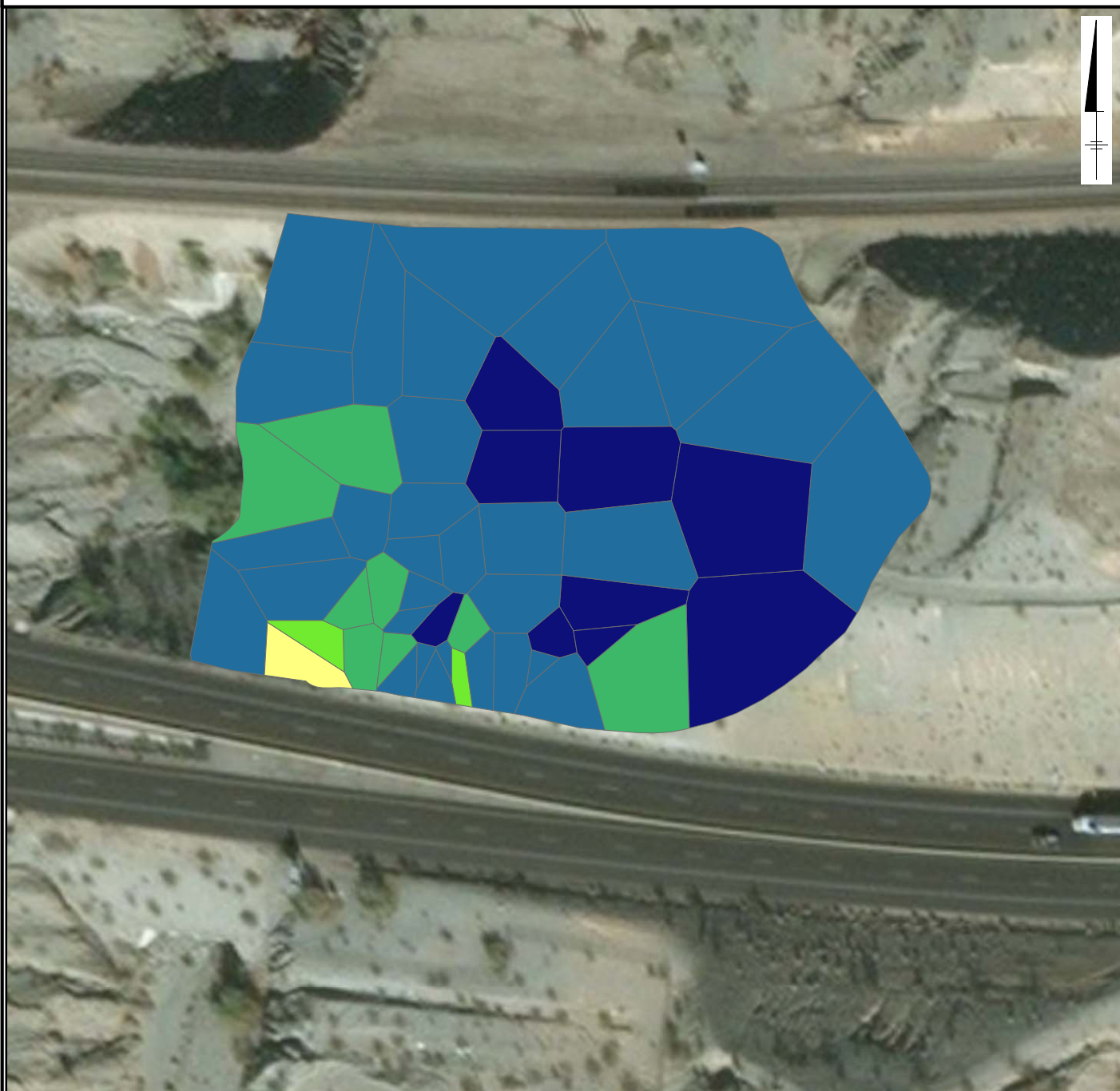
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**FIGURE
AOC14-A3.103**

AOC 14 0 - 10 FEET BELOW GROUND SURFACE ZINC



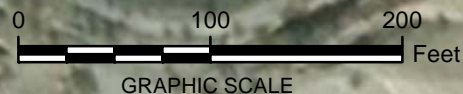
BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND:

ZINC (MG/KG)

	NOT DETECTED
	11.30 - 25.10
	≥25.10 - 38.80
	≥38.80 - 62.70
	≥62.70 - 243.00
	≥243.00 - 629.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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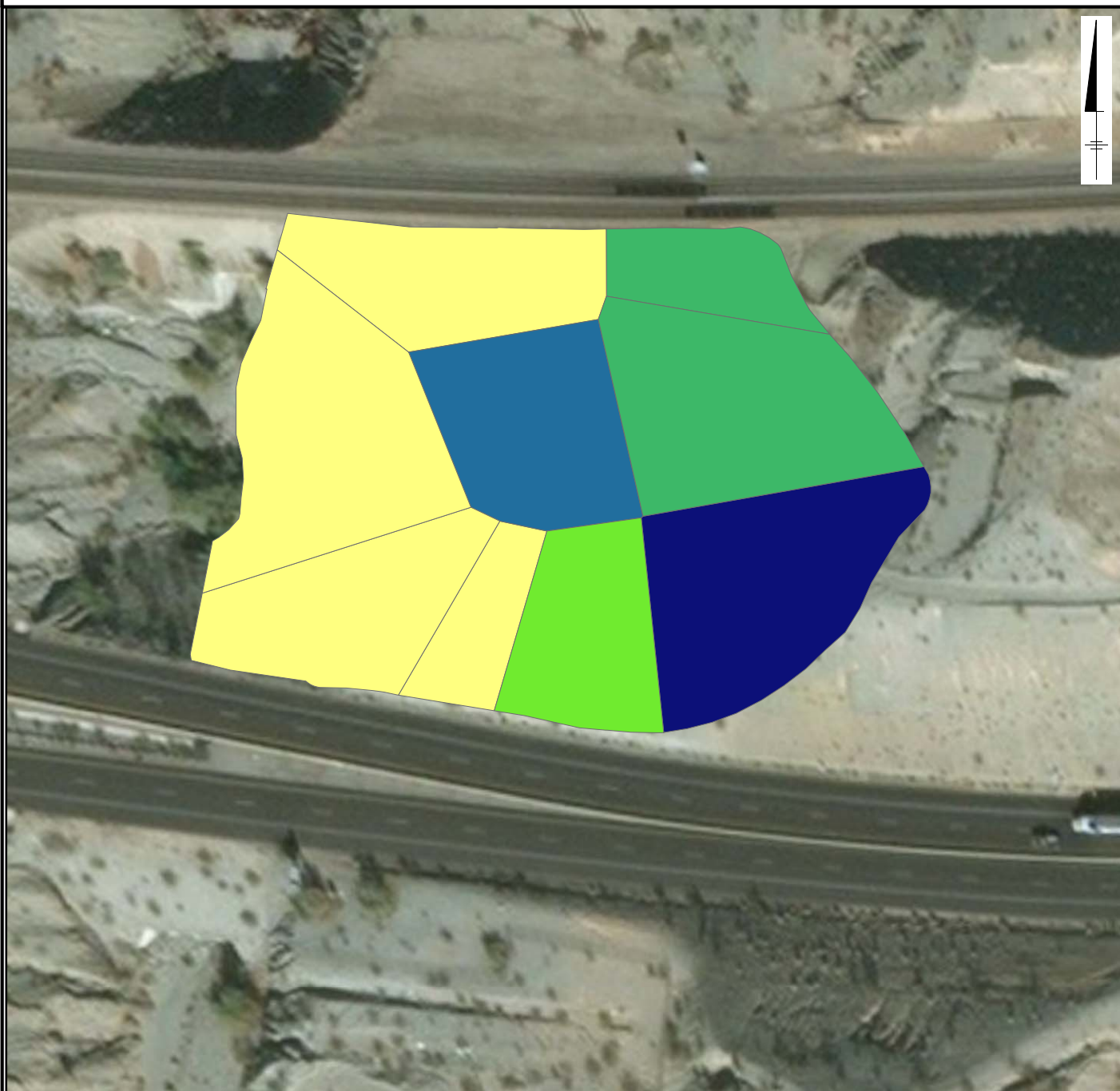
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FIGURE
AOC14-A3.104

AOC 14 0 - 10 FEET BELOW GROUND SURFACE ALUMINUM

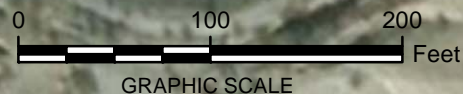


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

	NOT DETECTED
	3000.00 - 3000.00
	≥3000.00 - 5400.00
	≥5400.00 - 6800.00
	≥6800.00 - 7700.00
	≥7700.00 - 9000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



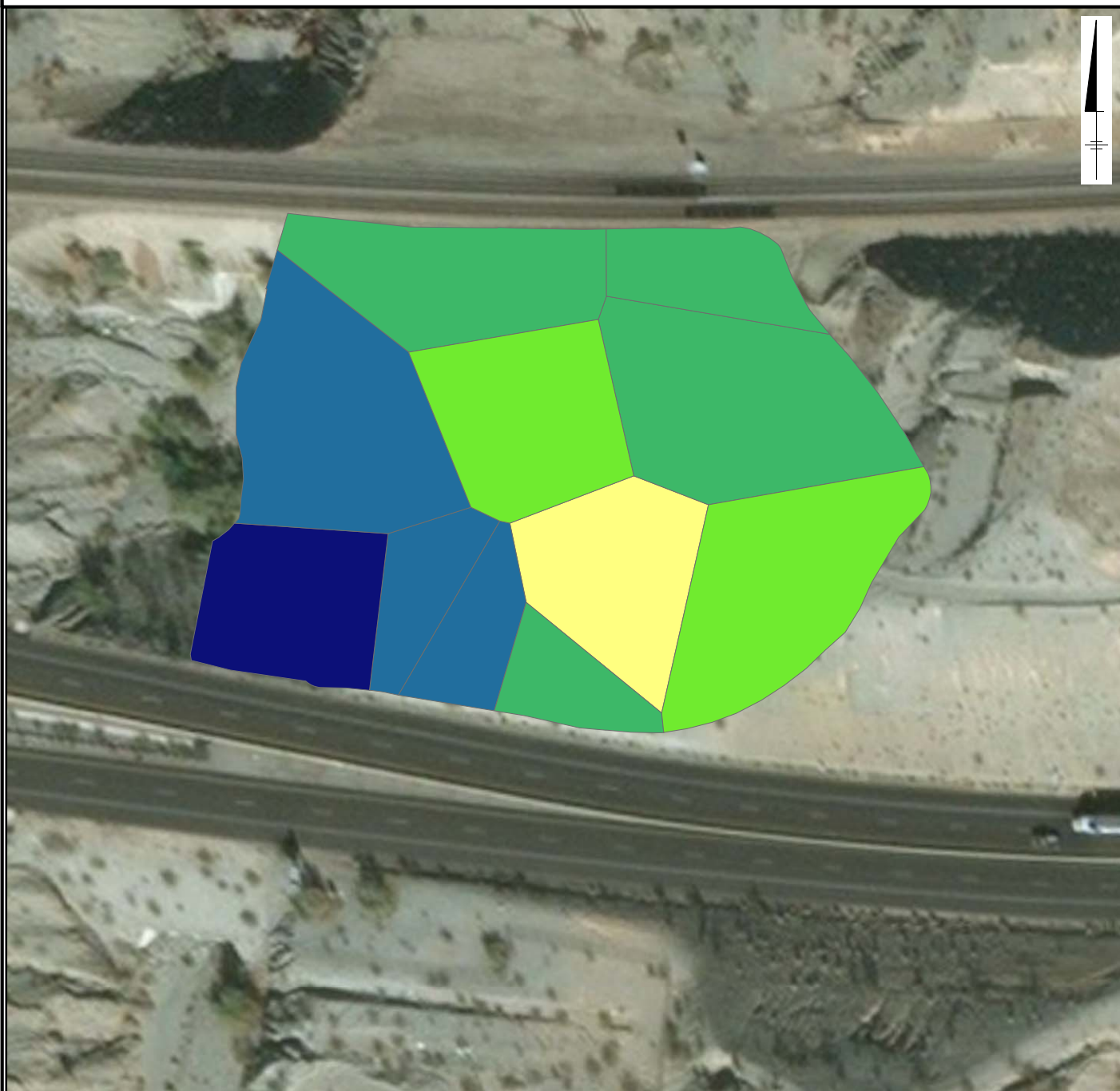
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FIGURE
AOC14-A3.105

AOC 14 0 - 10 FEET BELOW GROUND SURFACE IRON

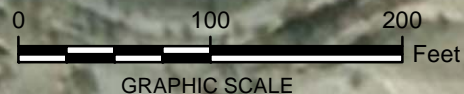


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	425.00
	≥425.01 - 11000.00
	≥11000.01 - 17000.00
	≥17000.01 - 20000.00
	≥20000.01 - 23100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



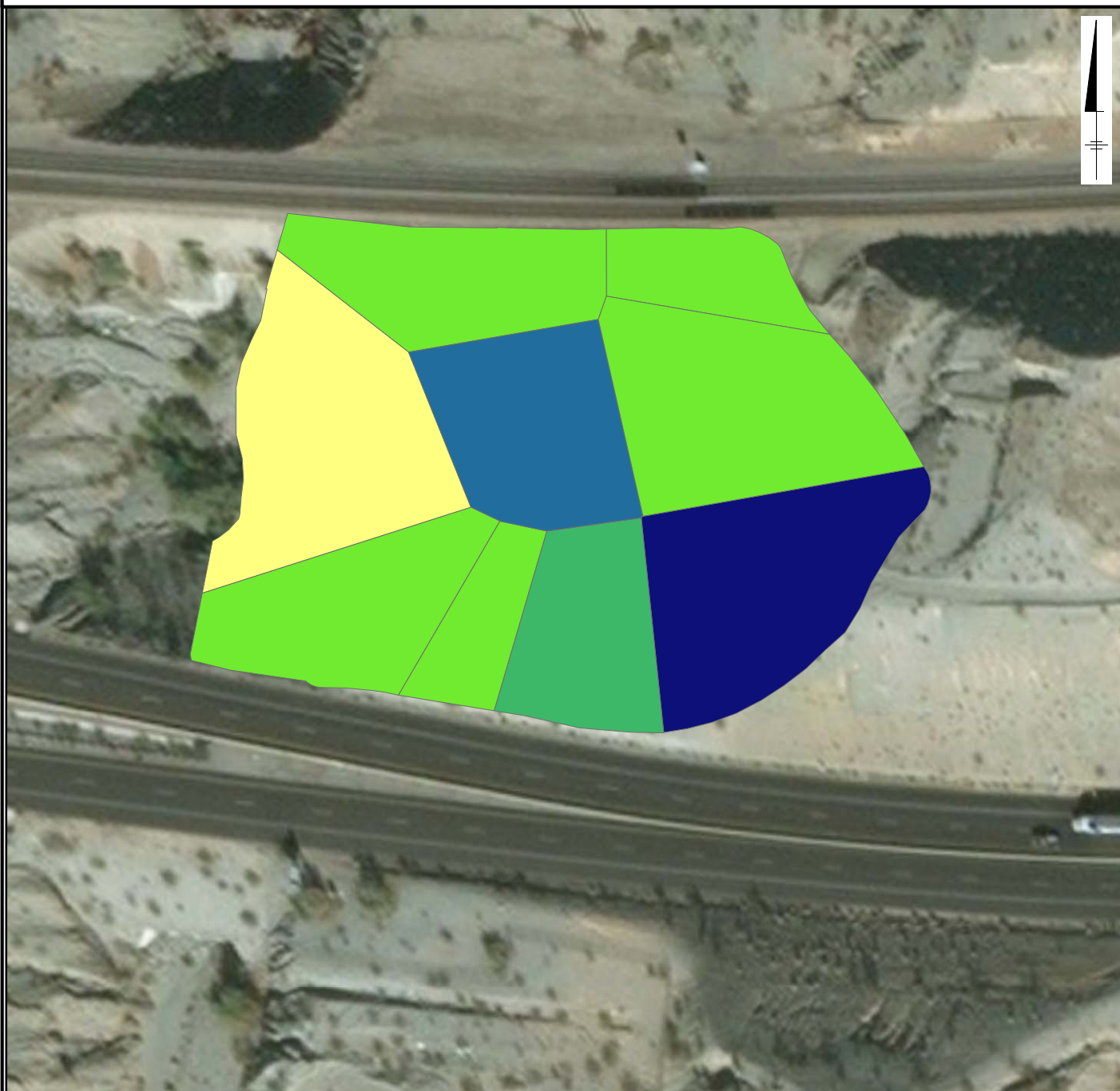
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FIGURE
AOC14-A3.106

AOC 14 0 - 10 FEET BELOW GROUND SURFACE MANGANESE

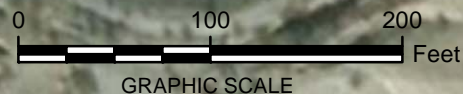


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

	NOT DETECTED
	120.00 - 120.00
	≥ 120.00 - 170.00
	≥ 170.00 - 230.00
	≥ 230.00 - 270.00
	≥ 270.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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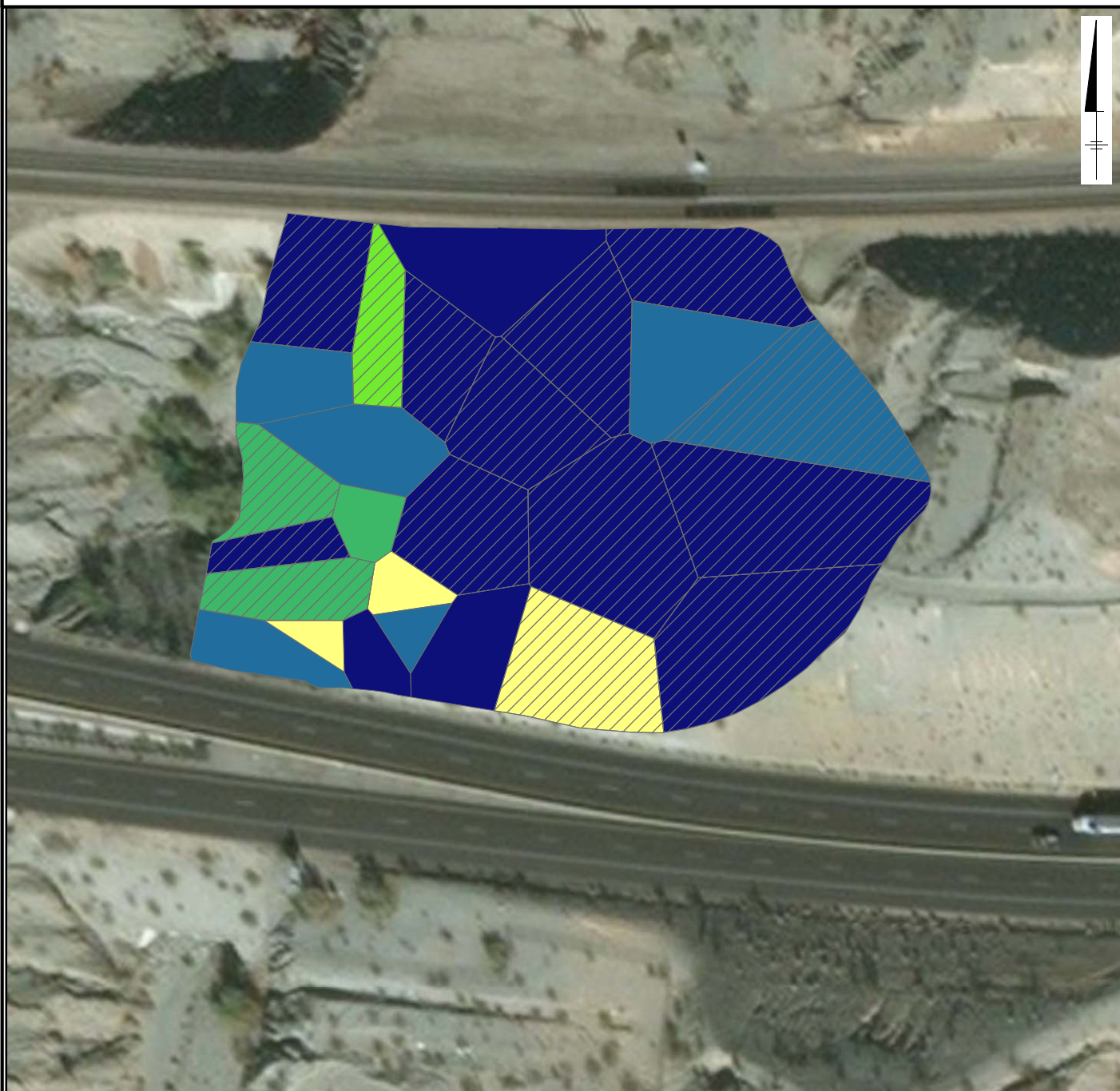


FIGURE
AOC14-A3.107

AOC 14

0 - 10 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE

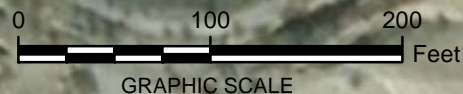


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 4.06
	≥4.06 - 7.79
	≥7.79 - 14.00
	≥14.00 - 25.50
	≥25.50 - 202.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



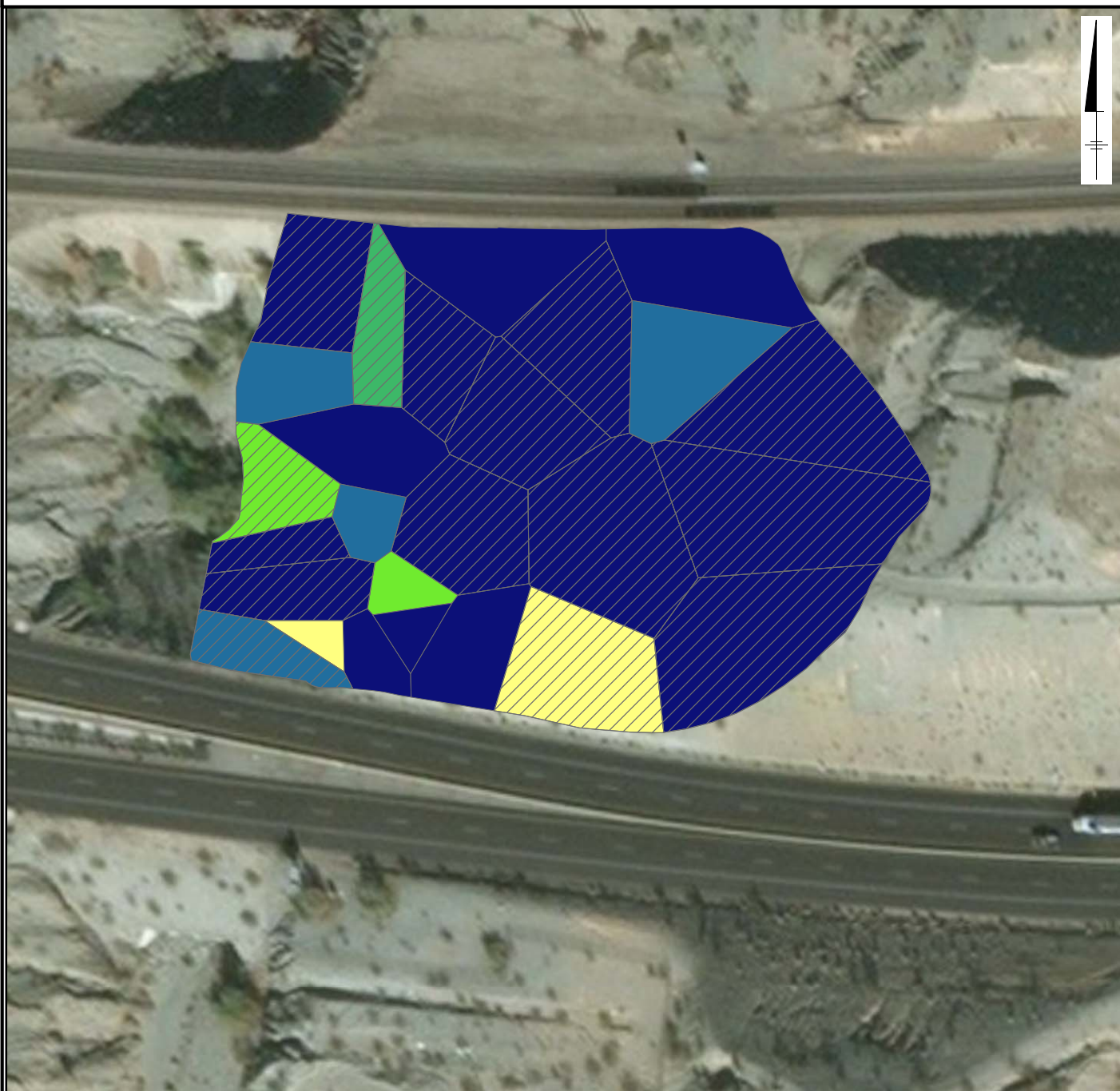
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FIGURE
AOC14-A3.108

AOC 14 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



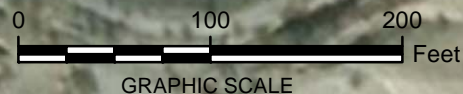
BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 5.08
	≥5.08 - 9.62
	≥9.62 - 25.50
	≥25.50 - 75.90
	≥75.90 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



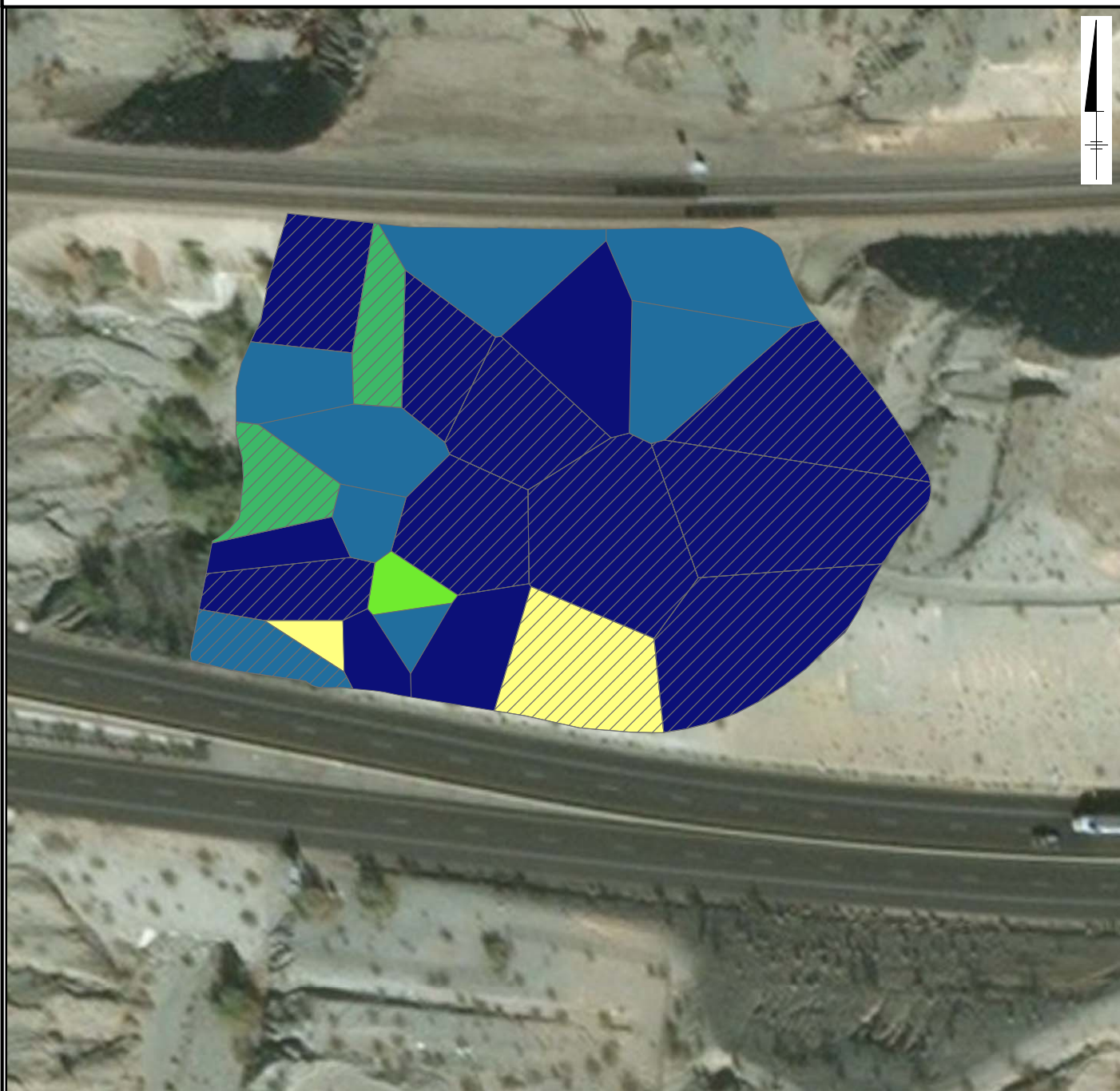
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FIGURE
AOC14-A3.109

AOC 14 0 - 10 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

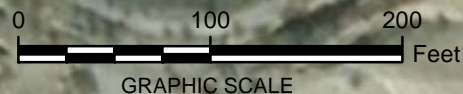


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.31
- ≥5.31 - 11.50
- ≥11.50 - 52.60
- ≥52.60 - 99.30
- ≥99.30 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



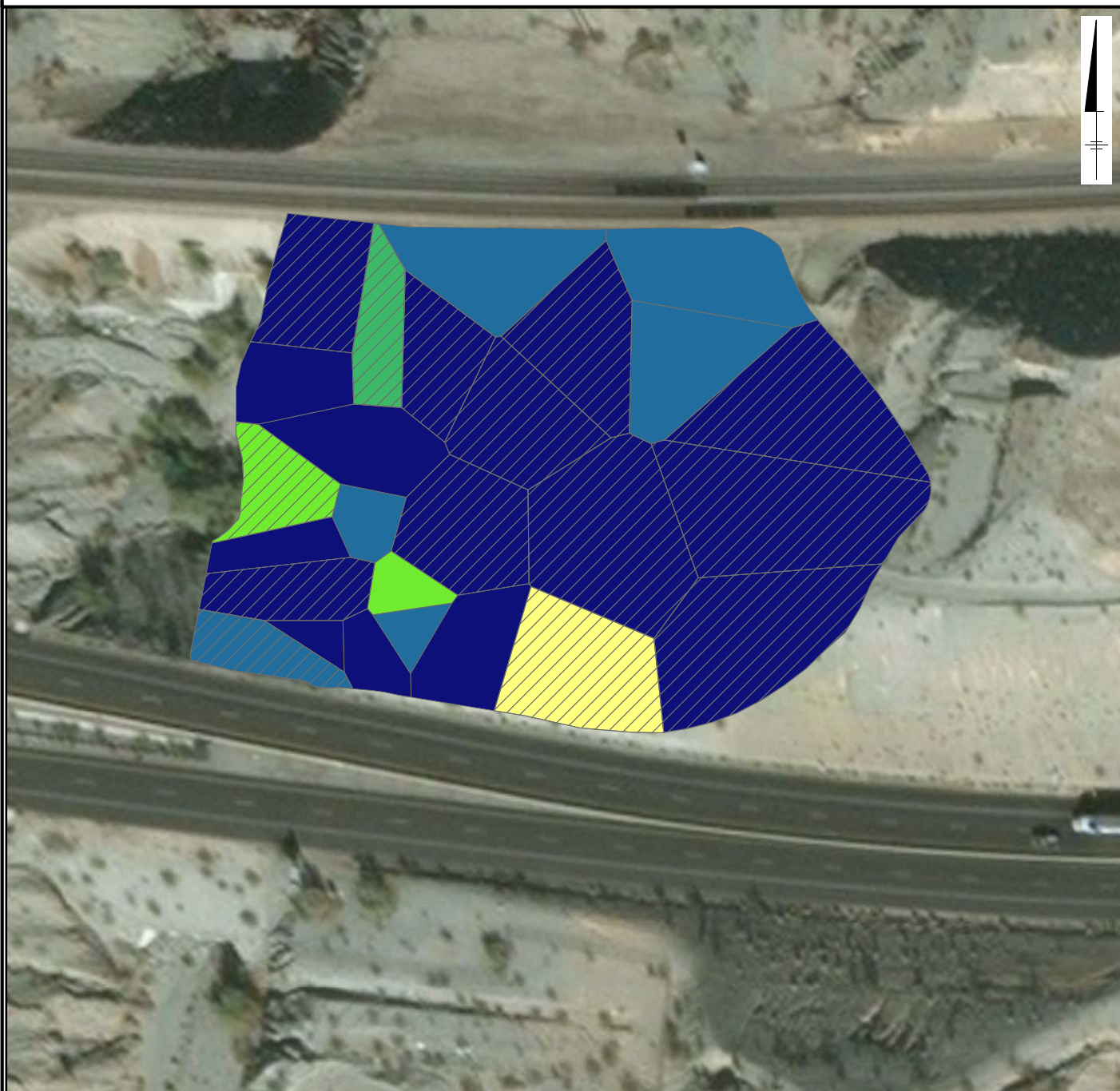
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FIGURE
AOC14-A3.110

AOC 14 0 - 10 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

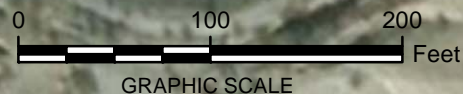


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 4.61
	≥4.61 - 9.62
	≥9.62 - 25.50
	≥25.50 - 52.60
	≥52.60 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



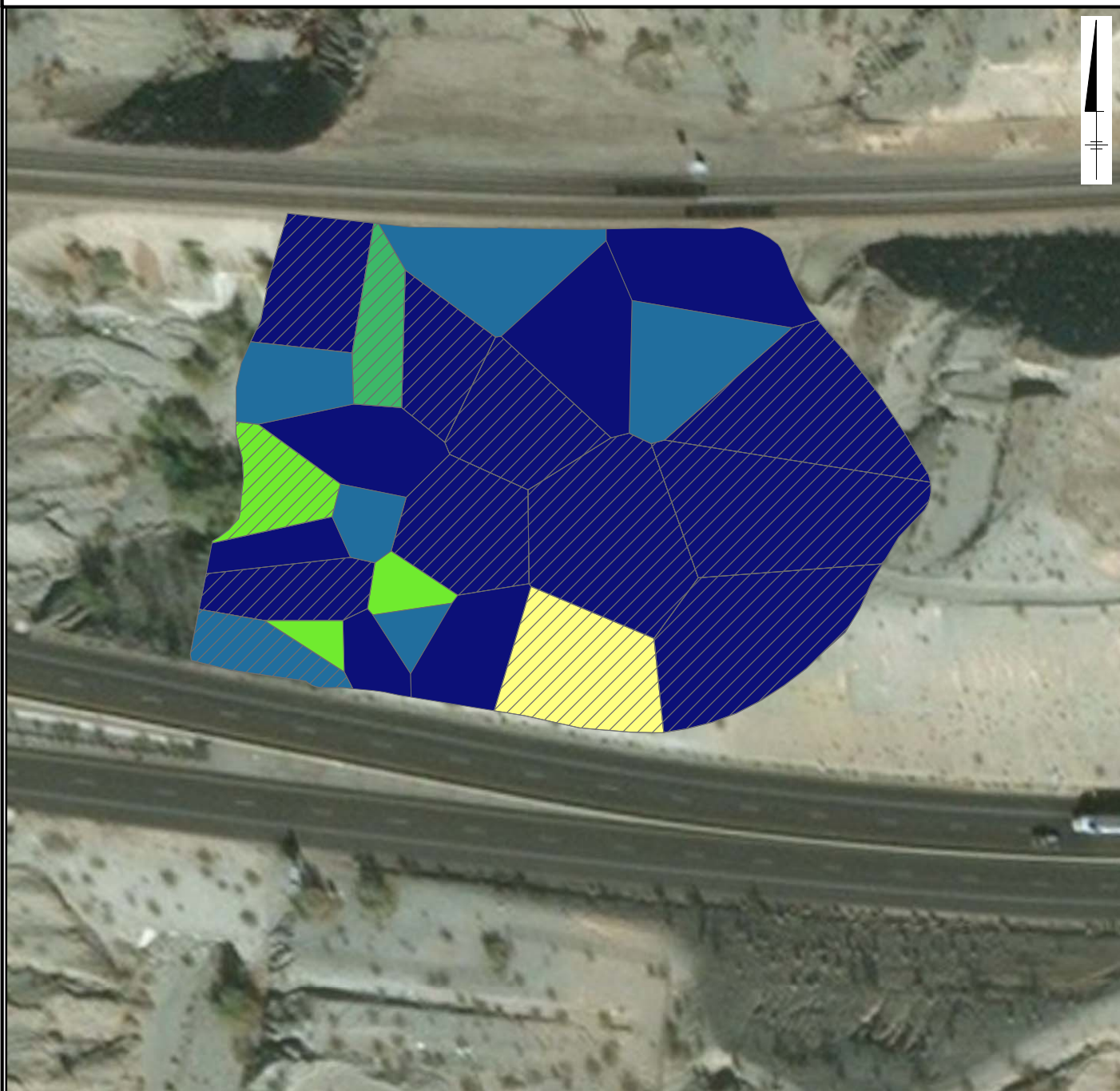
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FIGURE
AOC14-A3.111

AOC 14 0 - 10 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

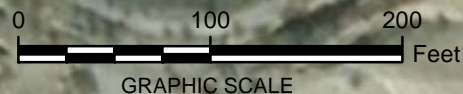


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 4.79
	≥4.79 - 9.98
	≥9.98 - 25.50
	≥25.50 - 74.10
	≥74.10 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



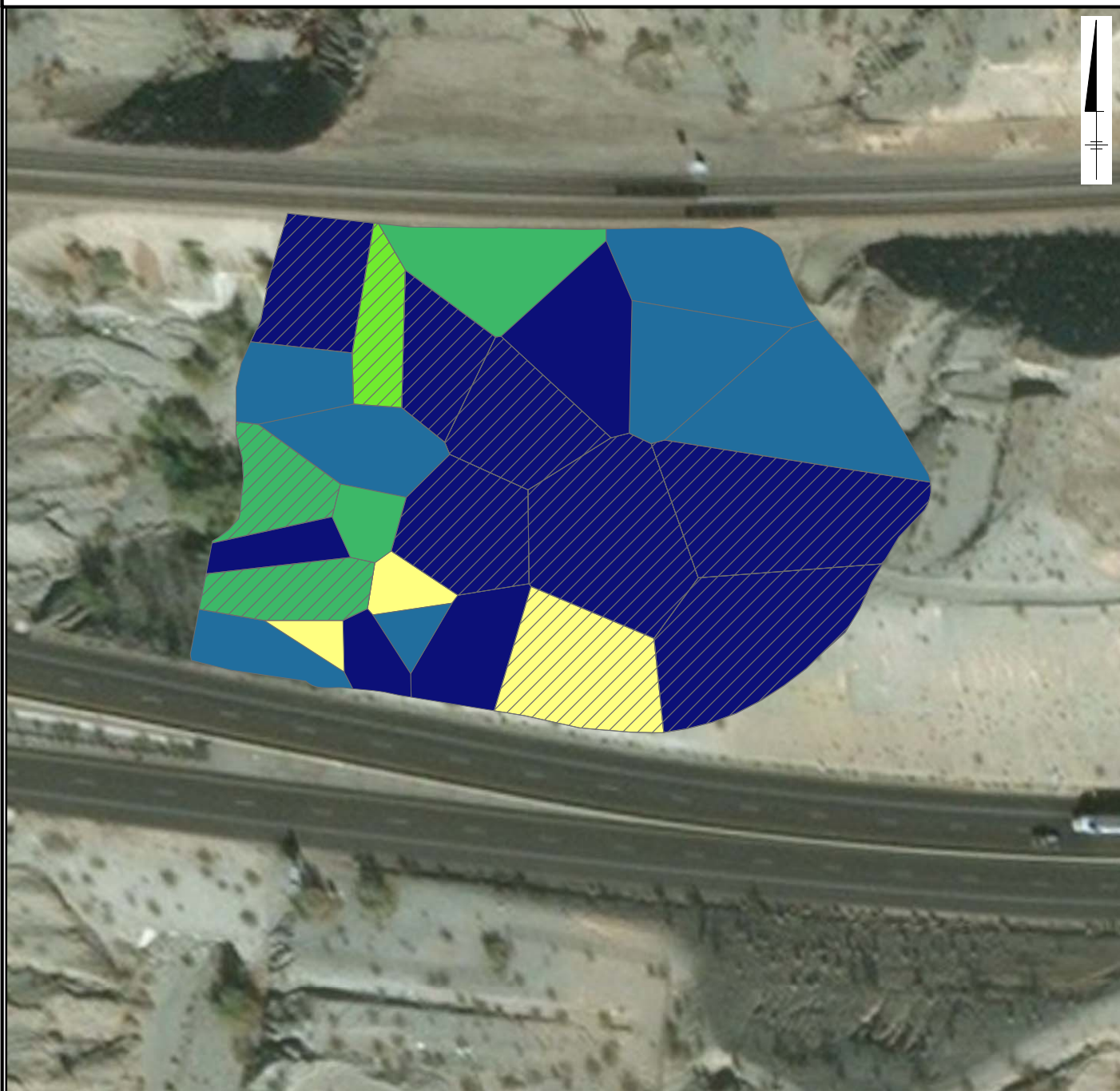
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FIGURE
AOC14-A3.112

AOC 14 0 - 10 FEET BELOW GROUND SURFACE CHRYSENE

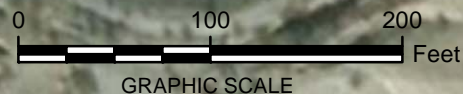


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	2.50 - 4.24
	≥4.24 - 8.09
	≥8.09 - 14.00
	≥14.00 - 25.50
	≥25.50 - 222.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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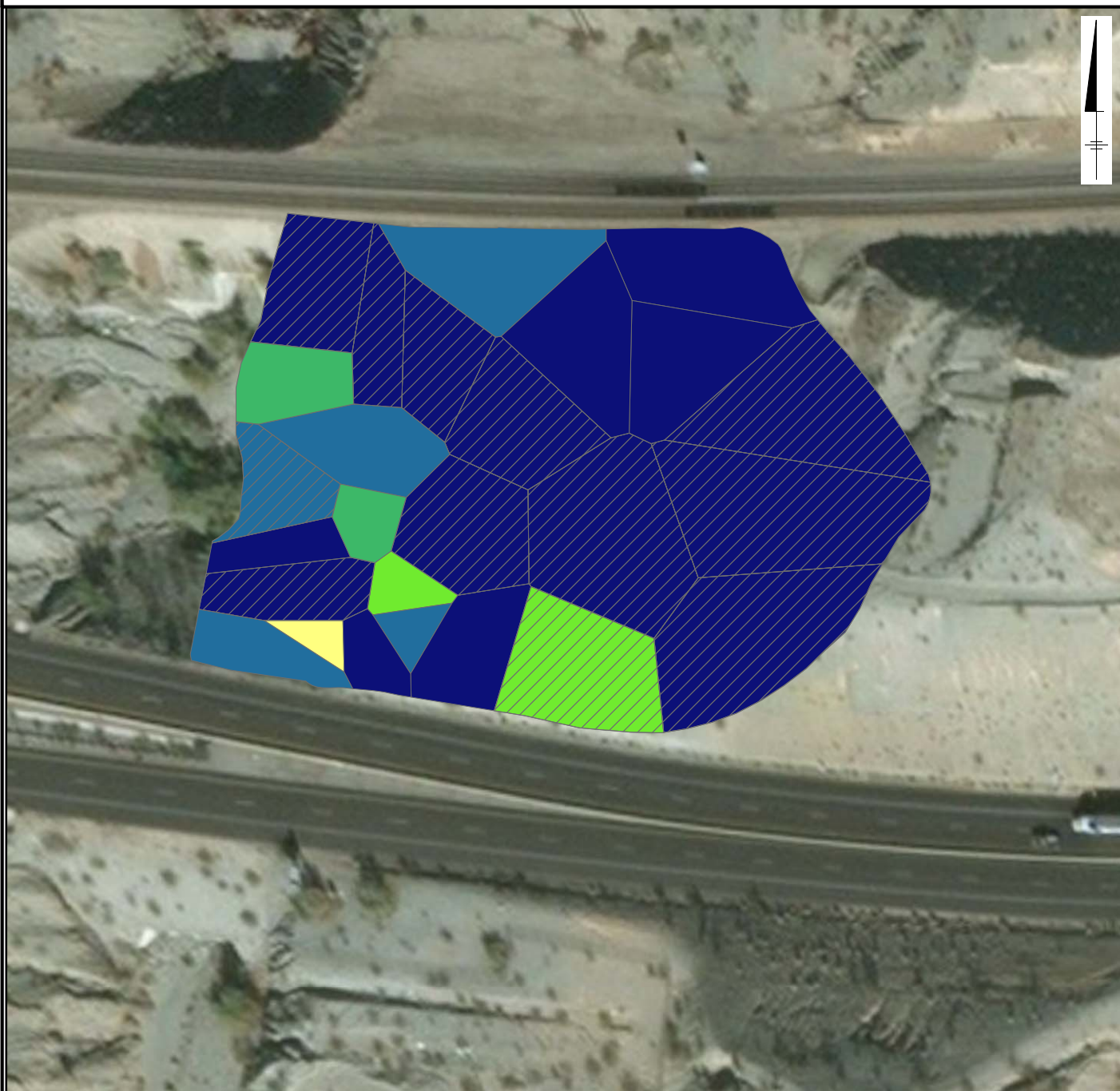
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FIGURE
AOC14-A3.113

AOC 14 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE

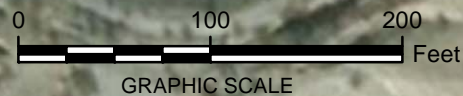


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.50 - 4.66
	≥4.66 - 9.85
	≥9.85 - 17.10
	≥17.10 - 315.00
	≥315.00 - 538.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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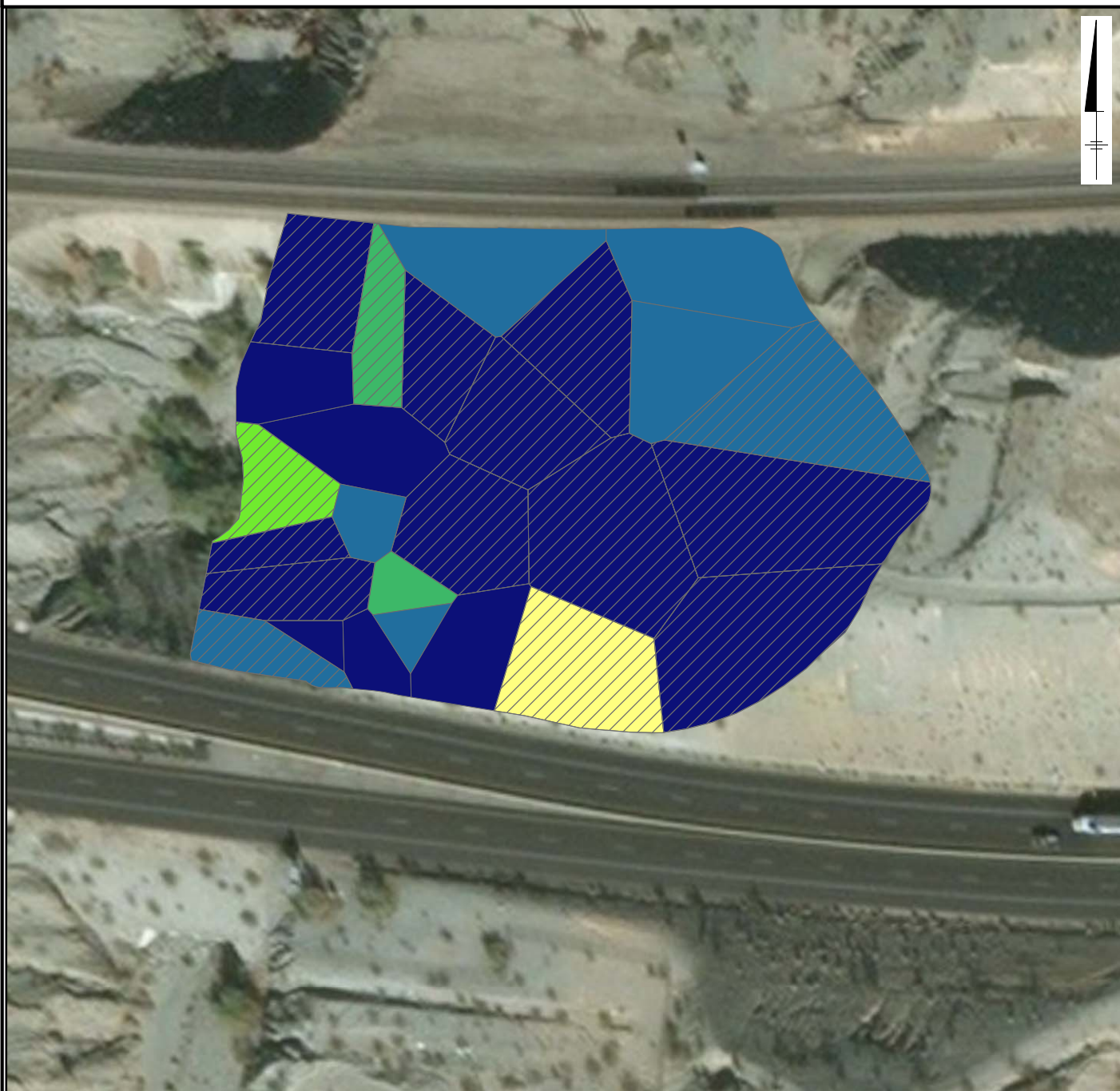


FIGURE
AOC14-A3.114

AOC 14

0 - 10 FEET BELOW GROUND SURFACE

INDENO (1,2,3-CD) PYRENE

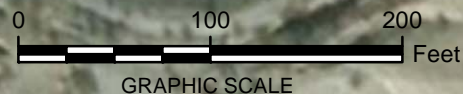


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 4.22
	≥4.22 - 9.62
	≥9.62 - 35.40
	≥35.40 - 52.60
	≥52.60 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



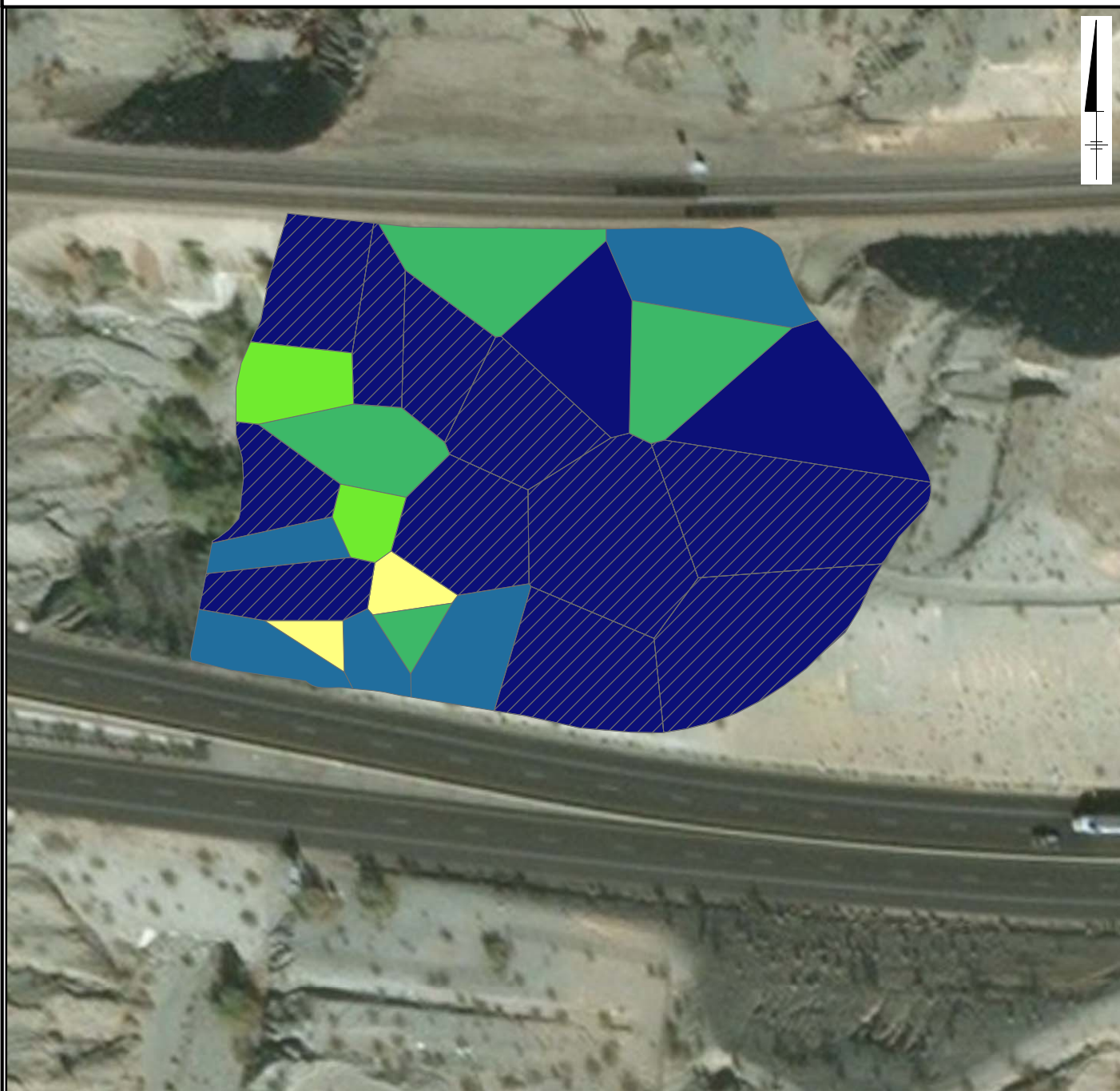
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.115

AOC 14 0 - 10 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

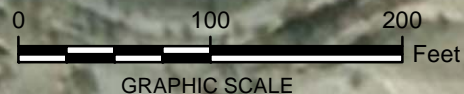


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 5.64
- ≥5.64 - 26.20
- ≥26.20 - 49.80
- ≥49.80 - 61.50
- ≥61.50 - 1730.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



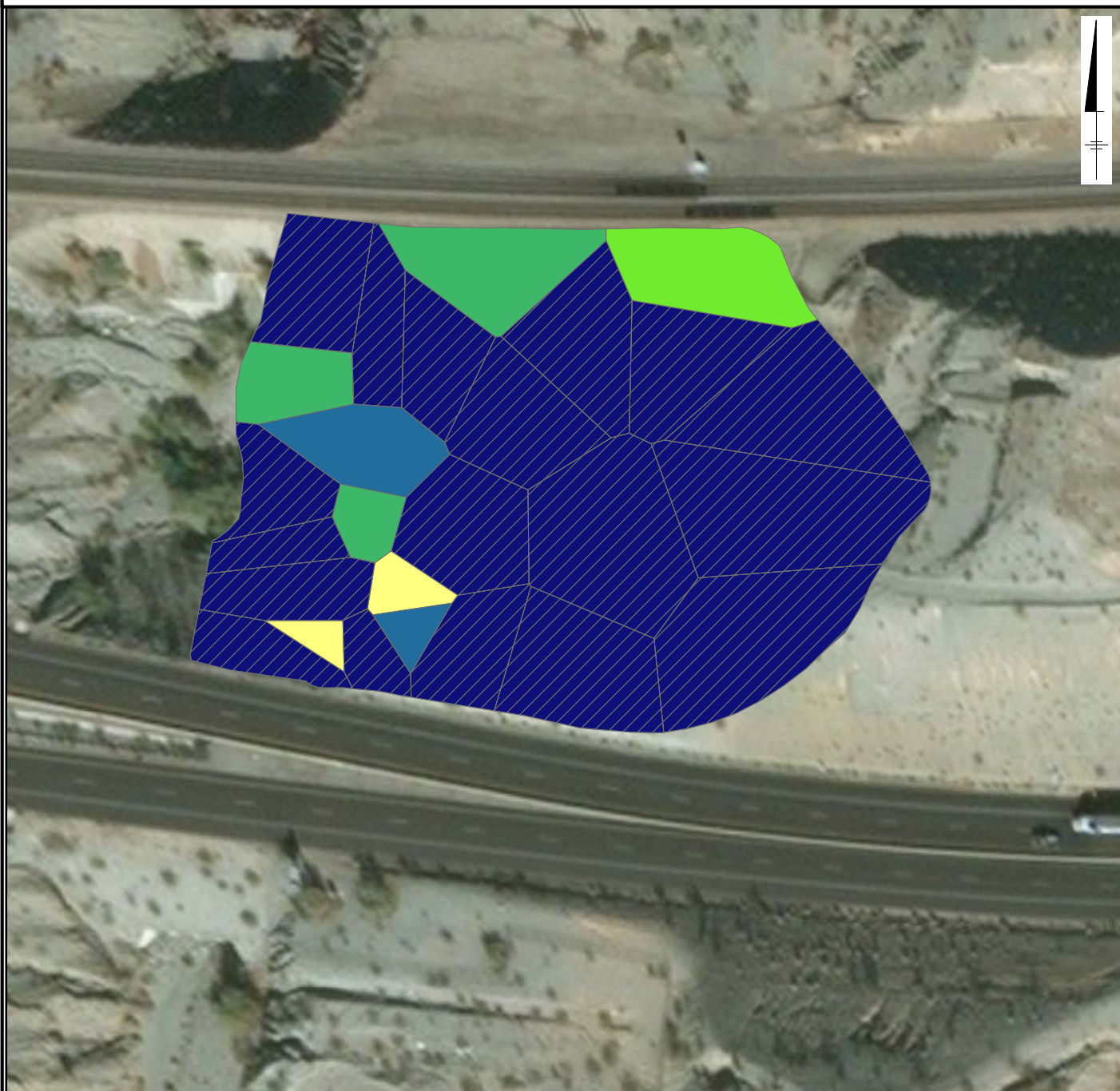
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FIGURE
AOC14-A3.116

AOC 14 0 - 10 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

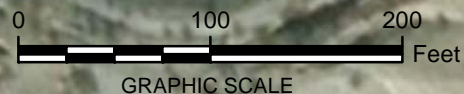


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 0.00
	≥ 0.00 - 1.20
	≥ 1.20 - 3.30
	≥ 3.30 - 7.14
	≥ 7.14 - 128.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC14-A3.117

AOC 14 0 - 10 FEET BELOW GROUND SURFACE PHENANTHRENE

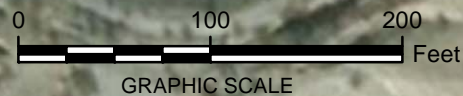


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.52
	≥2.52 - 2.60
	≥2.60 - 3.98
	≥3.98 - 5.72
	≥5.72 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



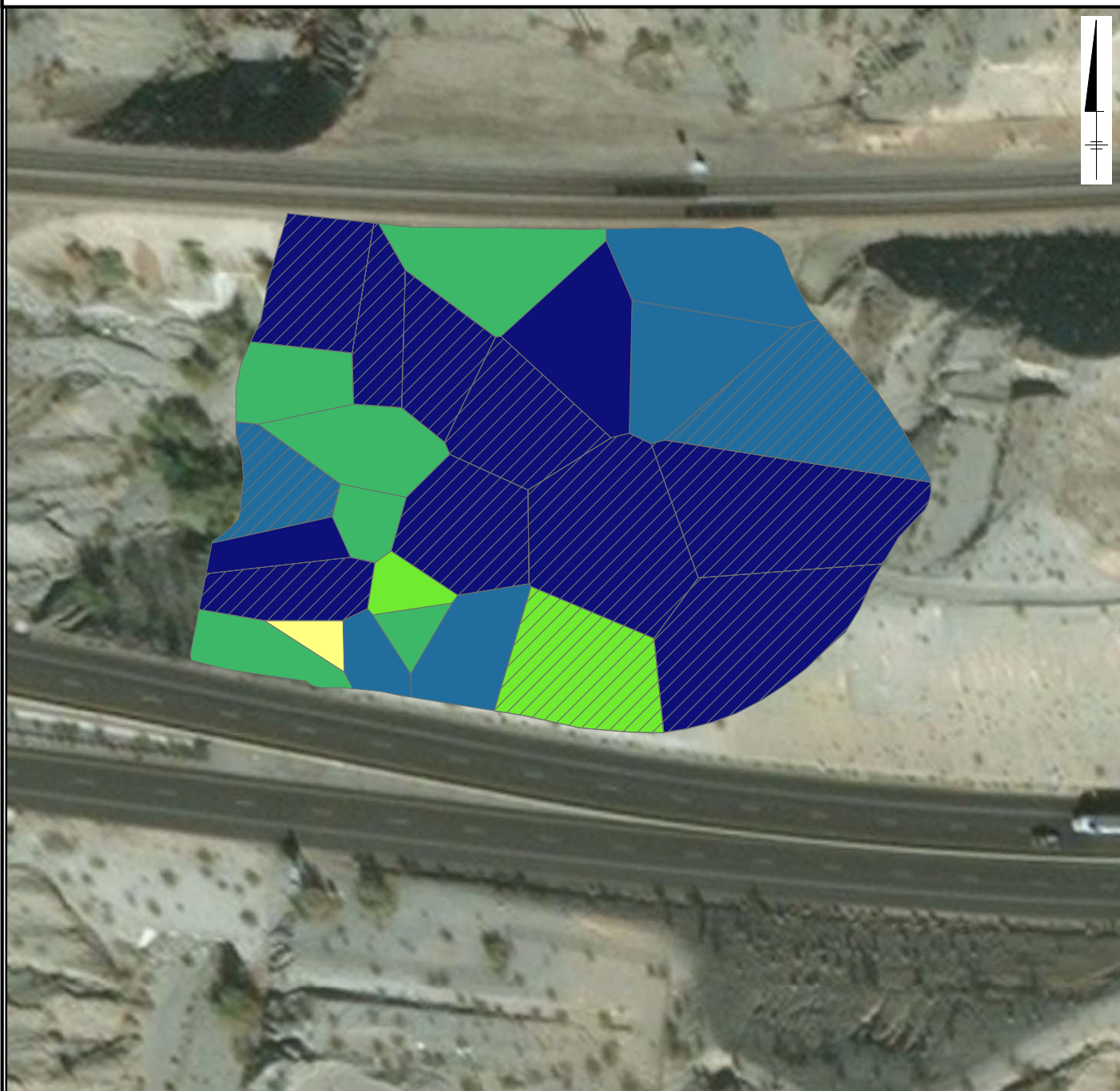
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.118

AOC 14 0 - 10 FEET BELOW GROUND SURFACE PYRENE

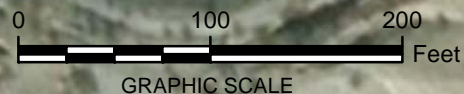


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 3.46
- ≥3.46 - 5.72
- ≥5.72 - 15.20
- ≥15.20 - 279.00
- ≥279.00 - 422.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



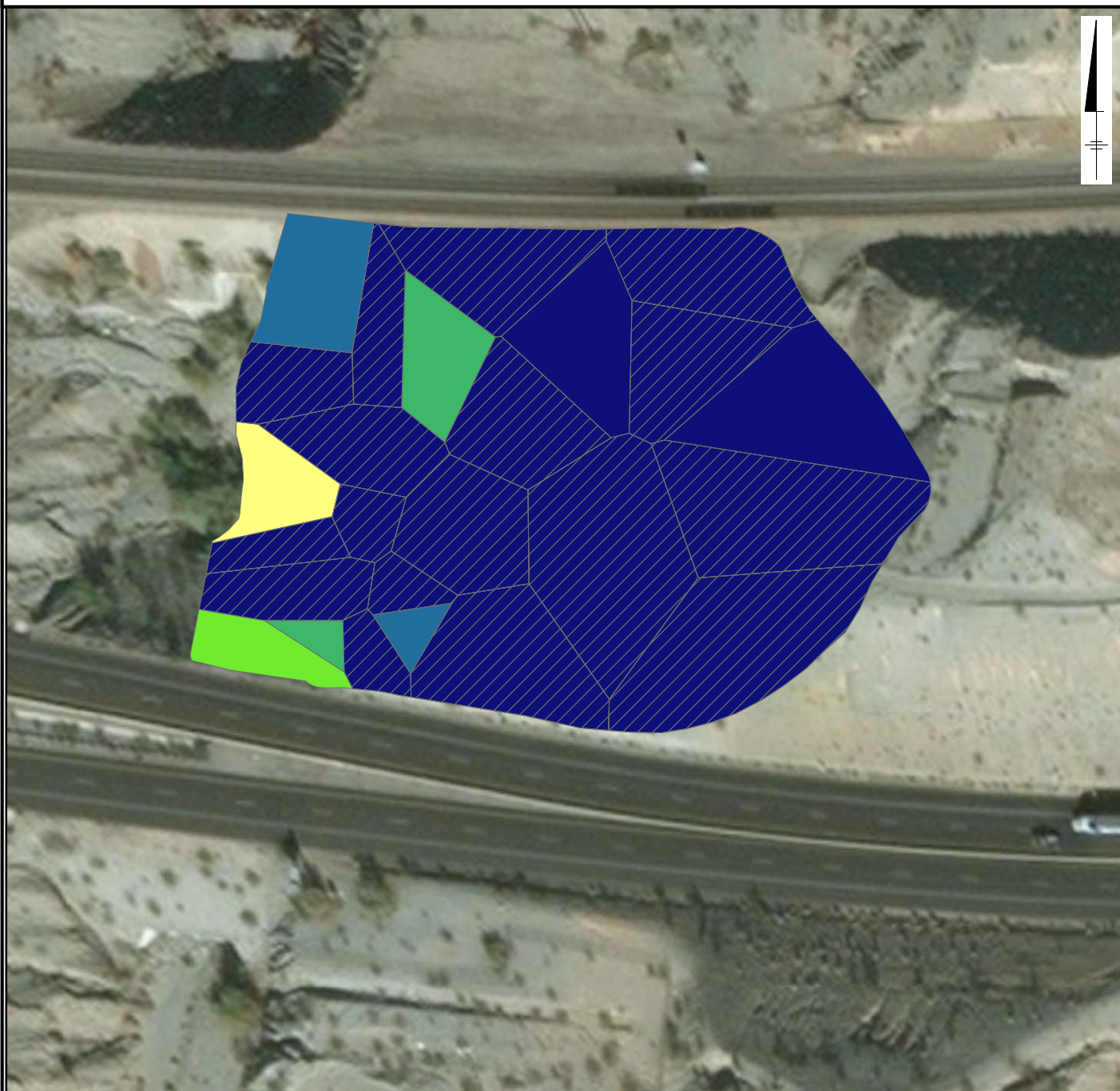
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FIGURE
AOC14-A3.119

AOC 14 0 - 10 FEET BELOW GROUND SURFACE TPH AS DIESEL

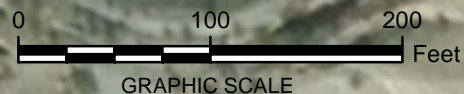


BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 7.40
- ≥ 7.40 - 11.70
- ≥ 11.70 - 17.00
- ≥ 17.00 - 36.80
- ≥ 36.80 - 213.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



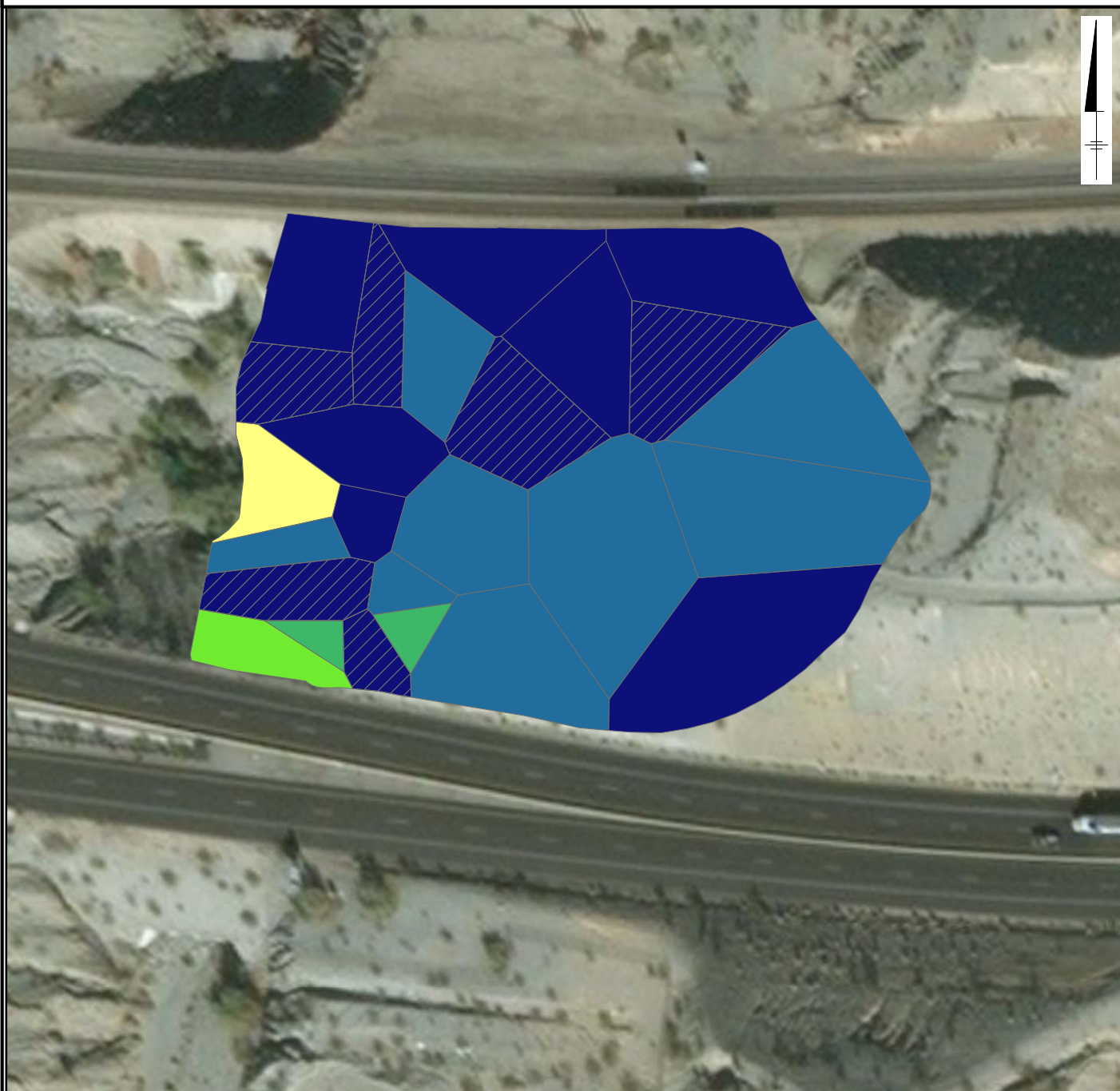
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.120







AOC 14 0 - 10 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



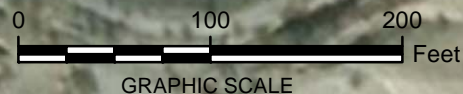
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

-  NOT DETECTED
-  5.00 - 19.20
-  ≥ 19.20 - 50.20
-  ≥ 50.20 - 126.00
-  ≥ 126.00 - 311.00
-  ≥ 311.00 - 1510.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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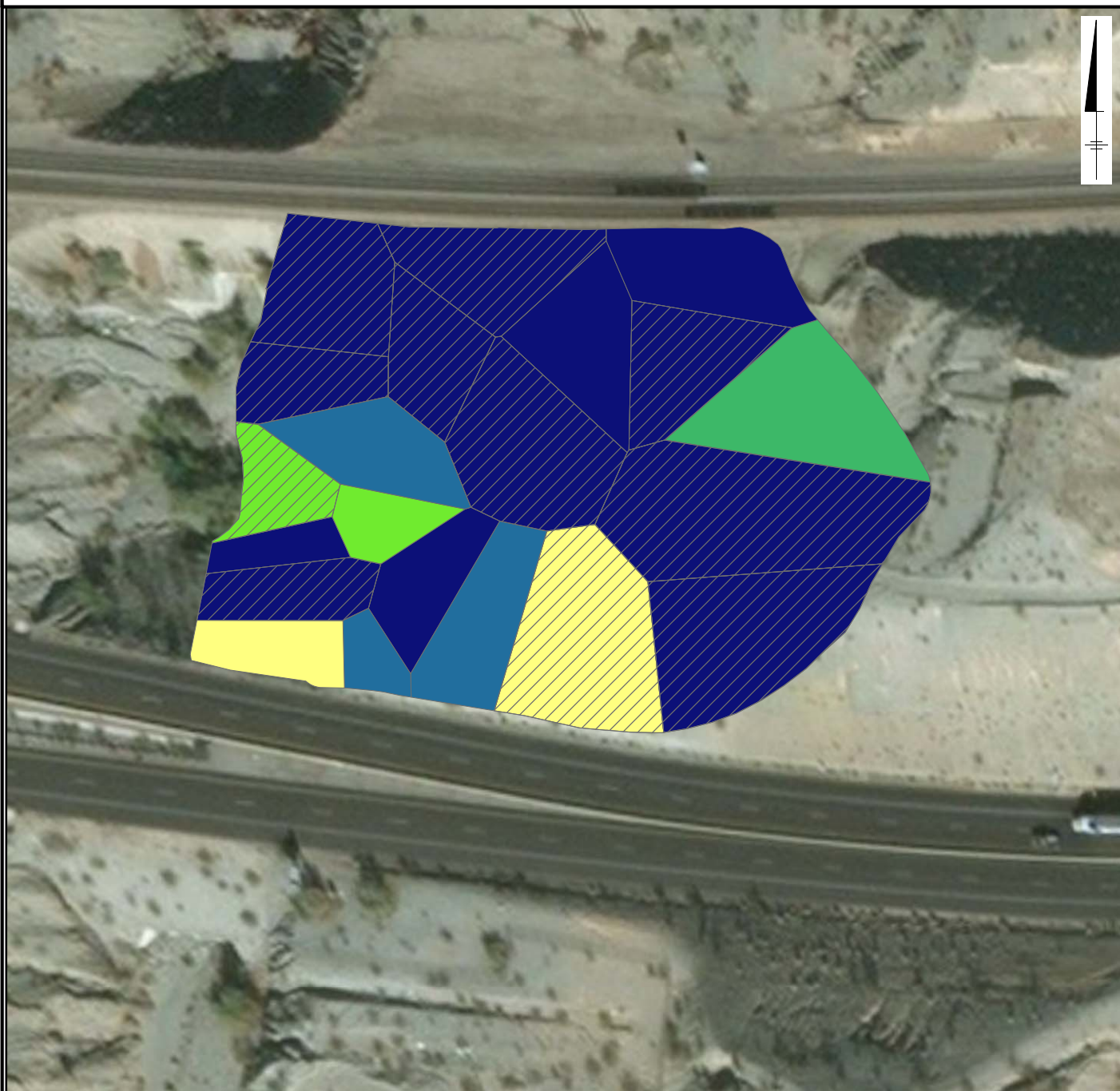
THIESSEN POLYGONS FOR
AREA WEIGHTING



Design & Consultancy
for natural and
built assets

FIGURE
AOC14-A3.121

AOC 14 0 - 0.5 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

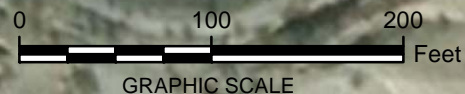


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 6.80
- ≥6.80 - 16.00
- ≥16.00 - 29.00
- ≥29.00 - 59.00
- ≥59.00 - 740.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



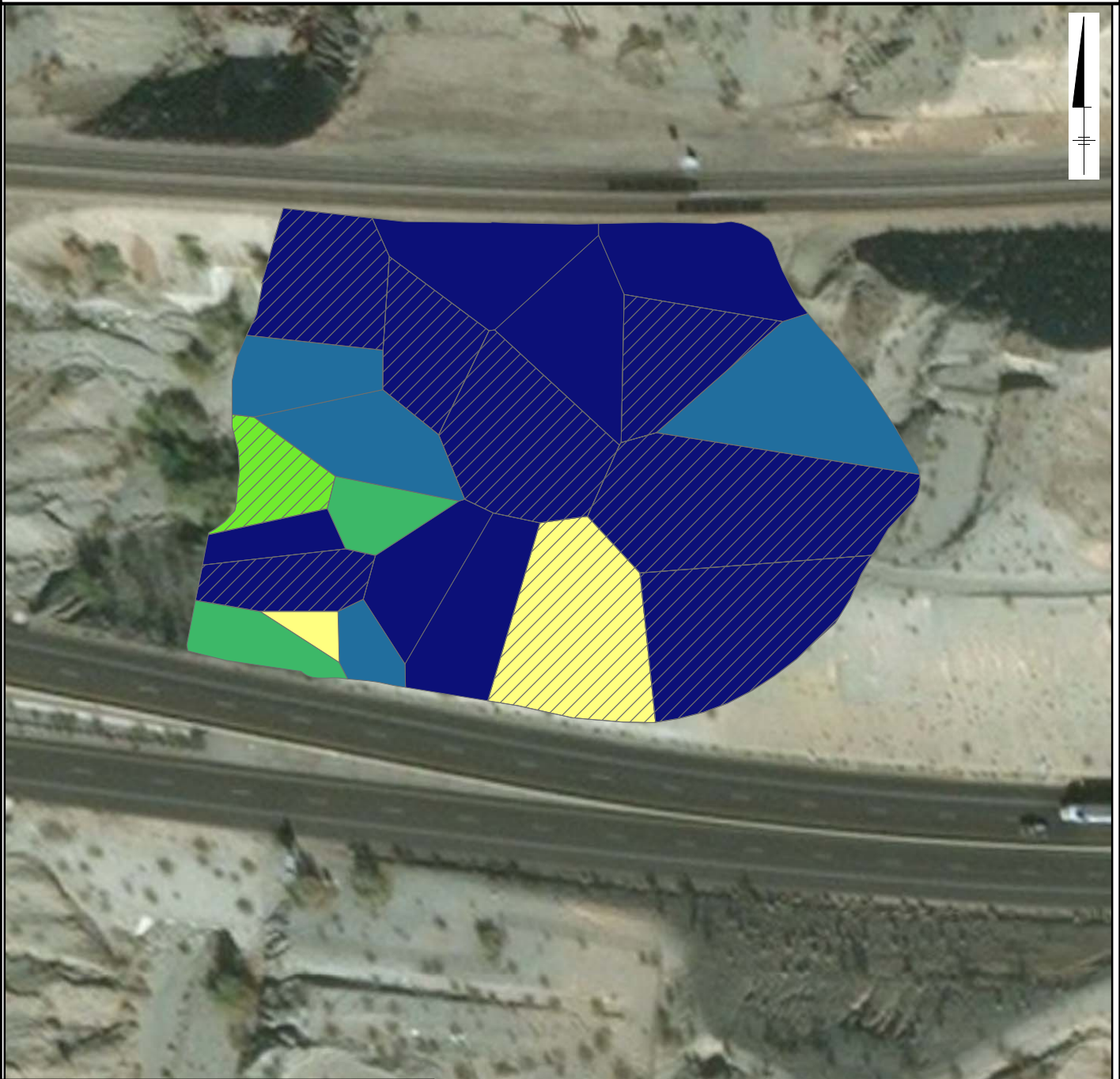
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.122

AOC 14 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

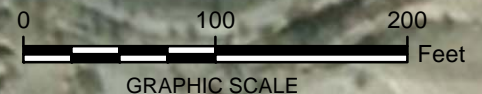


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

	NOT DETECTED
	5.80 - 9.53
	≥9.53 - 21.30
	≥21.30 - 59.00
	≥59.00 - 136.00
	≥136.00 - 495.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



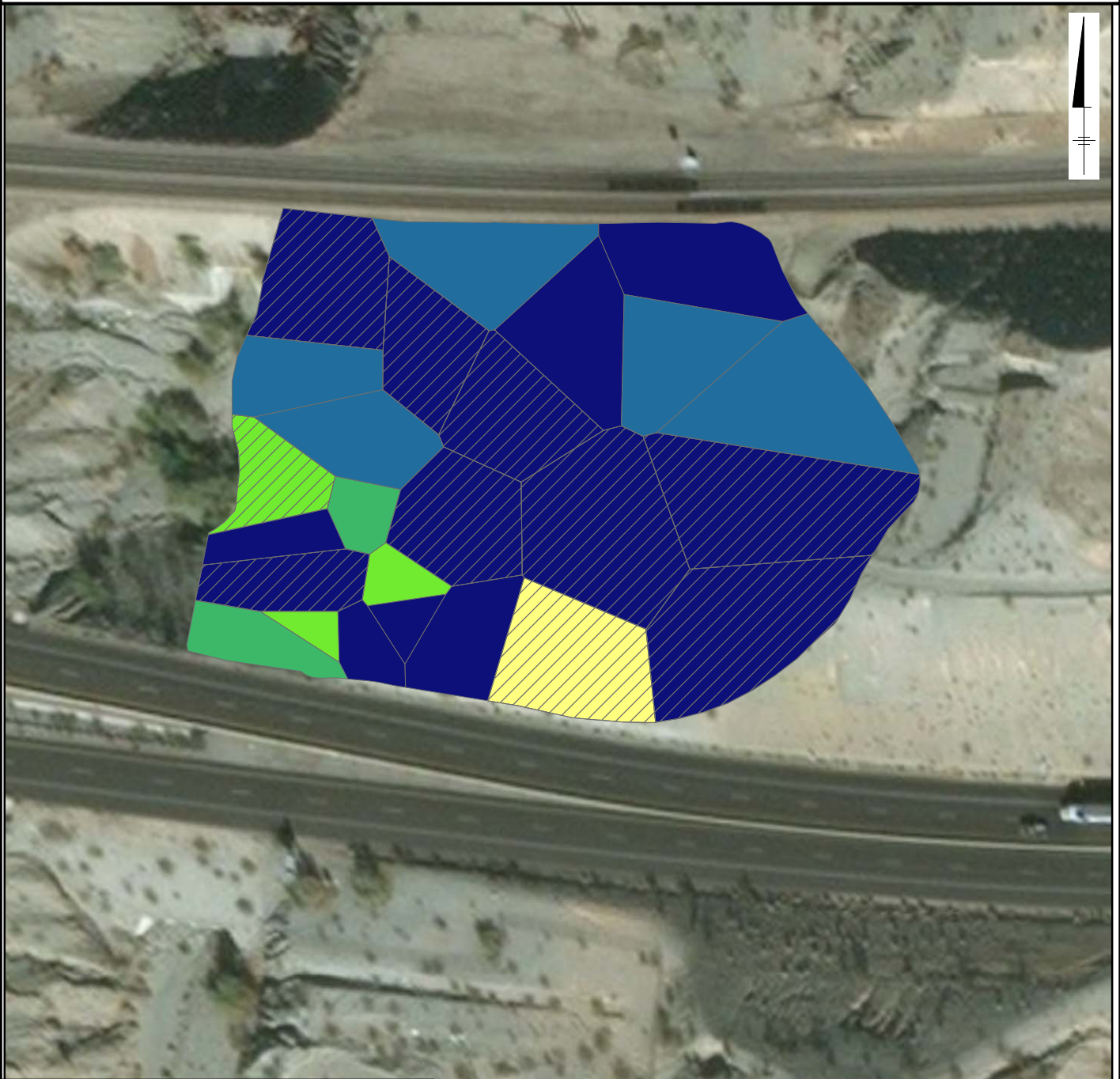
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.123

AOC 14 0 - 6 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

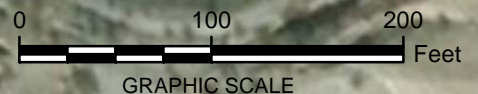


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 8.63
- ≥8.63 - 14.00
- ≥14.00 - 32.50
- ≥32.50 - 251.00
- ≥251.00 - 380.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



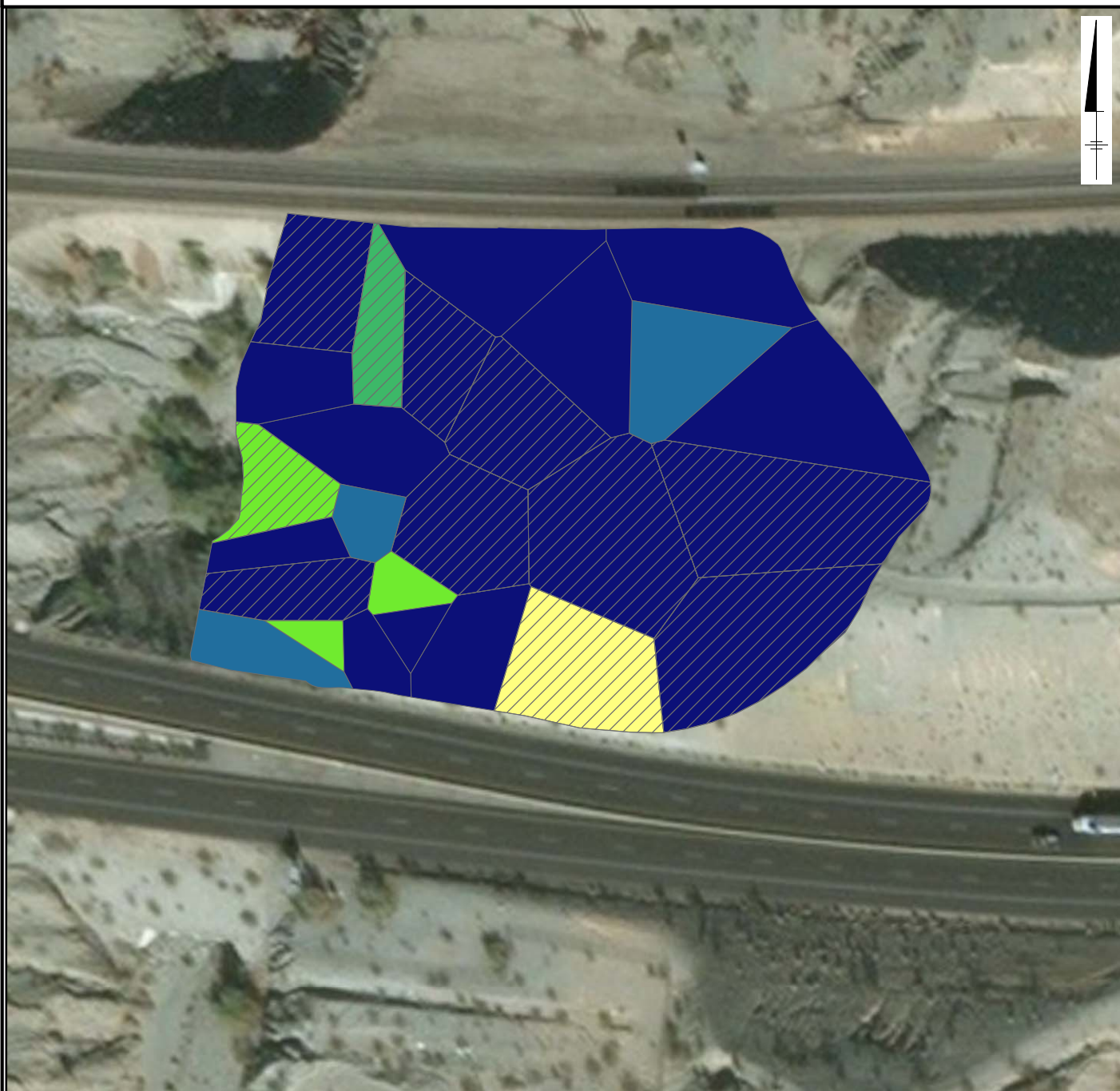
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
AOC14-A3.124

AOC 14 0 - 10 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

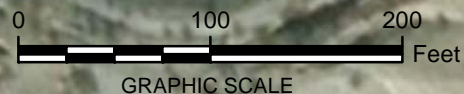


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 10.70
- ≥ 10.70 - 21.90
- ≥ 21.90 - 59.00
- ≥ 59.00 - 153.00
- ≥ 153.00 - 380.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC14-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC14-A3.125

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 14 Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment AOC14-B1**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 14
Using Depth-Weighted EPCs****Tables**

AOC14-B1.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC14-B1.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC14-B1.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC14-B1.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC14-B1.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC14-B1.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC14-B1.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User
AOC14-B1.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC14-B1.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC14-B1.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC14-B1.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC14-B1.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC14-B1.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC14-B1.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User
AOC14-B1.3a	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC14-B1.3b	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC14-B1.3c	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC14-B1.3d	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC14-B1.3e	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC14-B1.3f	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC14-B1.3g	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User
AOC14-B1.4a	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC14-B1.4b	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC14-B1.4c	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC14-B1.4d	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC14-B1.4e	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC14-B1.4f	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC14-B1.4g	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User
AOC14-B1.5a	Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC14-B1.5b	Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Attachment AOC14-B1**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 14
Using Depth-Weighted EPCs****Tables (cont.)**

AOC14-B1.5c	Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC14-B1.5d	Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC14-B1.5e	Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC14-B1.5f	Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC14-B1.5g	Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)
AOC14-B1.5h	Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC14-B1.5i	Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC14-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

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COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	2.6E-10	NV	NA	3.2E-09	4.7E-10	NV	NA	5.9E-09	6.4E-10	NV	NA	7.9E-09	5.3E-10	NV	NA	6.6E-09
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	3.3E-10	NV	6.0E-09	4.1E-09	2.5E-10	NV	4.6E-09	3.1E-09	1.7E-10	NV	3.1E-09	2.1E-09	1.4E-10	NV	2.5E-09	1.7E-09
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	1.2E-07	8.3E-08
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides																
4,4-DDE	1.5E-12	3.7E-12	1.4E-11	1.9E-11	2.3E-12	3.7E-12	2.1E-11	2.8E-11	1.5E-12	3.7E-12	1.4E-11	1.9E-11	1.5E-12	3.7E-12	1.4E-11	1.9E-11
4,4-DDT	1.6E-12	NV	1.4E-11	1.9E-11	1.6E-12	NV	1.4E-11	1.9E-11	1.6E-12	NV	1.4E-11	1.9E-11	1.6E-12	NV	1.4E-11	1.9E-11

Table AOC14-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

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Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	8.2E-11	ND	ND	1.8E-11	8.2E-11	5.0E-10	2.3E-10	1.1E-11	8.2E-11	3.1E-10	1.4E-10	1.1E-11	8.2E-11	2.9E-10	1.3E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	2.4E-15	5.4E-14	1.3E-14	2.9E-14	7.3E-14	5.4E-14	4.0E-13	9.0E-13	4.3E-14	5.4E-14	2.3E-13	5.3E-13	2.5E-14	5.4E-14	1.4E-13	3.2E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	1.9E-09	NV	NA	2.4E-08	3.6E-09	NV	NA	4.4E-08	4.8E-09	NV	NA	6.0E-08	4.0E-09	NV	NA	4.9E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	2.5E-09	NV	9.1E-08	3.1E-08	1.9E-09	NV	6.8E-08	2.3E-08	1.3E-09	NV	4.6E-08	1.6E-08	1.0E-09	NV	3.7E-08	1.3E-08
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	1.8E-06	6.2E-07
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides																
4,4-DDE	1.1E-11	5.1E-12	2.1E-10	1.4E-10	1.7E-11	5.1E-12	3.1E-10	2.1E-10	1.1E-11	5.1E-12	2.1E-10	1.4E-10	1.1E-11	5.1E-12	2.1E-10	1.4E-10
4,4-DDT	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10

Table AOC14-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	1.1E-10	ND	ND	1.4E-10	1.1E-10	7.4E-09	1.7E-09	8.5E-11	1.1E-10	4.6E-09	1.1E-09	7.9E-11	1.1E-10	4.3E-09	9.8E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	1.8E-14	7.4E-14	1.9E-13	2.2E-13	5.5E-13	7.4E-14	5.9E-12	6.8E-12	3.2E-13	7.4E-14	3.5E-12	4.0E-12	1.9E-13	7.4E-14	2.1E-12	2.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Chromium, Hexavalent	8.3E-12	NV	NA	7.4E-08	1.5E-11	NV	NA	1.4E-07
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	3.8E-12	NV	6.8E-09	2.1E-08	2.9E-12	NV	5.1E-09	1.6E-08
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND
Polycyclic Aromatic Hydrocarbons								
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides								
4,4-DDE	1.7E-14	1.1E-11	1.5E-11	9.5E-11	2.6E-14	1.1E-11	2.3E-11	1.4E-10
4,4-DDT	1.8E-14	NV	1.6E-11	9.9E-11	1.8E-14	NV	1.6E-11	9.9E-11

Table AOC14-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	2.5E-10	ND	ND	2.1E-13	2.5E-10	5.5E-10	1.2E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	2.7E-17	1.6E-13	1.4E-14	1.5E-13	8.4E-16	1.6E-13	4.4E-13	4.6E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Chromium, Hexavalent	1.7E-11	NV	NA	1.5E-07	3.0E-11	NV	NA	2.7E-07
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	7.7E-12	NV	1.4E-08	4.2E-08	5.8E-12	NV	1.0E-08	3.2E-08
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND
Polycyclic Aromatic Hydrocarbons								
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides								
4,4-DDE	3.5E-14	2.3E-11	3.1E-11	1.9E-10	5.3E-14	2.3E-11	4.7E-11	2.9E-10
4,4-DDT	3.6E-14	NV	3.2E-11	2.0E-10	3.6E-14	NV	3.2E-11	2.0E-10

Table AOC14-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	5.0E-10	ND	ND	4.2E-13	5.0E-10	1.1E-09	2.3E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	5.4E-17	3.3E-13	2.9E-14	3.0E-13	1.7E-15	3.3E-13	8.9E-13	9.2E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Chromium, Hexavalent	3.0E-12	NV	NA	5.1E-09	5.4E-12	NV	NA	9.3E-09
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	3.8E-12	NV	2.7E-09	6.5E-09	2.9E-12	NV	2.1E-09	4.9E-09
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND
Polycyclic Aromatic Hydrocarbons								
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides								
4,4-DDE	1.7E-14	1.1E-11	6.2E-12	3.0E-11	2.6E-14	1.1E-11	9.5E-12	4.5E-11
4,4-DDT	1.8E-14	NV	6.4E-12	3.1E-11	1.8E-14	NV	6.4E-12	3.1E-11

Table AOC14-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	2.5E-10	ND	ND	2.1E-13	2.5E-10	2.3E-10	3.6E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	2.7E-17	1.6E-13	5.8E-15	4.6E-14	8.4E-16	1.6E-13	1.8E-13	1.4E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Chromium, Hexavalent	1.1E-09	NV	NA	8.6E-09	1.9E-09	NV	NA	1.6E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	7.7E-10	NV	6.5E-08	5.4E-09	5.8E-10	NV	4.9E-08	4.0E-09
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND
Polycyclic Aromatic Hydrocarbons								
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides								
4,4-DDE	3.5E-12	1.4E-12	1.5E-10	2.4E-11	5.3E-12	1.4E-12	2.2E-10	3.7E-11
4,4-DDT	3.6E-12	NV	1.5E-10	2.5E-11	3.6E-12	NV	1.5E-10	2.5E-11

Table AOC14-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	3.1E-11	ND	ND	4.2E-11	3.1E-11	5.4E-09	2.9E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	5.4E-15	2.1E-14	1.4E-13	3.8E-14	1.7E-13	2.1E-14	4.3E-12	1.2E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Antimony	ND	NC	NC	NC
Chromium, Hexavalent	8.6E-13	NV	1.6E-12	NV
Copper	NC	NC	NC	NC
Lead	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC
Nitrate	NS	NC	NC	NC
Phosphate	NS	NC	NC	NC
Thallium	ND	NC	NC	NC
Semi-Volatile Organic Compounds				
4-Methylphenol	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	1.1E-12	NV	8.3E-13	NV
Butylbenzylphthalate	ND	NC	ND	NC
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	ND	NC	NC	NC
Anthracene	ND	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Pesticides				
4,4-DDE	5.0E-15	2.2E-12	7.6E-15	2.2E-12
4,4-DDT	5.2E-15	NV	5.2E-15	NV

Table AOC14-B1.1g
Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	ND	4.8E-11	6.0E-14	4.8E-11
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC
Dioxins/Furans				
TEQ Human	7.8E-18	3.1E-14	2.4E-16	3.1E-14

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	6.9E-07	NV	1.3E-06	8.6E-06	3.7E-07	NV	6.6E-07	4.5E-06	2.4E-07	NV	4.3E-07	2.9E-06
Chromium, Hexavalent	1.8E-08	NV	NA	2.3E-07	3.3E-08	NV	NA	4.1E-07	4.5E-08	NV	NA	5.6E-07	3.7E-08	NV	NA	4.6E-07
Copper	4.6E-07	NV	8.4E-07	5.7E-06	8.1E-06	NV	1.5E-05	1.0E-04	4.9E-06	NV	8.8E-06	6.0E-05	3.1E-06	NV	5.6E-06	3.8E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.5E-08	NV	2.7E-08	1.9E-07	2.2E-06	NV	4.0E-06	2.7E-05	3.7E-06	NV	6.7E-06	4.6E-05	2.6E-06	NV	4.8E-06	3.3E-05
Nitrate	NS	NV	NS	NS	6.2E-07	NV	1.1E-06	7.7E-06	1.1E-06	NV	1.9E-06	1.3E-05	1.1E-06	NV	1.9E-06	1.3E-05
Phosphate	NS	NV	NS	NS	2.3E-06	NV	4.2E-06	2.9E-05	2.3E-06	NV	4.2E-06	2.9E-05	2.3E-06	NV	4.2E-06	2.9E-05
Thallium	ND	NV	ND	ND	5.2E-08	NV	9.5E-08	6.5E-07	6.8E-08	NV	1.2E-07	8.4E-07	7.3E-08	NV	1.3E-07	9.0E-07
Semi-Volatile Organic Compounds																
4-Methylphenol	1.6E-08	NV	2.8E-07	1.9E-07	1.3E-08	NV	2.3E-07	1.6E-07	9.6E-09	NV	1.7E-07	1.2E-07	8.2E-09	NV	1.5E-07	1.0E-07
bis (2-ethylhexyl) phthalate	2.3E-08	NV	4.2E-07	2.9E-07	1.8E-08	NV	3.2E-07	2.2E-07	1.2E-08	NV	2.1E-07	1.5E-07	9.5E-09	NV	1.7E-07	1.2E-07
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	4.7E-07	NV	8.5E-06	5.8E-06
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	1.5E-10	NV	3.9E-09	1.8E-09	1.7E-10	NV	4.6E-09	2.1E-09	1.4E-10	NV	3.8E-09	1.7E-09
Anthracene	ND	5.8E-09	ND	ND	2.7E-10	5.8E-09	7.3E-09	3.3E-09	8.0E-10	5.8E-09	2.2E-08	9.9E-09	7.3E-10	5.8E-09	2.0E-08	9.1E-09
Benzo (ghi) perylene	2.2E-10	NV	6.0E-09	2.7E-09	2.1E-10	NV	5.8E-09	2.7E-09	3.8E-10	NV	1.0E-08	4.7E-09	2.3E-10	NV	6.2E-09	2.8E-09
Fluoranthene	2.0E-08	NV	5.5E-07	2.5E-07	1.3E-08	NV	3.5E-07	1.6E-07	6.7E-09	NV	1.8E-07	8.3E-08	5.2E-09	NV	1.4E-07	6.4E-08
Phenanthrene	1.4E-08	NV	3.8E-07	1.7E-07	2.5E-09	NV	6.7E-08	3.1E-08	1.7E-09	NV	4.5E-08	2.0E-08	1.2E-09	NV	3.3E-08	1.5E-08
Pyrene	2.0E-08	6.9E-09	5.5E-07	2.5E-07	1.3E-08	6.9E-09	3.5E-07	1.6E-07	6.5E-09	6.9E-09	1.8E-07	8.1E-08	4.2E-09	6.9E-09	1.1E-07	5.2E-08
Pesticides																
4,4-DDE	1.1E-10	2.6E-10	9.6E-10	1.3E-09	1.6E-10	2.6E-10	1.5E-09	2.0E-09	1.1E-10	2.6E-10	9.6E-10	1.3E-09	1.1E-10	2.6E-10	9.6E-10	1.3E-09
4,4-DDT	1.1E-10	NV	9.9E-10	1.4E-09	1.1E-10	NV	9.9E-10	1.4E-09	1.1E-10	NV	9.9E-10	1.4E-09	1.1E-10	NV	9.9E-10	1.4E-09

Table AOC14-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	5.7E-09	ND	ND	1.3E-09	5.7E-09	3.5E-08	1.6E-08	8.0E-10	5.7E-09	2.2E-08	9.9E-09	7.4E-10	5.7E-09	2.0E-08	9.1E-09
Total Petroleum Hydrocarbons																
TPH as diesel	4.6E-07	1.2E-03	8.3E-06	5.7E-06	2.3E-06	1.2E-03	4.2E-05	2.9E-05	3.0E-06	1.2E-03	5.5E-05	3.7E-05	5.8E-07	1.2E-03	1.1E-05	7.2E-06
TPH as motor oil	2.5E-06	NV	4.5E-05	3.1E-05	1.7E-05	NV	3.2E-04	2.2E-04	2.0E-05	NV	3.7E-04	2.5E-04	5.2E-06	NV	9.5E-05	6.5E-05
Dioxins/Furans																
TEQ Human	1.7E-13	3.8E-12	9.0E-13	2.0E-12	5.1E-12	3.8E-12	2.8E-11	6.3E-11	3.0E-12	3.8E-12	1.6E-11	3.7E-11	1.8E-12	3.8E-12	9.7E-12	2.2E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	1.7E-07	NV	6.3E-07	2.1E-06	9.1E-08	NV	3.3E-07	1.1E-06	5.9E-08	NV	2.1E-07	7.3E-07
Chromium, Hexavalent	4.5E-09	NV	NA	5.6E-08	8.3E-09	NV	NA	1.0E-07	1.1E-08	NV	NA	1.4E-07	9.3E-09	NV	NA	1.2E-07
Copper	1.2E-07	NV	4.2E-07	1.4E-06	2.0E-06	NV	7.4E-06	2.5E-05	1.2E-06	NV	4.4E-06	1.5E-05	7.7E-07	NV	2.8E-06	9.5E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.7E-09	NV	1.4E-08	4.6E-08	5.5E-07	NV	2.0E-06	6.8E-06	9.3E-07	NV	3.4E-06	1.2E-05	6.6E-07	NV	2.4E-06	8.1E-06
Nitrate	NS	NV	NS	NS	1.6E-07	NV	5.6E-07	1.9E-06	2.6E-07	NV	9.6E-07	3.3E-06	2.6E-07	NV	9.6E-07	3.3E-06
Phosphate	NS	NV	NS	NS	5.9E-07	NV	2.1E-06	7.3E-06	5.9E-07	NV	2.1E-06	7.3E-06	5.9E-07	NV	2.1E-06	7.3E-06
Thallium	ND	NV	ND	ND	1.3E-08	NV	4.7E-08	1.6E-07	1.7E-08	NV	6.1E-08	2.1E-07	1.8E-08	NV	6.6E-08	2.2E-07
Semi-Volatile Organic Compounds																
4-Methylphenol	3.9E-09	NV	1.4E-07	4.9E-08	3.2E-09	NV	1.1E-07	3.9E-08	2.4E-09	NV	8.7E-08	3.0E-08	2.1E-09	NV	7.4E-08	2.5E-08
bis (2-ethylhexyl) phthalate	5.8E-09	NV	2.1E-07	7.2E-08	4.4E-09	NV	1.6E-07	5.4E-08	2.9E-09	NV	1.1E-07	3.7E-08	2.4E-09	NV	8.6E-08	2.9E-08
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	1.2E-07	NV	4.3E-06	1.5E-06
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	3.6E-11	NV	2.0E-09	4.5E-10	4.3E-11	NV	2.3E-09	5.3E-10	3.5E-11	NV	1.9E-09	4.3E-10
Anthracene	ND	2.7E-10	ND	ND	6.7E-11	2.7E-10	3.7E-09	8.3E-10	2.0E-10	2.7E-10	1.1E-08	2.5E-09	1.8E-10	2.7E-10	1.0E-08	2.3E-09
Benzo (ghi) perylene	5.5E-11	NV	3.0E-09	6.8E-10	5.4E-11	NV	2.9E-09	6.6E-10	9.6E-11	NV	5.2E-09	1.2E-09	5.7E-11	NV	3.1E-09	7.1E-10
Fluoranthene	5.1E-09	NV	2.8E-07	6.3E-08	3.2E-09	NV	1.7E-07	4.0E-08	1.7E-09	NV	9.1E-08	2.1E-08	1.3E-09	NV	7.0E-08	1.6E-08
Phenanthrene	3.5E-09	NV	1.9E-07	4.3E-08	6.2E-10	NV	3.4E-08	7.7E-09	4.1E-10	NV	2.2E-08	5.1E-09	3.1E-10	NV	1.7E-08	3.8E-09
Pyrene	5.1E-09	3.2E-10	2.8E-07	6.3E-08	3.2E-09	3.2E-10	1.7E-07	4.0E-08	1.6E-09	3.2E-10	8.9E-08	2.0E-08	1.1E-09	3.2E-10	5.7E-08	1.3E-08
Pesticides																
4,4-DDE	2.6E-11	1.2E-11	4.8E-10	3.3E-10	4.0E-11	1.2E-11	7.3E-10	5.0E-10	2.6E-11	1.2E-11	4.8E-10	3.3E-10	2.6E-11	1.2E-11	4.8E-10	3.3E-10
4,4-DDT	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10

Table AOC14-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	2.6E-10	ND	ND	3.2E-10	2.6E-10	1.7E-08	4.0E-09	2.0E-10	2.6E-10	1.1E-08	2.5E-09	1.8E-10	2.6E-10	1.0E-08	2.3E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.1E-07	5.5E-05	4.1E-06	1.4E-06	5.8E-07	5.5E-05	2.1E-05	7.2E-06	7.5E-07	5.5E-05	2.7E-05	9.3E-06	1.5E-07	5.5E-05	5.3E-06	1.8E-06
TPH as motor oil	6.2E-07	NV	2.3E-05	7.7E-06	4.4E-06	NV	1.6E-04	5.4E-05	5.1E-06	NV	1.8E-04	6.3E-05	1.3E-06	NV	4.7E-05	1.6E-05
Dioxins/Furans																
TEQ Human	4.1E-14	1.7E-13	4.5E-13	5.1E-13	1.3E-12	1.7E-13	1.4E-11	1.6E-11	7.5E-13	1.7E-13	8.1E-12	9.2E-12	4.5E-13	1.7E-13	4.8E-12	5.5E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	3.1E-10	NV	1.6E-07	5.6E-06	3.1E-10	NV	2.2E-08	5.2E-07
Chromium, Hexavalent	8.0E-12	NV	NA	1.5E-07	8.0E-12	NV	NA	1.4E-08	1.5E-11	NV	NA	2.7E-07	1.5E-11	NV	NA	2.5E-08
Copper	2.0E-10	NV	1.1E-07	3.7E-06	2.0E-10	NV	1.5E-08	3.5E-07	3.6E-09	NV	1.9E-06	6.5E-05	3.6E-09	NV	2.6E-07	6.1E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.6E-12	NV	3.5E-09	1.2E-07	6.6E-12	NV	4.7E-10	1.1E-08	9.7E-10	NV	5.1E-07	1.8E-05	9.7E-10	NV	7.0E-08	1.7E-06
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	2.7E-10	NV	1.4E-07	5.0E-06	2.7E-10	NV	2.0E-08	4.7E-07
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	1.0E-09	NV	5.4E-07	1.9E-05	1.0E-09	NV	7.4E-08	1.8E-06
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	2.3E-11	NV	1.2E-08	4.2E-07	2.3E-11	NV	1.7E-09	3.9E-08
Semi-Volatile Organic Compounds																
4-Methylphenol	6.9E-12	NV	3.6E-08	1.3E-07	6.9E-12	NV	5.0E-09	1.2E-08	5.6E-12	NV	2.9E-08	1.0E-07	5.6E-12	NV	4.0E-09	9.5E-09
bis (2-ethylhexyl) phthalate	1.0E-11	NV	5.4E-08	1.9E-07	1.0E-11	NV	7.4E-09	1.8E-08	7.8E-12	NV	4.1E-08	1.4E-07	7.8E-12	NV	5.6E-09	1.3E-08
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	6.4E-14	NV	5.0E-10	1.2E-09	6.4E-14	NV	6.9E-11	1.1E-10
Anthracene	ND	6.8E-10	ND	ND	ND	6.8E-10	ND	ND	1.2E-13	6.8E-10	9.4E-10	2.2E-09	1.2E-13	6.8E-10	1.3E-10	2.0E-10
Benzo (ghi) perylene	9.7E-14	NV	7.7E-10	1.8E-09	9.7E-14	NV	1.0E-10	1.7E-10	9.5E-14	NV	7.5E-10	1.7E-09	9.5E-14	NV	1.0E-10	1.6E-10
Fluoranthene	9.0E-12	NV	7.1E-08	1.6E-07	9.0E-12	NV	9.7E-09	1.5E-08	5.7E-12	NV	4.5E-08	1.0E-07	5.7E-12	NV	6.1E-09	9.6E-09
Phenanthrene	6.1E-12	NV	4.8E-08	1.1E-07	6.1E-12	NV	6.6E-09	1.0E-08	1.1E-12	NV	8.6E-09	2.0E-08	1.1E-12	NV	1.2E-09	1.9E-09
Pyrene	9.0E-12	8.2E-10	7.1E-08	1.6E-07	9.0E-12	8.2E-10	9.7E-09	1.5E-08	5.7E-12	8.2E-10	4.5E-08	1.0E-07	5.7E-12	8.2E-10	6.1E-09	9.6E-09
Pesticides																
4,4-DDE	4.7E-14	3.1E-11	1.2E-10	8.5E-10	4.7E-14	3.1E-11	1.7E-11	7.9E-11	7.1E-14	3.1E-11	1.9E-10	1.3E-09	7.1E-14	3.1E-11	2.5E-11	1.2E-10
4,4-DDT	4.8E-14	NV	1.3E-10	8.8E-10	4.8E-14	NV	1.7E-11	8.2E-11	4.8E-14	NV	1.3E-10	8.8E-10	4.8E-14	NV	1.7E-11	8.2E-11

Table AOC14-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	6.8E-10	ND	ND	ND	6.8E-10	ND	ND	5.6E-13	6.8E-10	4.4E-09	1.0E-08	5.6E-13	6.8E-10	6.1E-10	9.6E-10
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-10	1.4E-04	1.1E-06	3.7E-06	2.0E-10	1.4E-04	1.4E-07	3.4E-07	1.0E-09	1.4E-04	5.4E-06	1.8E-05	1.0E-09	1.4E-04	7.3E-07	1.7E-06
TPH as motor oil	1.1E-09	NV	5.8E-06	2.0E-05	1.1E-09	NV	7.9E-07	1.9E-06	7.7E-09	NV	4.1E-05	1.4E-04	7.7E-09	NV	5.5E-06	1.3E-05
Dioxins/Furans																
TEQ Human	7.3E-17	4.4E-13	1.1E-13	1.3E-12	7.3E-17	4.4E-13	1.6E-14	1.2E-13	2.3E-15	4.4E-13	3.6E-12	4.1E-11	2.3E-15	4.4E-13	4.9E-13	3.8E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	6.1E-10	NV	3.2E-07	1.1E-05	6.1E-10	NV	4.4E-08	1.0E-06
Chromium, Hexavalent	1.6E-11	NV	NA	2.9E-07	1.6E-11	NV	NA	2.7E-08	2.9E-11	NV	NA	5.3E-07	2.9E-11	NV	NA	5.0E-08
Copper	4.1E-10	NV	2.2E-07	7.4E-06	4.1E-10	NV	2.9E-08	7.0E-07	7.2E-09	NV	3.8E-06	1.3E-04	7.2E-09	NV	5.2E-07	1.2E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.3E-11	NV	6.9E-09	2.4E-07	1.3E-11	NV	9.5E-10	2.2E-08	1.9E-09	NV	1.0E-06	3.5E-05	1.9E-09	NV	1.4E-07	3.3E-06
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	5.5E-10	NV	2.9E-07	9.9E-06	5.5E-10	NV	3.9E-08	9.3E-07
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	2.1E-09	NV	1.1E-06	3.8E-05	2.1E-09	NV	1.5E-07	3.5E-06
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	4.6E-11	NV	2.4E-08	8.4E-07	4.6E-11	NV	3.3E-09	7.8E-08
Semi-Volatile Organic Compounds																
4-Methylphenol	1.4E-11	NV	7.3E-08	2.5E-07	1.4E-11	NV	9.9E-09	2.4E-08	1.1E-11	NV	5.8E-08	2.0E-07	1.1E-11	NV	8.0E-09	1.9E-08
bis (2-ethylhexyl) phthalate	2.1E-11	NV	1.1E-07	3.7E-07	2.1E-11	NV	1.5E-08	3.5E-08	1.6E-11	NV	8.2E-08	2.8E-07	1.6E-11	NV	1.1E-08	2.6E-08
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.3E-13	NV	1.0E-09	2.3E-09	1.3E-13	NV	1.4E-10	2.2E-10
Anthracene	ND	1.4E-09	ND	ND	ND	1.4E-09	ND	ND	2.4E-13	1.4E-09	1.9E-09	4.3E-09	2.4E-13	1.4E-09	2.6E-10	4.0E-10
Benzo (ghi) perylene	1.9E-13	NV	1.5E-09	3.5E-09	1.9E-13	NV	2.1E-10	3.3E-10	1.9E-13	NV	1.5E-09	3.4E-09	1.9E-13	NV	2.0E-10	3.2E-10
Fluoranthene	1.8E-11	NV	1.4E-07	3.3E-07	1.8E-11	NV	1.9E-08	3.1E-08	1.1E-11	NV	8.9E-08	2.1E-07	1.1E-11	NV	1.2E-08	1.9E-08
Phenanthrene	1.2E-11	NV	9.7E-08	2.2E-07	1.2E-11	NV	1.3E-08	2.1E-08	2.2E-12	NV	1.7E-08	4.0E-08	2.2E-12	NV	2.3E-09	3.7E-09
Pyrene	1.8E-11	1.6E-09	1.4E-07	3.3E-07	1.8E-11	1.6E-09	1.9E-08	3.1E-08	1.1E-11	1.6E-09	8.9E-08	2.1E-07	1.1E-11	1.6E-09	1.2E-08	1.9E-08
Pesticides																
4,4-DDE	9.3E-14	6.1E-11	2.5E-10	1.7E-09	9.3E-14	6.1E-11	3.4E-11	1.6E-10	1.4E-13	6.1E-11	3.7E-10	2.6E-09	1.4E-13	6.1E-11	5.1E-11	2.4E-10
4,4-DDT	9.7E-14	NV	2.5E-10	1.8E-09	9.7E-14	NV	3.5E-11	1.6E-10	9.7E-14	NV	2.5E-10	1.8E-09	9.7E-14	NV	3.5E-11	1.6E-10

Table AOC14-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	1.4E-09	ND	ND	ND	1.4E-09	ND	ND	1.1E-12	1.4E-09	8.9E-09	2.0E-08	1.1E-12	1.4E-09	1.2E-09	1.9E-09
Total Petroleum Hydrocarbons																
TPH as diesel	4.0E-10	2.8E-04	2.1E-06	7.3E-06	4.0E-10	2.8E-04	2.9E-07	6.8E-07	2.0E-09	2.8E-04	1.1E-05	3.7E-05	2.0E-09	2.8E-04	1.5E-06	3.5E-06
TPH as motor oil	2.2E-09	NV	1.2E-05	4.0E-05	2.2E-09	NV	1.6E-06	3.7E-06	1.5E-08	NV	8.1E-05	2.8E-04	1.5E-08	NV	1.1E-05	2.6E-05
Dioxins/Furans																
TEQ Human	1.5E-16	8.9E-13	2.3E-13	2.6E-12	1.5E-16	8.9E-13	3.1E-14	2.5E-13	4.5E-15	8.9E-13	7.1E-12	8.2E-11	4.5E-15	8.9E-13	9.7E-13	7.7E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.2e
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NV	ND	ND	3.1E-10	NV	2.2E-08	5.2E-07
Chromium, Hexavalent	8.0E-12	NV	NA	1.4E-08	1.5E-11	NV	NA	2.5E-08
Copper	2.0E-10	NV	1.5E-08	3.5E-07	3.6E-09	NV	2.6E-07	6.1E-06
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.6E-12	NV	4.7E-10	1.1E-08	9.7E-10	NV	7.0E-08	1.7E-06
Nitrate	NS	NV	NS	NS	2.7E-10	NV	2.0E-08	4.7E-07
Phosphate	NS	NV	NS	NS	1.0E-09	NV	7.4E-08	1.8E-06
Thallium	ND	NV	ND	ND	2.3E-11	NV	1.7E-09	3.9E-08
Semi-Volatile Organic Compounds								
4-Methylphenol	6.9E-12	NV	5.0E-09	1.2E-08	5.6E-12	NV	4.0E-09	9.5E-09
bis (2-ethylhexyl) phthalate	1.0E-11	NV	7.4E-09	1.8E-08	7.8E-12	NV	5.6E-09	1.3E-08
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND
Polycyclic Aromatic Hydrocarbons								
Acenaphthylene	ND	NV	ND	ND	6.4E-14	NV	6.9E-11	1.1E-10
Anthracene	ND	6.8E-10	ND	ND	1.2E-13	6.8E-10	1.3E-10	2.0E-10
Benzo (ghi) perylene	9.7E-14	NV	1.0E-10	1.7E-10	9.5E-14	NV	1.0E-10	1.6E-10
Fluoranthene	9.0E-12	NV	9.7E-09	1.5E-08	5.7E-12	NV	6.1E-09	9.6E-09
Phenanthrene	6.1E-12	NV	6.6E-09	1.0E-08	1.1E-12	NV	1.2E-09	1.9E-09
Pyrene	9.0E-12	8.2E-10	9.7E-09	1.5E-08	5.7E-12	8.2E-10	6.1E-09	9.6E-09
Pesticides								
4,4-DDE	4.7E-14	3.1E-11	1.7E-11	7.9E-11	7.1E-14	3.1E-11	2.5E-11	1.2E-10
4,4-DDT	4.8E-14	NV	1.7E-11	8.2E-11	4.8E-14	NV	1.7E-11	8.2E-11

Table AOC14-B1.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	ND	6.8E-10	ND	ND	5.6E-13	6.8E-10	6.1E-10	9.6E-10
Total Petroleum Hydrocarbons								
TPH as diesel	2.0E-10	1.4E-04	1.4E-07	3.4E-07	1.0E-09	1.4E-04	7.3E-07	1.7E-06
TPH as motor oil	1.1E-09	NV	7.9E-07	1.9E-06	7.7E-09	NV	5.5E-06	1.3E-05
Dioxins/Furans								
TEQ Human	7.3E-17	4.4E-13	1.6E-14	1.2E-13	2.3E-15	4.4E-13	4.9E-13	3.8E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	6.1E-08	NV	5.9E-07	7.8E-07	6.1E-08	NV	5.0E-07	3.2E-07
Chromium, Hexavalent	1.6E-09	NV	NA	2.0E-08	1.6E-09	NV	NA	8.4E-09	2.9E-09	NV	NA	3.7E-08	2.9E-09	NV	NA	1.5E-08
Copper	4.1E-08	NV	3.9E-07	5.2E-07	4.1E-08	NV	3.4E-07	2.2E-07	7.2E-07	NV	6.9E-06	9.2E-06	7.2E-07	NV	5.9E-06	3.8E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.3E-09	NV	1.3E-08	1.7E-08	1.3E-09	NV	1.1E-08	7.0E-09	2.0E-07	NV	1.9E-06	2.5E-06	2.0E-07	NV	1.6E-06	1.0E-06
Nitrate	NS	NV	NS	NS	NS	NV	NS	NS	5.5E-08	NV	5.2E-07	7.0E-07	5.5E-08	NV	4.5E-07	2.9E-07
Phosphate	NS	NV	NS	NS	NS	NV	NS	NS	2.1E-07	NV	2.0E-06	2.6E-06	2.1E-07	NV	1.7E-06	1.1E-06
Thallium	ND	NV	ND	ND	ND	NV	ND	ND	4.6E-09	NV	4.4E-08	5.9E-08	4.6E-09	NV	3.8E-08	2.4E-08
Semi-Volatile Organic Compounds																
4-Methylphenol	1.4E-09	NV	1.3E-07	1.8E-08	1.4E-09	NV	1.1E-07	7.3E-09	1.1E-09	NV	1.1E-07	1.4E-08	1.1E-09	NV	9.1E-08	5.8E-09
bis (2-ethylhexyl) phthalate	2.1E-09	NV	2.0E-07	2.6E-08	2.1E-09	NV	1.7E-07	1.1E-08	1.6E-09	NV	1.5E-07	2.0E-08	1.6E-09	NV	1.3E-07	8.2E-09
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.3E-11	NV	1.8E-09	1.6E-10	1.3E-11	NV	1.6E-09	6.7E-11
Anthracene	ND	8.5E-11	ND	ND	ND	8.5E-11	ND	ND	2.4E-11	8.5E-11	3.4E-09	3.0E-10	2.4E-11	8.5E-11	2.9E-09	1.2E-10
Benzo (ghi) perylene	2.0E-11	NV	2.8E-09	2.5E-10	2.0E-11	NV	2.4E-09	1.0E-10	1.9E-11	NV	2.7E-09	2.4E-10	1.9E-11	NV	2.3E-09	1.0E-10
Fluoranthene	1.8E-09	NV	2.6E-07	2.3E-08	1.8E-09	NV	2.2E-07	9.5E-09	1.1E-09	NV	1.6E-07	1.4E-08	1.1E-09	NV	1.4E-07	6.0E-09
Phenanthrene	1.2E-09	NV	1.8E-07	1.6E-08	1.2E-09	NV	1.5E-07	6.4E-09	2.2E-10	NV	3.1E-08	2.8E-09	2.2E-10	NV	2.7E-08	1.1E-09
Pyrene	1.8E-09	1.0E-10	2.6E-07	2.3E-08	1.8E-09	1.0E-10	2.2E-07	9.5E-09	1.1E-09	1.0E-10	1.6E-07	1.4E-08	1.1E-09	1.0E-10	1.4E-07	6.0E-09
Pesticides																
4,4-DDE	9.4E-12	3.8E-12	4.5E-10	1.2E-10	9.4E-12	3.8E-12	3.8E-10	4.9E-11	1.4E-11	3.8E-12	6.8E-10	1.8E-10	1.4E-11	3.8E-12	5.8E-10	7.5E-11
4,4-DDT	9.7E-12	NV	4.6E-10	1.2E-10	9.7E-12	NV	4.0E-10	5.1E-11	9.7E-12	NV	4.6E-10	1.2E-10	9.7E-12	NV	4.0E-10	5.1E-11

Table AOC14-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	8.4E-11	ND	ND	ND	8.4E-11	ND	ND	1.1E-10	8.4E-11	1.6E-08	1.4E-09	1.1E-10	8.4E-11	1.4E-08	5.9E-10
Total Petroleum Hydrocarbons																
TPH as diesel	4.0E-08	1.8E-05	3.9E-06	5.1E-07	4.0E-08	1.8E-05	3.3E-06	2.1E-07	2.0E-07	1.8E-05	2.0E-05	2.6E-06	2.0E-07	1.8E-05	1.7E-05	1.1E-06
TPH as motor oil	2.2E-07	NV	2.1E-05	2.8E-06	2.2E-07	NV	1.8E-05	1.2E-06	1.5E-06	NV	1.5E-04	2.0E-05	1.5E-06	NV	1.3E-04	8.1E-06
Dioxins/Furans																
TEQ Human	1.5E-14	5.5E-14	4.2E-13	1.9E-13	1.5E-14	5.5E-14	3.6E-13	7.7E-14	4.5E-13	5.5E-14	1.3E-11	5.8E-12	4.5E-13	5.5E-14	1.1E-11	2.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Antimony	ND	NV	3.8E-11	NV
Chromium, Hexavalent	1.0E-12	NV	1.8E-12	NV
Copper	2.6E-11	NV	4.5E-10	NV
Lead	na	na	na	na
Mercury (inorganic)	8.3E-13	NV	1.2E-10	NV
Nitrate	NS	NV	3.4E-11	NV
Phosphate	NS	NV	1.3E-10	NV
Thallium	ND	NV	2.9E-12	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	8.7E-13	NV	7.0E-13	NV
bis (2-ethylhexyl) phthalate	1.3E-12	NV	9.7E-13	NV
Butylbenzylphthalate	ND	NV	ND	NV
Polycyclic Aromatic Hydrocarbons				
Acenaphthylene	ND	NV	8.0E-15	NV
Anthracene	ND	5.6E-11	1.5E-14	5.6E-11
Benzo (ghi) perylene	1.2E-14	NV	1.2E-14	NV
Fluoranthene	1.1E-12	NV	7.1E-13	NV
Phenanthrene	7.7E-13	NV	1.4E-13	NV
Pyrene	1.1E-12	6.7E-11	7.1E-13	6.7E-11
Pesticides				
4,4-DDE	5.8E-15	2.5E-12	8.9E-15	2.5E-12
4,4-DDT	6.0E-15	NV	6.0E-15	NV

Table AOC14-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	ND	5.6E-11	7.1E-14	5.6E-11
Total Petroleum Hydrocarbons				
TPH as diesel	2.5E-11	1.2E-05	1.3E-10	1.2E-05
TPH as motor oil	1.4E-10	NV	9.6E-10	NV
Dioxins/Furans				
TEQ Human	9.1E-18	3.6E-14	2.8E-16	3.6E-14

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.3a
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	3.9E-08	NV	NA	1.6E-09	4.1E-08	7.1E-08	NV	NA	2.9E-09	7.4E-08	9.6E-08	NV	NA	4.0E-09	1.0E-07	8.0E-08	NV	NA	3.3E-09	8.3E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	8.0E-13	NV	8.5E-11	5.8E-11	1.4E-10	6.0E-13	NV	6.4E-11	4.4E-11	1.1E-10	4.0E-13	NV	4.3E-11	2.9E-11	7.2E-11	3.3E-13	NV	3.4E-11	2.4E-11	5.8E-11
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	1.6E-10	1.6E-10
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides																				
4,4-DDE	1.5E-13	3.6E-13	4.7E-12	6.4E-12	1.2E-11	2.2E-13	3.6E-13	7.1E-12	9.7E-12	1.7E-11	1.5E-13	3.6E-13	4.7E-12	6.4E-12	1.2E-11	1.5E-13	3.6E-13	4.7E-12	6.4E-12	1.2E-11
4,4-DDT	1.5E-13	NV	4.8E-12	6.6E-12	1.2E-11	1.5E-13	NV	4.8E-12	6.6E-12	1.2E-11	1.5E-13	NV	4.8E-12	6.6E-12	1.2E-11	1.5E-13	NV	4.8E-12	6.6E-12	1.2E-11

Table AOC14-B1.3a
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	ND	4.7E-11	ND	ND	4.7E-11	1.0E-11	4.7E-11	9.9E-10	4.5E-10	1.5E-09	6.5E-12	4.7E-11	6.2E-10	2.8E-10	9.5E-10	6.0E-12	4.7E-11	5.7E-10	2.6E-10	8.9E-10
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	9.0E-11	2.0E-09	1.7E-09	3.8E-09	7.6E-09	2.8E-09	2.0E-09	5.2E-08	1.2E-07	1.7E-07	1.6E-09	2.0E-09	3.0E-08	6.9E-08	1.0E-07	9.7E-10	2.0E-09	1.8E-08	4.1E-08	6.2E-08
Cumulative ILCR	4E-08	2E-09	2E-09	5E-09	5E-08	7E-08	2E-09	5E-08	1E-07	2E-07	1E-07	2E-09	3E-08	7E-08	2E-07	8E-08	2E-09	2E-08	4E-08	1E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.3b
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	2.9E-07	NV	NA	1.2E-08	3.0E-07	5.3E-07	NV	NA	2.2E-08	5.6E-07	7.2E-07	NV	NA	3.0E-08	7.5E-07	6.0E-07	NV	NA	2.5E-08	6.2E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	6.0E-12	NV	1.3E-09	4.3E-10	1.7E-09	4.5E-12	NV	9.6E-10	3.3E-10	1.3E-09	3.0E-12	NV	6.4E-10	2.2E-10	8.6E-10	2.4E-12	NV	5.2E-10	1.8E-10	6.9E-10
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	1.2E-09	1.2E-09
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides																				
4,4-DDE	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10	1.7E-12	4.9E-13	1.1E-10	7.2E-11	1.8E-10	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10
4,4-DDT	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10

Table AOC14-B1.3b
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	ND	6.4E-11	ND	ND	6.4E-11	7.8E-11	6.4E-11	1.5E-08	3.4E-09	1.8E-08	4.9E-11	6.4E-11	9.3E-09	2.1E-09	1.1E-08	4.5E-11	6.4E-11	8.6E-09	2.0E-09	1.1E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	6.7E-10	2.8E-09	2.5E-08	2.8E-08	5.7E-08	2.1E-08	2.8E-09	7.7E-07	8.8E-07	1.7E-06	1.2E-08	2.8E-09	4.5E-07	5.1E-07	9.8E-07	7.3E-09	2.8E-09	2.7E-07	3.1E-07	5.9E-07
Cumulative ILCR	3E-07	3E-09	3E-08	4E-08	4E-07	6E-07	3E-09	8E-07	9E-07	2E-06	7E-07	3E-09	5E-07	5E-07	2E-06	6E-07	3E-09	3E-07	3E-07	1E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.3c

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.2E-09	NV	NA	3.7E-08	3.8E-08	2.3E-09	NV	NA	6.8E-08	7.0E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	9.2E-15	NV	9.5E-11	2.9E-10	3.9E-10	6.9E-15	NV	7.1E-11	2.2E-10	2.9E-10
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides										
4,4-DDE	1.7E-15	1.1E-12	5.2E-12	3.2E-11	3.9E-11	2.6E-15	1.1E-12	7.9E-12	4.9E-11	5.8E-11
4,4-DDT	1.7E-15	NV	5.4E-12	3.4E-11	3.9E-11	1.7E-15	NV	5.4E-12	3.4E-11	3.9E-11

Table AOC14-B1.3c

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	1.4E-10	ND	ND	1.4E-10	1.2E-13	1.4E-10	1.1E-09	2.3E-09	3.6E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.0E-12	6.2E-09	1.9E-09	1.9E-08	2.7E-08	3.2E-11	6.2E-09	5.8E-08	6.0E-07	6.6E-07
Cumulative ILCR	1E-09	6E-09	2E-09	6E-08	7E-08	2E-09	6E-09	6E-08	7E-07	7E-07

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.3d

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chromium, Hexavalent	2.5E-09	NV	NA	7.4E-08	7.7E-08	4.5E-09	NV	NA	1.4E-07	1.4E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	1.8E-14	NV	1.9E-10	5.9E-10	7.8E-10	1.4E-14	NV	1.4E-10	4.4E-10	5.9E-10
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides										
4,4-DDE	3.4E-15	2.2E-12	1.0E-11	6.5E-11	7.7E-11	5.1E-15	2.2E-12	1.6E-11	9.8E-11	1.2E-10
4,4-DDT	3.5E-15	NV	1.1E-11	6.7E-11	7.8E-11	3.5E-15	NV	1.1E-11	6.7E-11	7.8E-11

Table AOC14-B1.3d

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	2.9E-10	ND	ND	2.9E-10	2.4E-13	2.9E-10	2.2E-09	4.6E-09	7.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.1E-12	1.2E-08	3.7E-09	3.9E-08	5.5E-08	6.4E-11	1.2E-08	1.2E-07	1.2E-06	1.3E-06
Cumulative ILCR	2E-09	1E-08	4E-09	1E-07	1E-07	5E-09	1E-08	1E-07	1E-06	1E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chromium, Hexavalent	4.5E-10	NV	NA	2.5E-09	3.0E-09	8.2E-10	NV	NA	4.6E-09	5.4E-09
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	9.2E-15	NV	3.8E-11	9.1E-11	1.3E-10	6.9E-15	NV	2.9E-11	6.9E-11	9.8E-11
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides										
4,4-DDE	1.7E-15	1.1E-12	2.1E-12	1.0E-11	1.3E-11	2.6E-15	1.1E-12	3.2E-12	1.5E-11	2.0E-11
4,4-DDT	1.7E-15	NV	2.2E-12	1.0E-11	1.3E-11	1.7E-15	NV	2.2E-12	1.0E-11	1.3E-11

Table AOC14-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	1.4E-10	ND	ND	1.4E-10	1.2E-13	1.4E-10	4.5E-10	7.1E-10	1.3E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.0E-12	6.2E-09	7.6E-10	6.0E-09	1.3E-08	3.2E-11	6.2E-09	2.3E-08	1.9E-07	2.1E-07
Cumulative ILCR	4E-10	6E-09	8E-10	9E-09	2E-08	8E-10	6E-09	2E-08	2E-07	2E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chromium, Hexavalent	1.6E-07	NV	NA	4.3E-09	1.6E-07	2.9E-07	NV	NA	7.9E-09	3.0E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	1.8E-12	NV	9.1E-10	7.5E-11	9.9E-10	1.4E-12	NV	6.9E-10	5.6E-11	7.5E-10
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides										
4,4-DDE	3.4E-13	1.4E-13	5.0E-11	8.2E-12	5.9E-11	5.1E-13	1.4E-13	7.6E-11	1.3E-11	8.9E-11
4,4-DDT	3.5E-13	NV	5.2E-11	8.5E-12	6.1E-11	3.5E-13	NV	5.2E-11	8.5E-12	6.1E-11

Table AOC14-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	ND	1.8E-11	ND	ND	1.8E-11	2.4E-11	1.8E-11	1.1E-08	5.9E-10	1.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.1E-10	7.8E-10	1.8E-08	4.9E-09	2.4E-08	6.4E-09	7.8E-10	5.6E-07	1.5E-07	7.2E-07
Cumulative ILCR	2E-07	8E-10	2E-08	9E-09	2E-07	3E-07	8E-10	6E-07	2E-07	1E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Antimony	ND	NC	--	NC	NC	--
Chromium, Hexavalent	1.3E-10	NV	1.3E-10	2.4E-10	NV	2.4E-10
Copper	NC	NC	--	NC	NC	--
Lead	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	--	NC	NC	--
Nitrate	NS	NC	--	NC	NC	--
Phosphate	NS	NC	--	NC	NC	--
Thallium	ND	NC	--	NC	NC	--
Semi-Volatile Organic Compounds						
4-Methylphenol	NC	NC	--	NC	NC	--
bis (2-ethylhexyl) phthalate	2.7E-15	NV	2.7E-15	2.0E-15	NV	2.0E-15
Butylbenzylphthalate	ND	NC	--	ND	NC	--
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	ND	NC	--	NC	NC	--
Anthracene	ND	NC	--	NC	NC	--
Benzo (ghi) perylene	NC	NC	--	NC	NC	--
Fluoranthene	NC	NC	--	NC	NC	--
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
Pesticides						
4,4-DDE	4.9E-16	2.1E-13	2.1E-13	7.4E-16	2.1E-13	2.1E-13
4,4-DDT	5.0E-16	NV	5.0E-16	5.0E-16	NV	5.0E-16

Table AOC14-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Polychlorinated Biphenyls						
Total PCBs	ND	2.7E-11	2.7E-11	3.4E-14	2.7E-11	2.7E-11
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Dioxins/Furans						
TEQ Human	3.0E-13	1.2E-09	1.2E-09	9.2E-12	1.2E-09	1.2E-09
Cumulative ILCR	1E-10	1E-09	1E-09	2E-10	1E-09	1E-09

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4a
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	4.3E-03	NV	3.1E-02	2.1E-01	2.5E-01	2.3E-03	NV	1.7E-02	1.1E-01	1.3E-01	1.5E-03	NV	1.1E-02	7.3E-02	8.5E-02
Chromium, Hexavalent	1.8E-04	NV	NA	7.5E-05	2.6E-04	3.3E-04	NV	NA	1.4E-04	4.7E-04	4.5E-04	NV	NA	1.9E-04	6.3E-04	3.7E-04	NV	NA	1.5E-04	5.3E-04
Copper	2.9E-06	NV	2.1E-05	1.4E-04	1.7E-04	5.1E-05	NV	3.7E-04	2.5E-03	2.9E-03	3.0E-05	NV	2.2E-04	1.5E-03	1.8E-03	1.9E-05	NV	1.4E-04	9.5E-04	1.1E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.0E-04	NV	1.7E-04	1.2E-03	1.8E-03	7.3E-02	NV	2.5E-02	1.7E-01	2.7E-01	1.2E-01	NV	4.2E-02	2.9E-01	4.5E-01	8.8E-02	NV	3.0E-02	2.0E-01	3.2E-01
Nitrate	NS	NV	NS	NS	--	9.7E-08	NV	7.0E-07	4.8E-06	5.6E-06	1.7E-07	NV	1.2E-06	8.2E-06	9.6E-06	1.7E-07	NV	1.2E-06	8.2E-06	9.6E-06
Phosphate	NS	NV	NS	NS	--	1.2E-08	NV	8.7E-08	5.9E-07	6.9E-07	1.2E-08	NV	8.7E-08	5.9E-07	6.9E-07	1.2E-08	NV	8.7E-08	5.9E-07	6.9E-07
Thallium	ND	NV	ND	ND	--	1.3E-03	NV	9.5E-03	6.5E-02	7.5E-02	1.7E-03	NV	1.2E-02	8.4E-02	9.8E-02	1.8E-03	NV	1.3E-02	9.0E-02	1.0E-01
Semi-Volatile Organic Compounds																				
4-Methylphenol	2.6E-08	NV	2.8E-06	1.9E-06	4.8E-06	2.1E-08	NV	2.3E-06	1.6E-06	3.9E-06	1.6E-08	NV	1.7E-06	1.2E-06	2.9E-06	1.4E-08	NV	1.5E-06	1.0E-06	2.5E-06
bis (2-ethylhexyl) phthalate	2.9E-07	NV	4.2E-06	2.9E-06	7.4E-06	2.2E-07	NV	3.2E-06	2.2E-06	5.6E-06	1.5E-07	NV	2.1E-06	1.5E-06	3.7E-06	1.2E-07	NV	1.7E-06	1.2E-06	3.0E-06
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.9E-08	NV	NA	2.9E-06	3.0E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	6.0E-11	NV	6.6E-09	3.0E-09	9.6E-09	7.1E-11	NV	7.7E-09	3.5E-09	1.1E-08	5.8E-11	NV	6.3E-09	2.9E-09	9.3E-09
Anthracene	ND	1.5E-10	ND	ND	1.5E-10	6.7E-12	1.5E-10	7.3E-10	3.3E-10	1.2E-09	2.0E-11	1.5E-10	2.2E-09	9.9E-10	3.3E-09	1.8E-11	1.5E-10	2.0E-09	9.1E-10	3.1E-09
Benzo (ghi) perylene	1.8E-09	NV	2.0E-07	9.1E-08	2.9E-07	1.8E-09	NV	1.9E-07	8.8E-08	2.8E-07	3.2E-09	NV	3.5E-07	1.6E-07	5.1E-07	1.9E-09	NV	2.1E-07	9.5E-08	3.0E-07
Fluoranthene	1.3E-08	NV	1.4E-06	6.3E-07	2.0E-06	8.0E-09	NV	8.7E-07	4.0E-07	1.3E-06	4.2E-09	NV	4.5E-07	2.1E-07	6.6E-07	3.2E-09	NV	3.5E-07	1.6E-07	5.1E-07
Phenanthrene	3.5E-10	NV	3.8E-08	1.7E-08	5.5E-08	6.2E-11	NV	6.7E-09	3.1E-09	9.8E-09	4.1E-11	NV	4.5E-09	2.0E-09	6.6E-09	3.1E-11	NV	3.3E-09	1.5E-09	4.9E-09
Pyrene	1.7E-08	5.8E-09	1.8E-06	8.4E-07	2.7E-06	1.1E-08	5.8E-09	1.2E-06	5.3E-07	1.7E-06	5.4E-09	5.8E-09	5.9E-07	2.7E-07	8.7E-07	3.5E-09	5.8E-09	3.8E-07	1.7E-07	5.6E-07
Pesticides																				
4,4-DDE	5.3E-08	1.3E-07	1.9E-06	2.6E-06	4.7E-06	8.0E-08	1.3E-07	2.9E-06	4.0E-06	7.1E-06	5.3E-08	1.3E-07	1.9E-06	2.6E-06	4.7E-06	5.3E-08	1.3E-07	1.9E-06	2.6E-06	4.7E-06
4,4-DDT	5.5E-08	NV	2.0E-06	2.7E-06	4.8E-06	5.5E-08	NV	2.0E-06	2.7E-06	4.8E-06	5.5E-08	NV	2.0E-06	2.7E-06	4.8E-06	5.5E-08	NV	2.0E-06	2.7E-06	4.8E-06

Table AOC14-B1.4a
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	7.2E-05	ND	ND	7.2E-05	1.6E-05	7.2E-05	1.7E-03	7.9E-04	2.6E-03	1.0E-05	7.2E-05	1.1E-03	4.9E-04	1.7E-03	9.2E-06	7.2E-05	1.0E-03	4.6E-04	1.5E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	3.5E-06	9.3E-03	4.1E-04	2.8E-04	1.0E-02	1.8E-05	9.3E-03	2.1E-03	1.4E-03	1.3E-02	2.3E-05	9.3E-03	2.7E-03	1.9E-03	1.4E-02	4.5E-06	9.3E-03	5.3E-04	3.6E-04	1.0E-02
TPH as motor oil	3.7E-06	NV	2.7E-04	1.8E-04	4.5E-04	2.6E-05	NV	1.9E-03	1.3E-03	3.2E-03	3.0E-05	NV	2.2E-03	1.5E-03	3.7E-03	7.7E-06	NV	5.6E-04	3.8E-04	9.4E-04
Dioxins/Furans																				
TEQ Human	4.1E-06	9.4E-05	4.5E-05	1.0E-04	2.5E-04	1.3E-04	9.4E-05	1.4E-03	3.2E-03	4.8E-03	7.5E-05	9.4E-05	8.1E-04	1.8E-03	2.8E-03	4.5E-05	9.4E-05	4.8E-04	1.1E-03	1.7E-03
Total Hazard Index	7E-04	9E-03	9E-04	2E-03	1E-02	8E-02	9E-03	7E-02	5E-01	6E-01	1E-01	9E-03	8E-02	5E-01	7E-01	9E-02	9E-03	6E-02	4E-01	5E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4b
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	1.1E-04	NV	1.6E-03	5.4E-03	7.0E-03	5.7E-05	NV	8.3E-04	2.8E-03	3.7E-03	3.7E-05	NV	5.3E-04	1.8E-03	2.4E-03
Chromium, Hexavalent	4.5E-05	NV	NA	1.9E-05	6.4E-05	8.3E-05	NV	NA	3.4E-05	1.2E-04	1.1E-04	NV	NA	4.6E-05	1.6E-04	9.3E-05	NV	NA	3.8E-05	1.3E-04
Copper	7.2E-07	NV	1.0E-05	3.6E-05	4.7E-05	1.3E-05	NV	1.8E-04	6.3E-04	8.3E-04	7.6E-06	NV	1.1E-04	3.8E-04	4.9E-04	4.8E-06	NV	7.0E-05	2.4E-04	3.1E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.2E-04	NV	8.5E-05	2.9E-04	5.0E-04	1.8E-02	NV	1.2E-02	4.3E-02	7.3E-02	3.1E-02	NV	2.1E-02	7.2E-02	1.2E-01	2.2E-02	NV	1.5E-02	5.1E-02	8.8E-02
Nitrate	NS	NV	NS	NS	--	2.4E-08	NV	3.5E-07	1.2E-06	1.6E-06	4.1E-08	NV	6.0E-07	2.0E-06	2.7E-06	4.1E-08	NV	6.0E-07	2.0E-06	2.7E-06
Phosphate	NS	NV	NS	NS	--	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07
Thallium	ND	NV	ND	ND	--	3.3E-04	NV	4.7E-03	1.6E-02	2.1E-02	4.2E-04	NV	6.1E-03	2.1E-02	2.7E-02	4.5E-04	NV	6.6E-03	2.2E-02	3.0E-02
Semi-Volatile Organic Compounds																				
4-Methylphenol	6.5E-09	NV	1.4E-06	4.9E-07	1.9E-06	5.3E-09	NV	1.1E-06	3.9E-07	1.5E-06	4.0E-09	NV	8.7E-07	3.0E-07	1.2E-06	3.4E-09	NV	7.4E-07	2.5E-07	1.0E-06
bis (2-ethylhexyl) phthalate	7.3E-08	NV	1.1E-05	3.6E-06	1.4E-05	5.5E-08	NV	8.0E-06	2.7E-06	1.1E-05	3.7E-08	NV	5.3E-06	1.8E-06	7.2E-06	3.0E-08	NV	4.3E-06	1.5E-06	5.8E-06
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.5E-07	NV	NA	7.3E-06	7.4E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	1.5E-10	NV	3.3E-08	7.5E-09	4.0E-08	1.8E-10	NV	3.9E-08	8.8E-09	4.8E-08	1.5E-10	NV	3.2E-08	7.2E-09	3.9E-08
Anthracene	ND	2.2E-10	ND	ND	2.2E-10	5.6E-11	2.2E-10	1.2E-08	2.8E-09	1.5E-08	1.7E-10	2.2E-10	3.6E-08	8.3E-09	4.5E-08	1.5E-10	2.2E-10	3.3E-08	7.6E-09	4.1E-08
Benzo (ghi) perylene	4.6E-10	NV	1.0E-07	2.3E-08	1.2E-07	4.5E-10	NV	9.7E-08	2.2E-08	1.2E-07	8.0E-10	NV	1.7E-07	4.0E-08	2.1E-07	4.8E-10	NV	1.0E-07	2.4E-08	1.3E-07
Fluoranthene	3.2E-08	NV	6.9E-06	1.6E-06	8.5E-06	2.0E-08	NV	4.4E-06	9.9E-07	5.4E-06	1.0E-08	NV	2.3E-06	5.2E-07	2.8E-06	8.0E-09	NV	1.7E-06	4.0E-07	2.2E-06
Phenanthrene	2.9E-09	NV	6.3E-07	1.4E-07	7.7E-07	5.2E-10	NV	1.1E-07	2.6E-08	1.4E-07	3.4E-10	NV	7.5E-08	1.7E-08	9.2E-08	2.5E-10	NV	5.5E-08	1.3E-08	6.8E-08
Pyrene	4.3E-08	2.6E-09	9.2E-06	2.1E-06	1.1E-05	2.7E-08	2.6E-09	5.8E-06	1.3E-06	7.2E-06	1.4E-08	2.6E-09	3.0E-06	6.7E-07	3.6E-06	8.8E-09	2.6E-09	1.9E-06	4.3E-07	2.3E-06
Pesticides																				
4,4-DDE	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06	2.0E-08	5.9E-09	1.5E-06	9.9E-07	2.5E-06	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06
4,4-DDT	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06

Table AOC14-B1.4b
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	3.3E-06	ND	ND	3.3E-06	4.0E-06	3.3E-06	8.7E-04	2.0E-04	1.1E-03	2.5E-06	3.3E-06	5.4E-04	1.2E-04	6.7E-04	2.3E-06	3.3E-06	5.0E-04	1.1E-04	6.2E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	8.8E-07	4.2E-04	2.1E-04	7.1E-05	7.0E-04	4.4E-06	4.2E-04	1.0E-03	3.6E-04	1.8E-03	5.8E-06	4.2E-04	1.4E-03	4.7E-04	2.3E-03	1.1E-06	4.2E-04	2.6E-04	9.0E-05	7.8E-04
TPH as motor oil	9.2E-07	NV	1.3E-04	4.5E-05	1.8E-04	6.4E-06	NV	9.3E-04	3.2E-04	1.3E-03	7.5E-06	NV	1.1E-03	3.7E-04	1.5E-03	1.9E-06	NV	2.8E-04	9.5E-05	3.8E-04
Dioxins/Furans																				
TEQ Human	1.0E-06	4.3E-06	6.4E-04	7.3E-04	1.4E-03	3.2E-05	4.3E-06	2.0E-02	2.3E-02	4.2E-02	1.9E-05	4.3E-06	1.2E-02	1.3E-02	2.5E-02	1.1E-05	4.3E-06	6.9E-03	7.9E-03	1.5E-02
Total Hazard Index	2E-04	4E-04	1E-03	1E-03	3E-03	2E-02	4E-04	4E-02	9E-02	1E-01	3E-02	4E-04	4E-02	1E-01	2E-01	2E-02	4E-04	3E-02	8E-02	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4c
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.9E-07	NV	4.0E-04	1.4E-02	1.4E-02	1.9E-07	NV	5.5E-05	1.3E-03	1.4E-03
Chromium, Hexavalent	8.0E-08	NV	NA	4.9E-05	4.9E-05	8.0E-08	NV	NA	4.5E-06	4.6E-06	1.5E-07	NV	NA	8.9E-05	8.9E-05	1.5E-07	NV	NA	8.3E-06	8.4E-06
Copper	1.3E-09	NV	2.7E-06	9.3E-05	9.5E-05	1.3E-09	NV	3.7E-07	8.7E-06	9.1E-06	2.2E-08	NV	4.7E-05	1.6E-03	1.7E-03	2.2E-08	NV	6.4E-06	1.5E-04	1.6E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.2E-07	NV	2.2E-05	7.5E-04	7.7E-04	2.2E-07	NV	3.0E-06	7.0E-05	7.3E-05	3.2E-05	NV	3.2E-03	1.1E-01	1.1E-01	3.2E-05	NV	4.4E-04	1.0E-02	1.1E-02
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	4.3E-11	NV	9.0E-08	3.1E-06	3.2E-06	4.3E-11	NV	1.2E-08	2.9E-07	3.0E-07
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	5.3E-12	NV	1.1E-08	3.8E-07	3.9E-07	5.3E-12	NV	1.5E-09	3.6E-08	3.7E-08
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.8E-07	NV	1.2E-03	4.2E-02	4.3E-02	5.8E-07	NV	1.7E-04	3.9E-03	4.1E-03
Semi-Volatile Organic Compounds																				
4-Methylphenol	1.2E-11	NV	3.6E-07	1.3E-06	1.6E-06	1.2E-11	NV	5.0E-08	1.2E-07	1.7E-07	9.3E-12	NV	2.9E-07	1.0E-06	1.3E-06	9.3E-12	NV	4.0E-08	9.5E-08	1.3E-07
bis (2-ethylhexyl) phthalate	1.3E-10	NV	2.7E-06	9.4E-06	1.2E-05	1.3E-10	NV	3.7E-07	8.8E-07	1.2E-06	9.7E-11	NV	2.0E-06	7.0E-06	9.1E-06	9.7E-11	NV	2.8E-07	6.6E-07	9.4E-07
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	2.7E-13	NV	8.4E-09	1.9E-08	2.8E-08	2.7E-13	NV	1.1E-09	1.8E-09	3.0E-09
Anthracene	ND	5.7E-10	ND	ND	5.7E-10	ND	5.7E-10	ND	ND	5.7E-10	9.9E-14	5.7E-10	3.1E-09	7.2E-09	1.1E-08	9.9E-14	5.7E-10	4.3E-10	6.7E-10	1.7E-09
Benzo (ghi) perylene	8.1E-13	NV	2.6E-08	5.9E-08	8.4E-08	8.1E-13	NV	3.5E-09	5.5E-09	9.0E-09	7.9E-13	NV	2.5E-08	5.7E-08	8.2E-08	7.9E-13	NV	3.4E-09	5.4E-09	8.8E-09
Fluoranthene	5.6E-11	NV	1.8E-06	4.1E-06	5.9E-06	5.6E-11	NV	2.4E-07	3.8E-07	6.3E-07	3.5E-11	NV	1.1E-06	2.6E-06	3.7E-06	3.5E-11	NV	1.5E-07	2.4E-07	3.9E-07
Phenanthrene	5.1E-12	NV	1.6E-07	3.7E-07	5.3E-07	5.1E-12	NV	2.2E-08	3.5E-08	5.7E-08	9.1E-13	NV	2.9E-08	6.6E-08	9.5E-08	9.1E-13	NV	3.9E-09	6.2E-09	1.0E-08
Pyrene	7.5E-11	6.8E-09	2.4E-06	5.4E-06	7.8E-06	7.5E-11	6.8E-09	3.2E-07	5.1E-07	8.4E-07	4.7E-11	6.8E-09	1.5E-06	3.4E-06	4.9E-06	4.7E-11	6.8E-09	2.0E-07	3.2E-07	5.3E-07
Pesticides																				
4,4-DDE	3.9E-11	2.5E-08	4.1E-07	2.8E-06	3.3E-06	3.9E-11	2.5E-08	5.6E-08	2.6E-07	3.5E-07	5.9E-11	2.5E-08	6.2E-07	4.3E-06	4.9E-06	5.9E-11	2.5E-08	8.5E-08	4.0E-07	5.1E-07
4,4-DDT	2.4E-11	NV	2.5E-07	1.8E-06	2.0E-06	2.4E-11	NV	3.5E-08	1.6E-07	2.0E-07	2.4E-11	NV	2.5E-07	1.8E-06	2.0E-06	2.4E-11	NV	3.5E-08	1.6E-07	2.0E-07

Table AOC14-B1.4c
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	8.4E-06	ND	ND	8.4E-06	ND	8.4E-06	ND	ND	8.4E-06	7.1E-09	8.4E-06	2.2E-04	5.1E-04	7.4E-04	7.1E-09	8.4E-06	3.0E-05	4.8E-05	8.7E-05
Total Petroleum Hydrocarbons																				
TPH as diesel	1.5E-09	1.1E-03	5.3E-05	1.8E-04	1.3E-03	1.5E-09	1.1E-03	7.2E-06	1.7E-05	1.1E-03	7.8E-09	1.1E-03	2.7E-04	9.2E-04	2.3E-03	7.8E-09	1.1E-03	3.7E-05	8.7E-05	1.2E-03
TPH as motor oil	1.6E-09	NV	3.4E-05	1.2E-04	1.5E-04	1.6E-09	NV	4.6E-06	1.1E-05	1.6E-05	1.1E-08	NV	2.4E-04	8.2E-04	1.1E-03	1.1E-08	NV	3.3E-05	7.7E-05	1.1E-04
Dioxins/Furans																				
TEQ Human	1.8E-09	1.1E-05	1.6E-04	1.9E-03	2.1E-03	1.8E-09	1.1E-05	2.2E-05	1.8E-04	2.1E-04	5.6E-08	1.1E-05	5.1E-03	5.8E-02	6.4E-02	5.6E-08	1.1E-05	6.9E-04	5.5E-03	6.2E-03
Total Hazard Index	3E-07	1E-03	3E-04	3E-03	4E-03	3E-07	1E-03	4E-05	3E-04	1E-03	3E-05	1E-03	1E-02	2E-01	2E-01	3E-05	1E-03	1E-03	2E-02	2E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4d
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.8E-07	NV	8.1E-04	2.8E-02	2.9E-02	3.8E-07	NV	1.1E-04	2.6E-03	2.7E-03
Chromium, Hexavalent	1.6E-07	NV	NA	9.7E-05	9.7E-05	1.6E-07	NV	NA	9.1E-06	9.3E-06	2.9E-07	NV	NA	1.8E-04	1.8E-04	2.9E-07	NV	NA	1.7E-05	1.7E-05
Copper	2.6E-09	NV	5.4E-06	1.9E-04	1.9E-04	2.6E-09	NV	7.3E-07	1.7E-05	1.8E-05	4.5E-08	NV	9.4E-05	3.3E-03	3.4E-03	4.5E-08	NV	1.3E-05	3.1E-04	3.2E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	4.4E-07	NV	4.3E-05	1.5E-03	1.5E-03	4.4E-07	NV	5.9E-06	1.4E-04	1.5E-04	6.5E-05	NV	6.4E-03	2.2E-01	2.3E-01	6.5E-05	NV	8.7E-04	2.1E-02	2.2E-02
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	8.6E-11	NV	1.8E-07	6.2E-06	6.4E-06	8.6E-11	NV	2.5E-08	5.8E-07	6.1E-07
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	1.1E-11	NV	2.2E-08	7.7E-07	7.9E-07	1.1E-11	NV	3.0E-09	7.2E-08	7.5E-08
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.2E-06	NV	2.4E-03	8.4E-02	8.6E-02	1.2E-06	NV	3.3E-04	7.8E-03	8.2E-03
Semi-Volatile Organic Compounds																				
4-Methylphenol	2.3E-11	NV	7.3E-07	2.5E-06	3.2E-06	2.3E-11	NV	9.9E-08	2.4E-07	3.4E-07	1.9E-11	NV	5.8E-07	2.0E-06	2.6E-06	1.9E-11	NV	8.0E-08	1.9E-07	2.7E-07
bis (2-ethylhexyl) phthalate	2.6E-10	NV	5.4E-06	1.9E-05	2.4E-05	2.6E-10	NV	7.4E-07	1.8E-06	2.5E-06	1.9E-10	NV	4.1E-06	1.4E-05	1.8E-05	1.9E-10	NV	5.6E-07	1.3E-06	1.9E-06
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.3E-13	NV	1.7E-08	3.9E-08	5.5E-08	5.3E-13	NV	2.3E-09	3.6E-09	5.9E-09
Anthracene	ND	1.1E-09	ND	ND	1.1E-09	ND	1.1E-09	ND	ND	1.1E-09	2.0E-13	1.1E-09	6.2E-09	1.4E-08	2.2E-08	2.0E-13	1.1E-09	8.5E-10	1.3E-09	3.3E-09
Benzo (ghi) perylene	1.6E-12	NV	5.1E-08	1.2E-07	1.7E-07	1.6E-12	NV	7.0E-09	1.1E-08	1.8E-08	1.6E-12	NV	5.0E-08	1.1E-07	1.6E-07	1.6E-12	NV	6.8E-09	1.1E-08	1.8E-08
Fluoranthene	1.1E-10	NV	3.6E-06	8.2E-06	1.2E-05	1.1E-10	NV	4.8E-07	7.7E-07	1.3E-06	7.1E-11	NV	2.2E-06	5.1E-06	7.4E-06	7.1E-11	NV	3.1E-07	4.8E-07	7.9E-07
Phenanthrene	1.0E-11	NV	3.2E-07	7.4E-07	1.1E-06	1.0E-11	NV	4.4E-08	6.9E-08	1.1E-07	1.8E-12	NV	5.7E-08	1.3E-07	1.9E-07	1.8E-12	NV	7.8E-09	1.2E-08	2.0E-08
Pyrene	1.5E-10	1.4E-08	4.7E-06	1.1E-05	1.6E-05	1.5E-10	1.4E-08	6.5E-07	1.0E-06	1.7E-06	9.5E-11	1.4E-08	3.0E-06	6.9E-06	9.9E-06	9.5E-11	1.4E-08	4.1E-07	6.4E-07	1.1E-06
Pesticides																				
4,4-DDE	7.8E-11	5.1E-08	8.2E-07	5.6E-06	6.5E-06	7.8E-11	5.1E-08	1.1E-07	5.3E-07	6.9E-07	1.2E-10	5.1E-08	1.2E-06	8.6E-06	9.9E-06	1.2E-10	5.1E-08	1.7E-07	8.0E-07	1.0E-06
4,4-DDT	4.8E-11	NV	5.1E-07	3.5E-06	4.0E-06	4.8E-11	NV	6.9E-08	3.3E-07	4.0E-07	4.8E-11	NV	5.1E-07	3.5E-06	4.0E-06	4.8E-11	NV	6.9E-08	3.3E-07	4.0E-07

Table AOC14-B1.4d
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	1.7E-05	ND	ND	1.7E-05	ND	1.7E-05	ND	ND	1.7E-05	1.4E-08	1.7E-05	4.4E-04	1.0E-03	1.5E-03	1.4E-08	1.7E-05	6.1E-05	9.6E-05	1.7E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	3.1E-09	2.2E-03	1.1E-04	3.7E-04	2.7E-03	3.1E-09	2.2E-03	1.4E-05	3.4E-05	2.2E-03	1.6E-08	2.2E-03	5.4E-04	1.8E-03	4.6E-03	1.6E-08	2.2E-03	7.3E-05	1.7E-04	2.4E-03
TPH as motor oil	3.2E-09	NV	6.8E-05	2.3E-04	3.0E-04	3.2E-09	NV	9.3E-06	2.2E-05	3.1E-05	2.3E-08	NV	4.8E-04	1.6E-03	2.1E-03	2.3E-08	NV	6.5E-05	1.5E-04	2.2E-04
Dioxins/Furans																				
TEQ Human	3.6E-09	2.2E-05	3.3E-04	3.8E-03	4.1E-03	3.6E-09	2.2E-05	4.5E-05	3.5E-04	4.2E-04	1.1E-07	2.2E-05	1.0E-02	1.2E-01	1.3E-01	1.1E-07	2.2E-05	1.4E-03	1.1E-02	1.2E-02
Total Hazard Index	6E-07	2E-03	6E-04	6E-03	9E-03	6E-07	2E-03	8E-05	6E-04	3E-03	7E-05	2E-03	2E-02	5E-01	5E-01	7E-05	2E-03	3E-03	4E-02	5E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4e
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Antimony	ND	NV	ND	ND	--	1.9E-07	NV	5.5E-05	1.3E-03	1.4E-03
Chromium, Hexavalent	8.0E-08	NV	NA	4.5E-06	4.6E-06	1.5E-07	NV	NA	8.3E-06	8.4E-06
Copper	1.3E-09	NV	3.7E-07	8.7E-06	9.1E-06	2.2E-08	NV	6.4E-06	1.5E-04	1.6E-04
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.2E-07	NV	3.0E-06	7.0E-05	7.3E-05	3.2E-05	NV	4.4E-04	1.0E-02	1.1E-02
Nitrate	NS	NV	NS	NS	--	4.3E-11	NV	1.2E-08	2.9E-07	3.0E-07
Phosphate	NS	NV	NS	NS	--	5.3E-12	NV	1.5E-09	3.6E-08	3.7E-08
Thallium	ND	NV	ND	ND	--	5.8E-07	NV	1.7E-04	3.9E-03	4.1E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	1.2E-11	NV	5.0E-08	1.2E-07	1.7E-07	9.3E-12	NV	4.0E-08	9.5E-08	1.3E-07
bis (2-ethylhexyl) phthalate	1.3E-10	NV	3.7E-07	8.8E-07	1.2E-06	9.7E-11	NV	2.8E-07	6.6E-07	9.4E-07
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	ND	NV	ND	ND	--	2.7E-13	NV	1.1E-09	1.8E-09	3.0E-09
Anthracene	ND	5.7E-10	ND	ND	5.7E-10	9.9E-14	5.7E-10	4.3E-10	6.7E-10	1.7E-09
Benzo (ghi) perylene	8.1E-13	NV	3.5E-09	5.5E-09	9.0E-09	7.9E-13	NV	3.4E-09	5.4E-09	8.8E-09
Fluoranthene	5.6E-11	NV	2.4E-07	3.8E-07	6.3E-07	3.5E-11	NV	1.5E-07	2.4E-07	3.9E-07
Phenanthrene	5.1E-12	NV	2.2E-08	3.5E-08	5.7E-08	9.1E-13	NV	3.9E-09	6.2E-09	1.0E-08
Pyrene	7.5E-11	6.8E-09	3.2E-07	5.1E-07	8.4E-07	4.7E-11	6.8E-09	2.0E-07	3.2E-07	5.3E-07
Pesticides										
4,4-DDE	3.9E-11	2.5E-08	5.6E-08	2.6E-07	3.5E-07	5.9E-11	2.5E-08	8.5E-08	4.0E-07	5.1E-07
4,4-DDT	2.4E-11	NV	3.5E-08	1.6E-07	2.0E-07	2.4E-11	NV	3.5E-08	1.6E-07	2.0E-07

Table AOC14-B1.4e

Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls										
Total PCBs	ND	8.4E-06	ND	ND	8.4E-06	7.1E-09	8.4E-06	3.0E-05	4.8E-05	8.7E-05
Total Petroleum Hydrocarbons										
TPH as diesel	1.5E-09	1.1E-03	7.2E-06	1.7E-05	1.1E-03	7.8E-09	1.1E-03	3.7E-05	8.7E-05	1.2E-03
TPH as motor oil	1.6E-09	NV	4.6E-06	1.1E-05	1.6E-05	1.1E-08	NV	3.3E-05	7.7E-05	1.1E-04
Dioxins/Furans										
TEQ Human	1.8E-09	1.1E-05	2.2E-05	1.8E-04	2.1E-04	5.6E-08	1.1E-05	6.9E-04	5.5E-03	6.2E-03
Total Hazard Index	3E-07	1E-03	4E-05	3E-04	1E-03	3E-05	1E-03	1E-03	2E-02	2E-02

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC14-B1.4f
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.8E-05	NV	1.5E-03	2.0E-03	3.5E-03	3.8E-05	NV	1.3E-03	8.1E-04	2.1E-03
Chromium, Hexavalent	1.6E-05	NV	NA	6.8E-06	2.3E-05	1.6E-05	NV	NA	2.8E-06	1.9E-05	2.9E-05	NV	NA	1.2E-05	4.2E-05	2.9E-05	NV	NA	5.1E-06	3.5E-05
Copper	2.6E-07	NV	9.8E-06	1.3E-05	2.3E-05	2.6E-07	NV	8.4E-06	5.4E-06	1.4E-05	4.5E-06	NV	1.7E-04	2.3E-04	4.1E-04	4.5E-06	NV	1.5E-04	9.5E-05	2.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	4.4E-05	NV	7.9E-05	1.1E-04	2.3E-04	4.4E-05	NV	6.8E-05	4.3E-05	1.6E-04	6.5E-03	NV	1.2E-02	1.5E-02	3.4E-02	6.5E-03	NV	1.0E-02	6.4E-03	2.3E-02
Nitrate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	8.6E-09	NV	3.3E-07	4.4E-07	7.7E-07	8.6E-09	NV	2.8E-07	1.8E-07	4.7E-07
Phosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	1.1E-09	NV	4.0E-08	5.4E-08	9.5E-08	1.1E-09	NV	3.5E-08	2.2E-08	5.8E-08
Thallium	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.2E-04	NV	4.4E-03	5.9E-03	1.0E-02	1.2E-04	NV	3.8E-03	2.4E-03	6.3E-03
Semi-Volatile Organic Compounds																				
4-Methylphenol	2.3E-09	NV	1.3E-06	1.8E-07	1.5E-06	2.3E-09	NV	1.1E-06	7.3E-08	1.2E-06	1.9E-09	NV	1.1E-06	1.4E-07	1.2E-06	1.9E-09	NV	9.1E-07	5.8E-08	9.7E-07
bis (2-ethylhexyl) phthalate	2.6E-08	NV	9.9E-06	1.3E-06	1.1E-05	2.6E-08	NV	8.5E-06	5.4E-07	9.0E-06	1.9E-08	NV	7.4E-06	9.9E-07	8.4E-06	1.9E-08	NV	6.4E-06	4.1E-07	6.8E-06
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.4E-11	NV	3.1E-08	2.7E-09	3.3E-08	5.4E-11	NV	2.6E-08	1.1E-09	2.7E-08
Anthracene	ND	7.1E-11	ND	ND	7.1E-11	ND	7.1E-11	ND	ND	7.1E-11	2.0E-11	7.1E-11	1.1E-08	1.0E-09	1.2E-08	2.0E-11	7.1E-11	9.7E-09	4.2E-10	1.0E-08
Benzo (ghi) perylene	1.6E-10	NV	9.3E-08	8.3E-09	1.0E-07	1.6E-10	NV	8.0E-08	3.4E-09	8.3E-08	1.6E-10	NV	9.0E-08	8.0E-09	9.9E-08	1.6E-10	NV	7.8E-08	3.3E-09	8.1E-08
Fluoranthene	1.1E-08	NV	6.5E-06	5.7E-07	7.0E-06	1.1E-08	NV	5.5E-06	2.4E-07	5.8E-06	7.1E-09	NV	4.1E-06	3.6E-07	4.4E-06	7.1E-09	NV	3.5E-06	1.5E-07	3.6E-06
Phenanthrene	1.0E-09	NV	5.9E-07	5.2E-08	6.4E-07	1.0E-09	NV	5.0E-07	2.1E-08	5.2E-07	1.8E-10	NV	1.0E-07	9.3E-09	1.1E-07	1.8E-10	NV	9.0E-08	3.8E-09	9.4E-08
Pyrene	1.5E-08	8.5E-10	8.6E-06	7.7E-07	9.4E-06	1.5E-08	8.5E-10	7.4E-06	3.2E-07	7.7E-06	9.5E-09	8.5E-10	5.4E-06	4.8E-07	5.9E-06	9.5E-09	8.5E-10	4.7E-06	2.0E-07	4.9E-06
Pesticides																				
4,4-DDE	7.8E-09	3.2E-09	1.5E-06	4.0E-07	1.9E-06	7.8E-09	3.2E-09	1.3E-06	1.6E-07	1.5E-06	1.2E-08	3.2E-09	2.3E-06	6.0E-07	2.9E-06	1.2E-08	3.2E-09	1.9E-06	2.5E-07	2.2E-06
4,4-DDT	4.9E-09	NV	9.2E-07	2.5E-07	1.2E-06	4.9E-09	NV	7.9E-07	1.0E-07	9.0E-07	4.9E-09	NV	9.2E-07	2.5E-07	1.2E-06	4.9E-09	NV	7.9E-07	1.0E-07	9.0E-07

Table AOC14-B1.4f
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	1.1E-06	ND	ND	1.1E-06	ND	1.1E-06	ND	ND	1.1E-06	1.4E-06	1.1E-06	8.1E-04	7.2E-05	8.8E-04	1.4E-06	1.1E-06	6.9E-04	3.0E-05	7.3E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	3.1E-07	1.4E-04	1.9E-04	2.6E-05	3.5E-04	3.1E-07	1.4E-04	1.7E-04	1.1E-05	3.1E-04	1.6E-06	1.4E-04	9.8E-04	1.3E-04	1.2E-03	1.6E-06	1.4E-04	8.4E-04	5.4E-05	1.0E-03
TPH as motor oil	3.2E-07	NV	1.2E-04	1.7E-05	1.4E-04	3.2E-07	NV	1.1E-04	6.8E-06	1.1E-04	2.3E-06	NV	8.7E-04	1.2E-04	9.9E-04	2.3E-06	NV	7.5E-04	4.8E-05	8.0E-04
Dioxins/Furans																				
TEQ Human	3.7E-07	1.4E-06	6.0E-04	2.7E-04	8.6E-04	3.7E-07	1.4E-06	5.1E-04	1.1E-04	6.2E-04	1.1E-05	1.4E-06	1.8E-02	8.2E-03	2.7E-02	1.1E-05	1.4E-06	1.6E-02	3.4E-03	1.9E-02
Total Hazard Index	6E-05	1E-04	1E-03	4E-04	2E-03	6E-05	1E-04	9E-04	2E-04	1E-03	7E-03	1E-04	4E-02	3E-02	8E-02	7E-03	1E-04	3E-02	1E-02	5E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.4g
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Antimony	ND	NV	--	2.4E-08	NV	2.4E-08
Chromium, Hexavalent	1.0E-08	NV	1.0E-08	1.8E-08	NV	1.8E-08
Copper	1.6E-10	NV	1.6E-10	2.8E-09	NV	2.8E-09
Lead	na	na	na	na	na	na
Mercury (inorganic)	2.8E-08	NV	2.8E-08	4.0E-06	NV	4.0E-06
Nitrate	NS	NV	--	5.4E-12	NV	5.4E-12
Phosphate	NS	NV	--	6.6E-13	NV	6.6E-13
Thallium	ND	NV	--	7.2E-08	NV	7.2E-08
Semi-Volatile Organic Compounds						
4-Methylphenol	1.4E-12	NV	1.4E-12	1.2E-12	NV	1.2E-12
bis (2-ethylhexyl) phthalate	1.6E-11	NV	1.6E-11	1.2E-11	NV	1.2E-11
Butylbenzylphthalate	ND	NV	--	ND	NV	--
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	ND	NV	--	3.3E-14	NV	3.3E-14
Anthracene	ND	4.7E-11	4.7E-11	1.2E-14	4.7E-11	4.7E-11
Benzo (ghi) perylene	1.0E-13	NV	1.0E-13	9.9E-14	NV	9.9E-14
Fluoranthene	7.0E-12	NV	7.0E-12	4.4E-12	NV	4.4E-12
Phenanthrene	6.4E-13	NV	6.4E-13	1.1E-13	NV	1.1E-13
Pyrene	9.4E-12	5.6E-10	5.7E-10	5.9E-12	5.6E-10	5.7E-10
Pesticides						
4,4-DDE	4.9E-12	2.1E-09	2.1E-09	7.4E-12	2.1E-09	2.1E-09
4,4-DDT	3.0E-12	NV	3.0E-12	3.0E-12	NV	3.0E-12

Table AOC14-B1.4g
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Polychlorinated Biphenyls						
Total PCBs	ND	7.0E-07	7.0E-07	8.8E-10	7.0E-07	7.0E-07
Total Petroleum Hydrocarbons						
TPH as diesel	1.9E-10	9.0E-05	9.0E-05	9.8E-10	9.0E-05	9.0E-05
TPH as motor oil	2.0E-10	NV	2.0E-10	1.4E-09	NV	1.4E-09
Dioxins/Furans						
TEQ Human	2.3E-10	9.1E-07	9.1E-07	7.1E-09	9.1E-07	9.2E-07
Total Hazard Index	4E-08	9E-05	9E-05	4E-06	9E-05	1E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B1.5a

Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	9.5	364.0	167.0	99.4
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.005	0.191	0.088	0.052
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.37	0.17	0.10
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC14-B1.5b

Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	9.5	364.0	167.0	99.4
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.001	0.048	0.022	0.013
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.00	0.09	0.04	0.02
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC14-B1.5c

Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	9.5
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.002	0.004	0.01	0.01	0.01	2159
BLOOD Pb, PICA CHILD	0.005	0.01	0.01	0.01	0.01	1084

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	2.0E-05	1%		2.0E-05	0.4%
Soil Ingestion	2.5E-4	2.4E-03	99%	5.0E-4	4.8E-03	100%
Inhalation	7.0E-8	6.6E-07	0.03%		6.6E-07	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC14-B1.5d

Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	364.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.092	0.169	0.20	0.24	0.28	2159
BLOOD Pb, PICA CHILD	0.184	0.34	0.40	0.48	0.55	1084

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	7.5E-04	1%		7.5E-04	0.4%
Soil Ingestion	2.5E-4	9.2E-02	99%	5.0E-4	1.8E-01	100%
Inhalation	7.0E-8	2.5E-05	0.03%		2.5E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC14-B1.5e

Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	9.5
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.005	0.009	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.010	0.02	0.02	0.03	0.03	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	3.9E-05	1%		3.9E-05	0.4%
Soil Ingestion	5.0E-4	4.8E-03	99%	1.0E-3	9.5E-03	100%
Inhalation	1.4E-7	1.3E-06	0.03%		1.3E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC14-B1.5f

Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	364.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.185	0.337	0.40	0.48	0.55	1079
BLOOD Pb, PICA CHILD	0.368	0.67	0.79	0.97	1.10	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	1.5E-03	1%		1.5E-03	0.4%
Soil Ingestion	5.0E-4	1.8E-01	99%	1.0E-3	3.7E-01	100%
Inhalation	1.4E-7	5.1E-05	0.03%		5.1E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC14-B1.5g

Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	9.5	364.0
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.05	0.05
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	8	8
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.0005	0.02
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.001	0.04
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%

PRG90

9942

Notes:

Highlighted values are site-specific: soil ingestion rate of 50 mg/day is the default incidental soil ingestion rate evaluation of exposure to lead in soil (USEPA 2003). Exposure frequency (8 days/year) based on the assumption of 8 days per month, 1 month per year as shown in Table 5.1 of the main report.

References:

USEPA. 2003. Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. EPA-540-R-03-001. January.

Table AOC14-B1.5h

Baseline Scenario Risk Evaluation for Lead in AOC 14 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	9.5
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.010	0.02	0.02	0.03	0.03	535

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	1.6E-04	10%		1.6E-04	1.6%
Soil Ingestion	1.6E-4	1.5E-03	90%	1.0E-3	9.5E-03	98%
Inhalation	8.7E-9	8.3E-08	0.01%		8.3E-08	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table AOC14-B1.5i

Baseline Scenario Risk Evaluation for Lead in AOC 14 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	364.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.063	0.114	0.14	0.16	0.19	3180
BLOOD Pb, PICA CHILD	0.372	0.68	0.80	0.98	1.11	535

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	6.0E-03	10%		6.0E-03	1.6%
Soil Ingestion	1.6E-4	5.7E-02	90%	1.0E-3	3.7E-01	98%
Inhalation	8.7E-9	3.2E-06	0.01%		3.2E-06	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Attachment AOC14-B2**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 14
Using Area-Weighted EPCs****Tables**

OC14-B2.1	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
OC14-B2.2	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
OC14-B2.3	Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
OC14-B2.4	Baseline Scenario HIs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
OC14-B2.5	Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Table AOC14-B2.1
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	2.2E-09	NV	NA	2.7E-08	4.4E-09	NV	NA	5.5E-08	6.8E-09	NV	NA	8.5E-08	4.8E-09	NV	NA	6.0E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nitrate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phosphate	NS	NC	NS	NS	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
4-Methylphenol	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	2.5E-09	NV	9.1E-08	3.1E-08	1.9E-09	NV	6.8E-08	2.3E-08	1.3E-09	NV	4.6E-08	1.6E-08	1.0E-09	NV	3.7E-08	1.3E-08
Butylbenzylphthalate	ND	NC	ND	ND	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	1.8E-06	6.2E-07
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pesticides																
4,4-DDE	1.1E-11	5.1E-12	2.1E-10	1.4E-10	1.7E-11	5.1E-12	3.1E-10	2.1E-10	1.1E-11	5.1E-12	2.1E-10	1.4E-10	1.1E-11	5.1E-12	2.1E-10	1.4E-10
4,4-DDT	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.2E-11	NV	2.1E-10	1.5E-10

Table AOC14-B2.1
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	1.1E-10	ND	ND	1.4E-10	1.1E-10	7.4E-09	1.7E-09	8.5E-11	1.1E-10	4.6E-09	1.1E-09	7.9E-11	1.1E-10	4.3E-09	9.8E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	1.0E-14	1.8E-14	1.1E-13	1.3E-13	1.9E-13	1.8E-14	2.0E-12	2.3E-12	7.7E-14	1.8E-14	8.3E-13	9.5E-13	4.8E-14	1.8E-14	5.2E-13	5.9E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B2.2
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	1.7E-07	NV	6.3E-07	2.1E-06	9.1E-08	NV	3.3E-07	1.1E-06	5.9E-08	NV	2.1E-07	7.3E-07
Chromium, Hexavalent	5.1E-09	NV	NA	6.3E-08	1.0E-08	NV	NA	1.3E-07	1.6E-08	NV	NA	2.0E-07	1.1E-08	NV	NA	1.4E-07
Copper	1.1E-07	NV	3.8E-07	1.3E-06	1.2E-06	NV	4.4E-06	1.5E-05	8.1E-07	NV	2.9E-06	1.0E-05	5.4E-07	NV	2.0E-06	6.7E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.7E-09	NV	1.4E-08	4.6E-08	5.5E-07	NV	2.0E-06	6.8E-06	9.3E-07	NV	3.4E-06	1.2E-05	6.6E-07	NV	2.4E-06	8.1E-06
Nitrate	NS	NV	NS	NS	1.6E-07	NV	5.6E-07	1.9E-06	2.6E-07	NV	9.6E-07	3.3E-06	2.6E-07	NV	9.6E-07	3.3E-06
Phosphate	NS	NV	NS	NS	5.9E-07	NV	2.1E-06	7.3E-06	5.9E-07	NV	2.1E-06	7.3E-06	5.9E-07	NV	2.1E-06	7.3E-06
Thallium	ND	NV	ND	ND	1.3E-08	NV	4.7E-08	1.6E-07	1.7E-08	NV	6.1E-08	2.1E-07	1.8E-08	NV	6.6E-08	2.2E-07
Semi-Volatile Organic Compounds																
4-Methylphenol	3.9E-09	NV	1.4E-07	4.9E-08	3.2E-09	NV	1.1E-07	3.9E-08	2.4E-09	NV	8.7E-08	3.0E-08	2.1E-09	NV	7.4E-08	2.5E-08
bis (2-ethylhexyl) phthalate	5.8E-09	NV	2.1E-07	7.2E-08	4.4E-09	NV	1.6E-07	5.4E-08	2.9E-09	NV	1.1E-07	3.7E-08	2.4E-09	NV	8.6E-08	2.9E-08
Butylbenzylphthalate	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	1.2E-07	NV	4.3E-06	1.5E-06
Polycyclic Aromatic Hydrocarbons																
Acenaphthylene	ND	NV	ND	ND	3.6E-11	NV	2.0E-09	4.5E-10	4.3E-11	NV	2.3E-09	5.3E-10	3.5E-11	NV	1.9E-09	4.3E-10
Anthracene	ND	2.7E-10	ND	ND	6.7E-11	2.7E-10	3.7E-09	8.3E-10	2.0E-10	2.7E-10	1.1E-08	2.5E-09	1.8E-10	2.7E-10	1.0E-08	2.3E-09
Benzo (ghi) perylene	3.9E-10	NV	2.1E-08	4.9E-09	4.2E-10	NV	2.3E-08	5.3E-09	3.4E-10	NV	1.8E-08	4.2E-09	3.4E-10	NV	1.8E-08	4.2E-09
Fluoranthene	3.0E-09	NV	1.6E-07	3.7E-08	1.9E-09	NV	1.0E-07	2.3E-08	6.5E-10	NV	3.5E-08	8.0E-09	5.1E-10	NV	2.7E-08	6.3E-09
Phenanthrene	3.5E-09	NV	1.9E-07	4.3E-08	5.2E-10	NV	2.8E-08	6.4E-09	3.3E-10	NV	1.8E-08	4.0E-09	3.1E-10	NV	1.7E-08	3.9E-09
Pyrene	3.0E-09	1.4E-10	1.6E-07	3.7E-08	2.0E-09	1.4E-10	1.1E-07	2.5E-08	6.2E-10	1.4E-10	3.3E-08	7.6E-09	4.7E-10	1.4E-10	2.5E-08	5.8E-09
Pesticides																
4,4-DDE	2.6E-11	1.2E-11	4.8E-10	3.3E-10	4.0E-11	1.2E-11	7.3E-10	5.0E-10	2.6E-11	1.2E-11	4.8E-10	3.3E-10	2.6E-11	1.2E-11	4.8E-10	3.3E-10
4,4-DDT	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10	2.7E-11	NV	5.0E-10	3.4E-10

Table AOC14-B2.2
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	ND	2.6E-10	ND	ND	3.2E-10	2.6E-10	1.7E-08	4.0E-09	2.0E-10	2.6E-10	1.1E-08	2.5E-09	1.8E-10	2.6E-10	1.0E-08	2.3E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.1E-07	1.1E-04	3.9E-06	1.3E-06	3.5E-07	1.1E-04	1.2E-05	4.3E-06	4.3E-07	1.1E-04	1.6E-05	5.4E-06	2.9E-07	1.1E-04	1.0E-05	3.6E-06
TPH as motor oil	6.6E-07	NV	2.4E-05	8.1E-06	2.3E-06	NV	8.3E-05	2.8E-05	2.9E-06	NV	1.1E-04	3.6E-05	1.9E-06	NV	6.9E-05	2.4E-05
Dioxins/Furans																
TEQ Human	2.4E-14	4.3E-14	2.6E-13	3.0E-13	4.4E-13	4.3E-14	4.8E-12	5.4E-12	1.8E-13	4.3E-14	1.9E-12	2.2E-12	1.1E-13	4.3E-14	1.2E-12	1.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B2.3
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	3.3E-07	NV	NA	1.4E-08	3.4E-07	6.6E-07	NV	NA	2.7E-08	6.9E-07	1.0E-06	NV	NA	4.2E-08	1.1E-06	7.2E-07	NV	NA	3.0E-08	7.5E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Nitrate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phosphate	NS	NC	NS	NS	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
4-Methylphenol	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	6.0E-12	NV	1.3E-09	4.3E-10	1.7E-09	4.5E-12	NV	9.6E-10	3.3E-10	1.3E-09	3.0E-12	NV	6.4E-10	2.2E-10	8.6E-10	2.4E-12	NV	5.2E-10	1.8E-10	6.9E-10
Butylbenzylphthalate	ND	NC	ND	ND	--	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	3.5E-09	1.2E-09	4.7E-09
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pesticides																				
4,4-DDE	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10	1.7E-12	4.9E-13	1.1E-10	7.2E-11	1.8E-10	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10	1.1E-12	4.9E-13	7.0E-11	4.8E-11	1.2E-10
4,4-DDT	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10	1.1E-12	NV	7.2E-11	4.9E-11	1.2E-10

Table AOC14-B2.3
Baseline Scenario ILCRs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls																				
Total PCBs	ND	6.4E-11	ND	ND	6.4E-11	7.8E-11	6.4E-11	1.5E-08	3.4E-09	1.8E-08	4.9E-11	6.4E-11	9.3E-09	2.1E-09	1.1E-08	4.5E-11	6.4E-11	8.6E-09	2.0E-09	1.1E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	3.9E-10	7.0E-10	1.5E-08	1.7E-08	3.2E-08	7.2E-09	7.0E-10	2.7E-07	3.0E-07	5.8E-07	2.9E-09	7.0E-10	1.1E-07	1.2E-07	2.4E-07	1.8E-09	7.0E-10	6.7E-08	7.7E-08	1.5E-07
Cumulative ILCR	3E-07	8E-10	2E-08	3E-08	4E-07	7E-07	8E-10	3E-07	3E-07	1E-06	1E-06	8E-10	1E-07	2E-07	1E-06	7E-07	8E-10	8E-08	1E-07	9E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B2.4
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	1.1E-04	NV	1.6E-03	5.4E-03	7.0E-03	5.7E-05	NV	8.3E-04	2.8E-03	3.7E-03	3.7E-05	NV	5.3E-04	1.8E-03	2.4E-03
Chromium, Hexavalent	5.1E-05	NV	NA	2.1E-05	7.2E-05	1.0E-04	NV	NA	4.3E-05	1.5E-04	1.6E-04	NV	NA	6.6E-05	2.3E-04	1.1E-04	NV	NA	4.6E-05	1.6E-04
Copper	6.6E-07	NV	9.5E-06	3.2E-05	4.3E-05	7.6E-06	NV	1.1E-04	3.8E-04	5.0E-04	5.1E-06	NV	7.4E-05	2.5E-04	3.3E-04	3.4E-06	NV	4.9E-05	1.7E-04	2.2E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.2E-04	NV	8.5E-05	2.9E-04	5.0E-04	1.8E-02	NV	1.2E-02	4.3E-02	7.3E-02	3.1E-02	NV	2.1E-02	7.2E-02	1.2E-01	2.2E-02	NV	1.5E-02	5.1E-02	8.8E-02
Nitrate	NS	NV	NS	NS	--	2.4E-08	NV	3.5E-07	1.2E-06	1.6E-06	4.1E-08	NV	6.0E-07	2.0E-06	2.7E-06	4.1E-08	NV	6.0E-07	2.0E-06	2.7E-06
Phosphate	NS	NV	NS	NS	--	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07	3.0E-09	NV	4.3E-08	1.5E-07	1.9E-07
Thallium	ND	NV	ND	ND	--	3.3E-04	NV	4.7E-03	1.6E-02	2.1E-02	4.2E-04	NV	6.1E-03	2.1E-02	2.7E-02	4.5E-04	NV	6.6E-03	2.2E-02	3.0E-02
Semi-Volatile Organic Compounds																				
4-Methylphenol	6.5E-09	NV	1.4E-06	4.9E-07	1.9E-06	5.3E-09	NV	1.1E-06	3.9E-07	1.5E-06	4.0E-09	NV	8.7E-07	3.0E-07	1.2E-06	3.4E-09	NV	7.4E-07	2.5E-07	1.0E-06
bis (2-ethylhexyl) phthalate	7.3E-08	NV	1.1E-05	3.6E-06	1.4E-05	5.5E-08	NV	8.0E-06	2.7E-06	1.1E-05	3.7E-08	NV	5.3E-06	1.8E-06	7.2E-06	3.0E-08	NV	4.3E-06	1.5E-06	5.8E-06
Butylbenzylphthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.5E-07	NV	2.1E-05	7.3E-06	2.9E-05
Polycyclic Aromatic Hydrocarbons																				
Acenaphthylene	ND	NV	ND	ND	--	1.5E-10	NV	3.3E-08	7.5E-09	4.0E-08	1.8E-10	NV	3.9E-08	8.8E-09	4.8E-08	1.5E-10	NV	3.2E-08	7.2E-09	3.9E-08
Anthracene	ND	2.2E-10	ND	ND	2.2E-10	5.6E-11	2.2E-10	1.2E-08	2.8E-09	1.5E-08	1.7E-10	2.2E-10	3.6E-08	8.3E-09	4.5E-08	1.5E-10	2.2E-10	3.3E-08	7.6E-09	4.1E-08
Benzo (ghi) perylene	3.3E-09	NV	7.1E-07	1.6E-07	8.8E-07	3.5E-09	NV	7.7E-07	1.8E-07	9.5E-07	2.8E-09	NV	6.1E-07	1.4E-07	7.5E-07	2.8E-09	NV	6.1E-07	1.4E-07	7.5E-07
Fluoranthene	1.9E-08	NV	4.1E-06	9.2E-07	5.0E-06	1.2E-08	NV	2.5E-06	5.7E-07	3.1E-06	4.0E-09	NV	8.8E-07	2.0E-07	1.1E-06	3.2E-09	NV	6.9E-07	1.6E-07	8.5E-07
Phenanthrene	2.9E-09	NV	6.3E-07	1.4E-07	7.7E-07	4.3E-10	NV	9.4E-08	2.1E-08	1.2E-07	2.7E-10	NV	5.9E-08	1.3E-08	7.3E-08	2.6E-10	NV	5.7E-08	1.3E-08	7.0E-08
Pyrene	2.5E-08	1.2E-09	5.4E-06	1.2E-06	6.6E-06	1.7E-08	1.2E-09	3.6E-06	8.2E-07	4.4E-06	5.1E-09	1.2E-09	1.1E-06	2.5E-07	1.4E-06	3.9E-09	1.2E-09	8.5E-07	1.9E-07	1.0E-06
Pesticides																				
4,4-DDE	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06	2.0E-08	5.9E-09	1.5E-06	9.9E-07	2.5E-06	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06	1.3E-08	5.9E-09	9.6E-07	6.6E-07	1.6E-06
4,4-DDT	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06	1.4E-08	NV	9.9E-07	6.8E-07	1.7E-06

Table AOC14-B2.4
Baseline Scenario HIs for COPCs in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls																				
Total PCBs	ND	3.3E-06	ND	ND	3.3E-06	4.0E-06	3.3E-06	8.7E-04	2.0E-04	1.1E-03	2.5E-06	3.3E-06	5.4E-04	1.2E-04	6.7E-04	2.3E-06	3.3E-06	5.0E-04	1.1E-04	6.2E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	8.4E-07	8.4E-04	2.0E-04	6.7E-05	1.1E-03	2.7E-06	8.4E-04	6.2E-04	2.1E-04	1.7E-03	3.3E-06	8.4E-04	7.9E-04	2.7E-04	1.9E-03	2.2E-06	8.4E-04	5.2E-04	1.8E-04	1.5E-03
TPH as motor oil	9.7E-07	NV	1.4E-04	4.8E-05	1.9E-04	3.4E-06	NV	4.9E-04	1.7E-04	6.6E-04	4.3E-06	NV	6.2E-04	2.1E-04	8.4E-04	2.8E-06	NV	4.0E-04	1.4E-04	5.5E-04
Dioxins/Furans																				
TEQ Human	6.0E-07	1.1E-06	3.7E-04	4.3E-04	8.0E-04	1.1E-05	1.1E-06	6.8E-03	7.8E-03	1.5E-02	4.5E-06	1.1E-06	2.8E-03	3.2E-03	5.9E-03	2.8E-06	1.1E-06	1.7E-03	2.0E-03	3.7E-03
Total Hazard Index	2E-04	8E-04	8E-04	9E-04	3E-03	2E-02	8E-04	3E-02	7E-02	1E-01	3E-02	8E-04	3E-02	1E-01	2E-01	2E-02	8E-04	3E-02	8E-02	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC14-B2.5

Baseline Scenario Risk Evaluation for Lead in AOC 14 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	8.9	208.0	97.5	57.8
R _{fetal/maternal}	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
AF _{S, D}	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
EF _{S, D}	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
AT _{S, D}	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB _{adult}	PbB of adult worker, geometric mean	ug/dL	0.001	0.027	0.013	0.008
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	0.00	0.05	0.02	0.01
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
P(PbB _{fetal} > PbB _t)	Probability that fetal PbB > PbB _t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at AOC 14 Using
Depth-Weighted EPCs and Area-Weighted EPCs



Attachment AOC14-C**Dose and Risk Calculations for Ecological Receptors at AOC 14 Using Depth-Weighted EPCs and Area-Weighted EPCs**

Table AOC14-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 14
Table AOC14-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 14
Table AOC14-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 14
Table AOC14-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14
Table AOC14-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 14
Table AOC14-C.6	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 14
Table AOC14-C.7	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 14
Table AOC14-C.8	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 14
Table AOC14-C.9	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14
Table AOC14-C.10	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 14
Table AOC14-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC14-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 14

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	1.90E+01	5	4E+00	ND	78	ND
Chromium, hexavalent	1.23E+00	1	1E+00	4.98E-01	0.4	1E+00
Copper	2.23E+02	70	3E+00	1.27E+01	80	2E-01
Lead	3.64E+02	120	3E+00	9.48E+00	1700	6E-03
Mercury	1.02E+02	0.3	3E+02	4.10E-01	0.1	4E+00
Thallium	1.85E+00	1	2E+00	ND	--	ND
Semi-Volatile Organic Compounds						
4-Methylphenol	4.30E-01	10	4E-02	4.30E-01	0.08	5E+00
Bis (2-ethylhexyl) phthalate	6.40E-01	200	3E-03	6.40E-01	200	3E-03
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	3.80E-01	10	4E-02	3.80E-01	29	1E-02
PAH High molecular weight	4.33E+00	1.2	4E+00	4.33E+00	18	2E-01
Pesticides						
4,4-DDT	3.00E-03	0.9	3E-03	3.00E-03	0.01	3E-01
4,4-DDE	4.40E-03	0.9	5E-03	2.90E-03	0.01	3E-01
Polychlorinated Biphenyls						
Total PCBs	3.50E-02	40	9E-04	ND	1	ND
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	--	--	No SL	0.18	8800	2E-05

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 NOAEL = no-observed adverse effect level
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC14-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	5.0E-01		100% Plants	1.0E-01	5.0E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.3E+01		100% Plants	1.0E-01	1.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	9.5E+00		100% Plants	1.0E-01	7.2E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Thallium	Gambel's Quail	ND	nd	100% Plants	1.0E-01	7.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	4.3E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Gambel's Quail	6.4E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-01	m	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	4.3E+00		100% Plants	1.0E-01	7.3E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides										
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.0E+00		100% Plants	1.0E-01	1.2E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	4.5E+00		100% Plants	1.0E-01	7.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	5.0E-01		100% Insects	9.3E-02	1.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.3E+01		100% Insects	9.3E-02	6.5E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	9.5E+00		100% Insects	9.3E-02	4.9E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Thallium	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	4.3E-01	m	100% Insects	9.3E-02	0.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Bis (2-ethylhexyl) phthalate	Cactus Wren	6.4E-01	m	100% Insects	9.3E-02	1.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	3.8E-01	m	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	4.3E+00		100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides										
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	3.0E+00		100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	4.5E+00		100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	5.0E-01		100% Insects	2.0E-02	1.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01		100% Insects	2.0E-02	6.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	9.5E+00		100% Insects	2.0E-02	4.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	4.3E-01	m	100% Insects	2.0E-02	0.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	6.4E-01	m	100% Insects	2.0E-02	1.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.3E+00		100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides										
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	3.0E+00		100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	4.5E+00		100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.2E+00		100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	2.4E-02	--	--	--	2.4E-02	--	--	--	--
Chromium, hexavalent	Gambel's Quail	1.9E-03	--	--	2.0E-03	3.9E-03	2.5E+00	2.5E+01	2E-03	2E-04
Copper	Gambel's Quail	6.3E-01	--	--	5.1E-02	6.8E-01	4.1E+00	1.2E+01	2E-01	6E-02
Lead	Gambel's Quail	2.8E-01	--	--	3.8E-02	3.2E-01	1.6E+00	3.3E+00	2E-01	1E-01
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Thallium	Gambel's Quail	2.8E-04	--	--	--	2.8E-04	3.5E-01	3.5E+00	8E-04	8E-05
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	2.6E-03	2.6E-03	1.1E+00	1.1E+01	2E-03	2E-04
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.6E-03	--	--	1.5E-03	8.1E-03	2.3E+01	2.3E+02	4E-04	4E-05
PAH High molecular weight	Gambel's Quail	2.8E-02	--	--	1.7E-02	4.5E-02	1.0E+01	1.0E+02	5E-03	5E-04
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	2.3E-01	2.3E+00	2E-04	2E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	2.3E-01	2.3E+00	3E-04	3E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	4.5E-02	--	--	1.2E-02	5.7E-02	1.4E+01	1.4E+02	4E-03	4E-04
TEQ Mammals	Gambel's Quail	3.0E-02	--	--	1.8E-02	4.8E-02	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chromium, hexavalent	Cactus Wren	--	2.8E-02	--	8.5E-03	3.6E-02	2.5E+00	2.5E+01	1E-02	1E-03
Copper	Cactus Wren	--	1.2E+00	--	2.2E-01	1.4E+00	4.1E+00	1.2E+01	3E-01	1E-01
Lead	Cactus Wren	--	9.1E-01	--	1.6E-01	1.1E+00	1.6E+00	3.3E+00	7E-01	3E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Thallium	Cactus Wren	--	--	--	--	0.0E+00	3.5E-01	3.5E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	0.0E+00	--	7.3E-03	7.3E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	2.3E-01	--	1.1E-02	2.4E-01	1.1E+00	1.1E+01	2E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.5E-03	2.2E-01	2.3E+01	2.3E+02	1E-02	1E-03
PAH High molecular weight	Cactus Wren	--	2.1E+00	--	7.4E-02	2.1E+00	1.0E+01	1.0E+02	2E-01	2E-02
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	2.3E-01	2.3E+00	4E-02	4E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	2.3E-01	2.3E+00	6E-02	6E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.8E+00	--	5.0E-02	1.9E+00	1.4E+01	1.4E+02	1E-01	1E-02
TEQ Mammals	Cactus Wren	--	3.0E+00	--	7.7E-02	3.1E+00	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Chromium, hexavalent	Desert Shrew	--	3.1E-02	--	2.0E-03	3.3E-02	9.2E+00	3.8E+01	4E-03	9E-04
Copper	Desert Shrew	--	1.3E+00	--	5.2E-02	1.4E+00	9.4E+00	1.6E+01	1E-01	9E-02
Lead	Desert Shrew	--	1.0E+00	--	3.8E-02	1.0E+00	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	0.0E+00	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	2.6E-01	--	2.6E-03	2.6E-01	1.8E+01	1.8E+02	1E-02	1E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	6.6E+01	3.3E+02	4E-03	7E-04
PAH High molecular weight	Desert Shrew	--	2.3E+00	--	1.8E-02	2.3E+00	6.2E-01	3.1E+00	4E+00	8E-01
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	1.5E-01	7.4E-01	7E-02	1E-02
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	1.5E-01	7.4E-01	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	2.0E+00	--	1.2E-02	2.0E+00	--	--	--	--
TEQ Mammals	Desert Shrew	--	3.3E+00	--	1.8E-02	3.4E+00	1.0E+00	1.0E+01	3E+00	3E-01
Inorganics										
Antimony	Merriam's Kangaroo Rat	5.1E-02	--	--	3.7E-02	8.9E-02	5.9E-02	5.9E-01	2E+00	2E-01
Chromium, hexavalent	Merriam's Kangaroo Rat	4.1E-03	--	--	2.4E-03	6.6E-03	9.2E+00	3.8E+01	7E-04	2E-04

Table AOC14-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Copper	Merriam's Kangaroo Rat	2.2E+02		100% Plants	2.4E-02	1.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.6E+02		100% Plants	2.4E-02	7.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	4.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	6.4E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.3E+00		100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	2.1E+02		100% Plants	2.4E-02	1.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.4E+02		100% Plants	2.4E-02	7.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Copper	Merriam's Kangaroo Rat	1.3E+00	--	--	4.4E-01	1.8E+00	9.0E+00	1.5E+01	2E-01	1E-01
Lead	Merriam's Kangaroo Rat	6.0E-01	--	--	7.2E-01	1.3E+00	4.7E+00	8.9E+00	3E-01	1E-01
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	8.5E-04	8.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.3E-03	1.3E-03	1.8E+01	1.8E+02	7E-05	7E-06
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	5E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.0E-02	--	--	8.5E-03	6.9E-02	6.2E-01	3.1E+00	1E-01	2E-02
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	1.5E-01	7.4E-01	6E-04	1E-04
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	1.5E-01	7.4E-01	8E-04	2E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	9.7E-02	--	--	4.1E-01	5.1E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	6.4E-02	--	--	2.8E-01	3.4E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.3E+01	100% Plants	1.0E-01	1.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	9.5E+00	100% Plants	1.0E-01	7.2E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03
Pesticides									
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03
Inorganics									
Copper	Cactus Wren	1.3E+01	100% Insects	9.3E-02	6.5E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	9.5E+00	100% Insects	9.3E-02	4.9E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02
Pesticides									
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02
Inorganics									
Copper	Desert Shrew	1.3E+01	100% Insects	2.0E-02	6.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	9.5E+00	100% Insects	2.0E-02	4.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03
PAH High molecular weight	Desert Shrew	4.3E+00	100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03
Inorganics									
Copper	Merriam's Kangaroo Rat	2.2E+02	100% Plants	2.4E-02	1.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.6E+02	100% Plants	2.4E-02	7.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03
PAH High molecular weight	Merriam's Kangaroo Rat	4.3E+00	100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03

Table AOC14-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	6.3E-01	--	--	5.1E-02	6.8E-01	2.3E+00	5.2E+01	3E-01	1E-02
Lead	Gambel's Quail	2.8E-01	--	--	3.8E-02	3.2E-01	1.4E-02	8.8E+00	2E+01	4E-02
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	9.0E-03	1.5E+00	6E-03	3E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	9.0E-03	6.0E-01	7E-03	1E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Inorganics										
Copper	Cactus Wren	--	1.2E+00	--	2.2E-01	1.4E+00	2.3E+00	5.2E+01	6E-01	3E-02
Lead	Cactus Wren	--	9.1E-01	--	1.6E-01	1.1E+00	1.4E-02	8.8E+00	8E+01	1E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	9.0E-03	1.5E+00	1E+00	7E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	9.0E-03	6.0E-01	1E+00	2E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Inorganics										
Copper	Desert Shrew	--	1.3E+00	--	5.2E-02	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	1.0E+00	--	3.8E-02	1.0E+00	1.0E+00	2.4E+02	1E+00	4E-03
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	2.3E+00	--	1.8E-02	2.3E+00	1.3E+00	3.3E+01	2E+00	7E-02
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	8.0E-01	1.6E+01	1E-02	7E-04
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	8.0E-01	1.6E+01	2E-02	9E-04
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Inorganics										
Copper	Merriam's Kangaroo Rat	1.3E+00	--	--	4.4E-01	1.8E+00	2.7E+00	6.3E+02	7E-01	3E-03
Lead	Merriam's Kangaroo Rat	6.0E-01	--	--	7.2E-01	1.3E+00	1.0E+00	2.4E+02	1E+00	5E-03
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.0E-02	--	--	8.5E-03	6.9E-02	1.3E+00	3.3E+01	5E-02	2E-03
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	8.0E-01	1.6E+01	1E-04	6E-06
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	8.0E-01	1.6E+01	2E-04	8E-06
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)	
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate		
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Chromium, hexavalent	Gambel's Quail	5.0E-01		100% Plants	1.0E-01	5.0E-02	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Copper	Gambel's Quail	1.3E+01		100% Plants	1.0E-01	1.6E+01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Lead	Gambel's Quail	9.5E+00		100% Plants	1.0E-01	7.2E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Thallium	Gambel's Quail	ND	nd	100% Plants	1.0E-01	7.4E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	4.3E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Bis (2-ethylhexyl) phthalate	Gambel's Quail	6.4E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-01	m	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
PAH High molecular weight	Gambel's Quail	4.3E+00		100% Plants	1.0E-01	7.3E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Pesticides										
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.0E+00		100% Plants	1.0E-01	1.2E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
TEQ Mammals	Gambel's Quail	4.5E+00		100% Plants	1.0E-01	7.8E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Chromium, hexavalent	Cactus Wren	5.0E-01		100% Insects	9.3E-02	1.5E-01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Copper	Cactus Wren	1.3E+01		100% Insects	9.3E-02	6.5E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Lead	Cactus Wren	9.5E+00		100% Insects	9.3E-02	4.9E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Thallium	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	4.3E-01	m	100% Insects	9.3E-02	0.0E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Bis (2-ethylhexyl) phthalate	Cactus Wren	6.4E-01	m	100% Insects	9.3E-02	1.3E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	3.8E-01	m	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
PAH High molecular weight	Cactus Wren	4.3E+00		100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Pesticides										
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	3.0E+00		100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
TEQ Mammals	Cactus Wren	4.5E+00		100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	5.0E-01		100% Insects	2.0E-02	1.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.3E+01		100% Insects	2.0E-02	6.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	9.5E+00		100% Insects	2.0E-02	4.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	4.3E-01	m	100% Insects	2.0E-02	0.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	6.4E-01	m	100% Insects	2.0E-02	1.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.3E+00		100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides										
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC14-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	2.4E-02	--	--	--	1.9E-03	--	--	--	--
Chromium, hexavalent	Gambel's Quail	1.9E-03	--	--	2.0E-03	3.2E-04	2.5E+00	2.5E+01	1E-04	1E-05
Copper	Gambel's Quail	6.3E-01	--	--	5.1E-02	5.5E-02	4.1E+00	1.2E+01	1E-02	5E-03
Lead	Gambel's Quail	2.8E-01	--	--	3.8E-02	2.6E-02	1.6E+00	3.3E+00	2E-02	8E-03
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.4E-02	3.9E-02	1.8E-01	4E-01	8E-02
Thallium	Gambel's Quail	2.8E-04	--	--	--	2.3E-05	3.5E-01	3.5E+00	7E-05	7E-06
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	1.7E-03	1.4E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	2.6E-03	2.1E-04	1.1E+00	1.1E+01	2E-04	2E-05
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.6E-03	--	--	1.5E-03	6.6E-04	2.3E+01	2.3E+02	3E-05	3E-06
PAH High molecular weight	Gambel's Quail	2.8E-02	--	--	1.7E-02	3.7E-03	1.0E+01	1.0E+02	4E-04	4E-05
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	4.2E-06	2.3E-01	2.3E+00	2E-05	2E-06
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	5.2E-06	2.3E-01	2.3E+00	2E-05	2E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.1E-06	9.0E-02	1.3E+00	1E-05	9E-07
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	4.5E-02	--	--	1.2E-02	4.6E-03	1.4E+01	1.4E+02	3E-04	3E-05
TEQ Mammals	Gambel's Quail	3.0E-02	--	--	1.8E-02	3.9E-03	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chromium, hexavalent	Cactus Wren	--	2.8E-02	--	8.5E-03	2.2E-02	2.5E+00	2.5E+01	9E-03	9E-04
Copper	Cactus Wren	--	1.2E+00	--	2.2E-01	8.5E-01	4.1E+00	1.2E+01	2E-01	7E-02
Lead	Cactus Wren	--	9.1E-01	--	1.6E-01	6.4E-01	1.6E+00	3.3E+00	4E-01	2E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	8.0E-02	3.9E-02	1.8E-01	2E+00	4E-01
Thallium	Cactus Wren	--	--	--	--	0.0E+00	3.5E-01	3.5E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	0.0E+00	--	7.3E-03	4.4E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	2.3E-01	--	1.1E-02	1.5E-01	1.1E+00	1.1E+01	1E-01	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.5E-03	1.3E-01	2.3E+01	2.3E+02	6E-03	6E-04
PAH High molecular weight	Cactus Wren	--	2.1E+00	--	7.4E-02	1.3E+00	1.0E+01	1.0E+02	1E-01	1E-02
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	6.0E-03	2.3E-01	2.3E+00	3E-02	3E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	7.7E-03	2.3E-01	2.3E+00	3E-02	3E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.8E+00	--	5.0E-02	1.1E+00	1.4E+01	1.4E+02	8E-02	8E-03
TEQ Mammals	Cactus Wren	--	3.0E+00	--	7.7E-02	1.9E+00	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Chromium, hexavalent	Desert Shrew	--	3.1E-02	--	2.0E-03	3.3E-02	9.2E+00	3.8E+01	4E-03	9E-04
Copper	Desert Shrew	--	1.3E+00	--	5.2E-02	1.4E+00	9.4E+00	1.6E+01	1E-01	9E-02
Lead	Desert Shrew	--	1.0E+00	--	3.8E-02	1.0E+00	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	0.0E+00	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	2.6E-01	--	2.6E-03	2.6E-01	1.8E+01	1.8E+02	1E-02	1E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	6.6E+01	3.3E+02	4E-03	7E-04
PAH High molecular weight	Desert Shrew	--	2.3E+00	--	1.8E-02	2.3E+00	6.2E-01	3.1E+00	4E+00	8E-01
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	1.5E-01	7.4E-01	7E-02	1E-02
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	1.5E-01	7.4E-01	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--

Table AOC14-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)	
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate		
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	3.0E+00		100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	4.5E+00		100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.2E+00		100% Plants	2.4E-02	5.0E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.2E+02		100% Plants	2.4E-02	1.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.6E+02		100% Plants	2.4E-02	7.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	4.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	6.4E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.3E+00		100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	2.1E+02		100% Plants	2.4E-02	1.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.4E+02		100% Plants	2.4E-02	7.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	2.0E+00	--	1.2E-02	2.0E+00	--	--	--	--
TEQ Mammals	Desert Shrew	--	3.3E+00	--	1.8E-02	3.4E+00	1.0E+00	1.0E+01	3E+00	3E-01
Inorganics										
Antimony	Merriam's Kangaroo Rat	5.1E-02	--	--	3.7E-02	8.9E-02	5.9E-02	5.9E-01	2E+00	2E-01
Chromium, hexavalent	Merriam's Kangaroo Rat	4.1E-03	--	--	2.4E-03	6.6E-03	9.2E+00	3.8E+01	7E-04	2E-04
Copper	Merriam's Kangaroo Rat	1.3E+00	--	--	4.4E-01	1.8E+00	9.0E+00	1.5E+01	2E-01	1E-01
Lead	Merriam's Kangaroo Rat	6.0E-01	--	--	7.2E-01	1.3E+00	4.7E+00	8.9E+00	3E-01	1E-01
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	8.5E-04	8.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.3E-03	1.3E-03	1.8E+01	1.8E+02	7E-05	7E-06
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	5E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.0E-02	--	--	8.5E-03	6.9E-02	6.2E-01	3.1E+00	1E-01	2E-02
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	1.5E-01	7.4E-01	6E-04	1E-04
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	1.5E-01	7.4E-01	8E-04	2E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	9.7E-02	--	--	4.1E-01	5.1E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	6.4E-02	--	--	2.8E-01	3.4E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)	
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate		
Inorganics										
Copper	Gambel's Quail	1.3E+01		100% Plants	1.0E-01	1.6E+01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Lead	Gambel's Quail	9.5E+00		100% Plants	1.0E-01	7.2E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Pesticides										
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Inorganics										
Copper	Cactus Wren	1.3E+01		100% Insects	9.3E-02	6.5E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Lead	Cactus Wren	9.5E+00		100% Insects	9.3E-02	4.9E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Pesticides										
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Inorganics										
Copper	Desert Shrew	1.3E+01		100% Insects	2.0E-02	6.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	9.5E+00		100% Insects	2.0E-02	4.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.3E+00		100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides										
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Copper	Merriam's Kangaroo Rat	2.2E+02		100% Plants	2.4E-02	1.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	3.6E+02		100% Plants	2.4E-02	7.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.3E+00		100% Plants	2.4E-02	7.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	6.3E-01	--	--	5.1E-02	5.5E-02	2.3E+00	5.2E+01	2E-02	1E-03
Lead	Gambel's Quail	2.8E-01	--	--	3.8E-02	2.6E-02	1.4E-02	8.8E+00	2E+00	3E-03
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.4E-02	3.9E-02	1.8E-01	4E-01	8E-02
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	4.2E-06	9.0E-03	1.5E+00	5E-04	3E-06
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	5.2E-06	9.0E-03	6.0E-01	6E-04	9E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.1E-06	9.0E-02	1.3E+00	1E-05	9E-07
Inorganics										
Copper	Cactus Wren	--	1.2E+00	--	2.2E-01	8.5E-01	2.3E+00	5.2E+01	4E-01	2E-02
Lead	Cactus Wren	--	9.1E-01	--	1.6E-01	6.4E-01	1.4E-02	8.8E+00	5E+01	7E-02
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	8.0E-02	3.9E-02	1.8E-01	2E+00	4E-01
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	6.0E-03	9.0E-03	1.5E+00	7E-01	4E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	7.7E-03	9.0E-03	6.0E-01	9E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Inorganics										
Copper	Desert Shrew	--	1.3E+00	--	5.2E-02	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	1.0E+00	--	3.8E-02	1.0E+00	1.0E+00	2.4E+02	1E+00	4E-03
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	2.3E+00	--	1.8E-02	2.3E+00	1.3E+00	3.3E+01	2E+00	7E-02
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	8.0E-01	1.6E+01	1E-02	7E-04
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	8.0E-01	1.6E+01	2E-02	9E-04
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Inorganics										
Copper	Merriam's Kangaroo Rat	1.3E+00	--	--	4.4E-01	1.8E+00	2.7E+00	6.3E+02	7E-01	3E-03
Lead	Merriam's Kangaroo Rat	6.0E-01	--	--	7.2E-01	1.3E+00	1.0E+00	2.4E+02	1E+00	5E-03
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.0E-02	--	--	8.5E-03	6.9E-02	1.3E+00	3.3E+01	5E-02	2E-03
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	8.0E-01	1.6E+01	1E-04	6E-06
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	8.0E-01	1.6E+01	2E-04	8E-06
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.6

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 14

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	1.90E+01	5	4E+00	ND	78	ND
Chromium, hexavalent	1.75E+00	1	2E+00	5.58E-01	0.4	1E+00
Copper	1.34E+02	70	2E+00	1.15E+01	80	1E-01
Lead	2.08E+02	120	2E+00	8.86E+00	1700	5E-03
Mercury	1.02E+02	0.3	3E+02	4.10E-01	0.1	4E+00
Thallium	1.85E+00	1	2E+00	ND	--	ND
Semi-Volatile Organic Compounds						
4-Methylphenol	4.30E-01	10	4E-02	4.30E-01	0.08	5E+00
Bis (2-ethylhexyl) phthalate	6.40E-01	200	3E-03	6.40E-01	200	3E-03
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	3.80E-01	10	4E-02	3.80E-01	29	1E-02
PAH High molecular weight	1.17E+00	1.2	1E+00	1.17E+00	18	7E-02
Pesticides						
4,4-DDT	3.00E-03	0.9	3E-03	3.00E-03	0.01	3E-01
4,4-DDE	4.40E-03	0.9	5E-03	2.90E-03	0.01	3E-01
Polychlorinated Biphenyls						
Total PCBs	3.50E-02	40	9E-04	ND	1	ND
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	--	--	No SL	0.18	8800	2E-05

Notes:

	HQ greater than or equal to 1
	HQ greater than or equal to 10
	HQ greater than or equal to 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 NOAEL = no-observed adverse effect level
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC14-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	5.6E-01		100% Plants	1.0E-01	7.2E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.2E+01		100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	8.9E+00		100% Plants	1.0E-01	5.3E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Thallium	Gambel's Quail	ND	nd	100% Plants	1.0E-01	7.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	4.3E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Gambel's Quail	6.4E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-01	m	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	1.2E+00		100% Plants	1.0E-01	2.1E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides										
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.8E+00		100% Plants	1.0E-01	4.0E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	2.7E+00		100% Plants	1.0E-01	2.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	5.6E-01		100% Insects	9.3E-02	1.7E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.2E+01		100% Insects	9.3E-02	5.9E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	8.9E+00		100% Insects	9.3E-02	4.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Thallium	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	4.3E-01	m	100% Insects	9.3E-02	0.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Bis (2-ethylhexyl) phthalate	Cactus Wren	6.4E-01	m	100% Insects	9.3E-02	1.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	3.8E-01	m	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	1.2E+00		100% Insects	9.3E-02	3.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides										
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	1.8E+00		100% Insects	9.3E-02	5.5E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	2.7E+00		100% Insects	9.3E-02	8.8E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	5.6E-01		100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.2E+01		100% Insects	2.0E-02	5.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	8.9E+00		100% Insects	2.0E-02	4.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	4.3E-01	m	100% Insects	2.0E-02	0.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	6.4E-01	m	100% Insects	2.0E-02	1.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.2E+00		100% Insects	2.0E-02	3.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides										
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	1.8E+00		100% Insects	2.0E-02	5.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	2.7E+00		100% Insects	2.0E-02	8.8E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.8E+00		100% Plants	2.4E-02	7.2E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	2.4E-02	--	--	--	2.4E-02	--	--	--	--
Chromium, hexavalent	Gambel's Quail	2.8E-03	--	--	2.2E-03	5.0E-03	2.5E+00	2.5E+01	2E-03	2E-04
Copper	Gambel's Quail	5.1E-01	--	--	4.6E-02	5.6E-01	4.1E+00	1.2E+01	1E-01	5E-02
Lead	Gambel's Quail	2.0E-01	--	--	3.5E-02	2.4E-01	1.6E+00	3.3E+00	1E-01	7E-02
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Thallium	Gambel's Quail	2.8E-04	--	--	--	2.8E-04	3.5E-01	3.5E+00	8E-04	8E-05
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	2.6E-03	2.6E-03	1.1E+00	1.1E+01	2E-03	2E-04
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.6E-03	--	--	1.5E-03	8.1E-03	2.3E+01	2.3E+02	4E-04	4E-05
PAH High molecular weight	Gambel's Quail	8.1E-03	--	--	4.7E-03	1.3E-02	1.0E+01	1.0E+02	1E-03	1E-04
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	2.3E-01	2.3E+00	2E-04	2E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	2.3E-01	2.3E+00	3E-04	3E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.5E-02	--	--	7.1E-03	2.2E-02	1.4E+01	1.4E+02	2E-03	2E-04
TEQ Mammals	Gambel's Quail	1.0E-02	--	--	1.1E-02	2.1E-02	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chromium, hexavalent	Cactus Wren	--	3.1E-02	--	9.5E-03	4.1E-02	2.5E+00	2.5E+01	2E-02	2E-03
Copper	Cactus Wren	--	1.1E+00	--	2.0E-01	1.3E+00	4.1E+00	1.2E+01	3E-01	1E-01
Lead	Cactus Wren	--	8.6E-01	--	1.5E-01	1.0E+00	1.6E+00	3.3E+00	6E-01	3E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Thallium	Cactus Wren	--	--	--	--	0.0E+00	3.5E-01	3.5E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	0.0E+00	--	7.3E-03	7.3E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	2.3E-01	--	1.1E-02	2.4E-01	1.1E+00	1.1E+01	2E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.5E-03	2.2E-01	2.3E+01	2.3E+02	1E-02	1E-03
PAH High molecular weight	Cactus Wren	--	5.6E-01	--	2.0E-02	5.8E-01	1.0E+01	1.0E+02	6E-02	6E-03
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	2.3E-01	2.3E+00	4E-02	4E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	2.3E-01	2.3E+00	6E-02	6E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.0E+00	--	3.0E-02	1.0E+00	1.4E+01	1.4E+02	7E-02	7E-03
TEQ Mammals	Cactus Wren	--	1.6E+00	--	4.5E-02	1.7E+00	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Chromium, hexavalent	Desert Shrew	--	3.5E-02	--	2.3E-03	3.7E-02	9.2E+00	3.8E+01	4E-03	1E-03
Copper	Desert Shrew	--	1.2E+00	--	4.7E-02	1.2E+00	9.4E+00	1.6E+01	1E-01	8E-02
Lead	Desert Shrew	--	9.5E-01	--	3.6E-02	9.9E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	0.0E+00	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	2.6E-01	--	2.6E-03	2.6E-01	1.8E+01	1.8E+02	1E-02	1E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	6.6E+01	3.3E+02	4E-03	7E-04
PAH High molecular weight	Desert Shrew	--	6.2E-01	--	4.8E-03	6.2E-01	6.2E-01	3.1E+00	1E+00	2E-01
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	1.5E-01	7.4E-01	7E-02	1E-02
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	1.5E-01	7.4E-01	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.1E+00	--	7.2E-03	1.1E+00	--	--	--	--
TEQ Mammals	Desert Shrew	--	1.8E+00	--	1.1E-02	1.8E+00	1.0E+00	1.0E+01	2E+00	2E-01
Inorganics										
Antimony	Merriam's Kangaroo Rat	5.1E-02	--	--	3.7E-02	8.9E-02	5.9E-02	5.9E-01	2E+00	2E-01
Chromium, hexavalent	Merriam's Kangaroo Rat	5.9E-03	--	--	3.5E-03	9.4E-03	9.2E+00	3.8E+01	1E-03	2E-04

Table AOC14-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Copper	Merriam's Kangaroo Rat	1.3E+02		100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.1E+02		100% Plants	2.4E-02	5.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	4.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	6.4E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.2E+00		100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	7.1E+01		100% Plants	2.4E-02	4.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	4.8E+01		100% Plants	2.4E-02	2.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Copper	Merriam's Kangaroo Rat	1.1E+00	--	--	2.6E-01	1.4E+00	9.0E+00	1.5E+01	2E-01	9E-02
Lead	Merriam's Kangaroo Rat	4.4E-01	--	--	4.1E-01	8.5E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	8.5E-04	8.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.3E-03	1.3E-03	1.8E+01	1.8E+02	7E-05	7E-06
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	5E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.7E-02	--	--	2.3E-03	2.0E-02	6.2E-01	3.1E+00	3E-02	6E-03
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	1.5E-01	7.4E-01	6E-04	1E-04
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	1.5E-01	7.4E-01	8E-04	2E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	3.3E-02	--	--	1.4E-01	1.7E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	2.2E-02	--	--	9.4E-02	1.2E-01	1.0E+00	1.0E+01	1E-01	1E-02

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.2E+01	100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	8.9E+00	100% Plants	1.0E-01	5.3E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	m 100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDT	Gambel's Quail	3.0E-03	m 100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
4,4-DDE	Gambel's Quail	2.9E-03	m 100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	ND	nd 100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Copper	Cactus Wren	1.2E+01	100% Insects	9.3E-02	5.9E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	8.9E+00	100% Insects	9.3E-02	4.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	m 100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDT	Cactus Wren	3.0E-03	m 100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
4,4-DDE	Cactus Wren	2.9E-03	m 100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	ND	nd 100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	1.2E+01	100% Insects	2.0E-02	5.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	8.9E+00	100% Insects	2.0E-02	4.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m 100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd 100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.8E-01	m 100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.2E+00	100% Insects	2.0E-02	3.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDT	Desert Shrew	3.0E-03	m 100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m 100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	ND	nd 100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.1E+02	100% Plants	2.4E-02	5.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m 100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m 100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m 100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.2E+00	100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m 100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m 100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m 100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	5.1E-01	--	--	4.6E-02	5.6E-01	2.3E+00	5.2E+01	2E-01	1E-02
Lead	Gambel's Quail	2.0E-01	--	--	3.5E-02	2.4E-01	1.4E-02	8.8E+00	2E+01	3E-02
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	9.0E-03	1.5E+00	6E-03	3E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	9.0E-03	6.0E-01	7E-03	1E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Inorganics										
Copper	Cactus Wren	--	1.1E+00	--	2.0E-01	1.3E+00	2.3E+00	5.2E+01	6E-01	2E-02
Lead	Cactus Wren	--	8.6E-01	--	1.5E-01	1.0E+00	1.4E-02	8.8E+00	7E+01	1E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	9.0E-03	1.5E+00	1E+00	7E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	9.0E-03	6.0E-01	1E+00	2E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Inorganics										
Copper	Desert Shrew	--	1.2E+00	--	4.7E-02	1.2E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	9.5E-01	--	3.6E-02	9.9E-01	1.0E+00	2.4E+02	1E+00	4E-03
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	6.2E-01	--	4.8E-03	6.2E-01	1.3E+00	3.3E+01	5E-01	2E-02
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	8.0E-01	1.6E+01	1E-02	7E-04
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	8.0E-01	1.6E+01	2E-02	9E-04
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Inorganics										
Copper	Merriam's Kangaroo Rat	1.1E+00	--	--	2.6E-01	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Merriam's Kangaroo Rat	4.4E-01	--	--	4.1E-01	8.5E-01	1.0E+00	2.4E+02	8E-01	4E-03
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	1.7E-02	--	--	2.3E-03	2.0E-02	1.3E+00	3.3E+01	2E-02	6E-04
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	8.0E-01	1.6E+01	1E-04	6E-06
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	8.0E-01	1.6E+01	2E-04	8E-06
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Chromium, hexavalent	Gambel's Quail	5.6E-01		100% Plants	1.0E-01	7.2E-02	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Copper	Gambel's Quail	1.2E+01		100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Lead	Gambel's Quail	8.9E+00		100% Plants	1.0E-01	5.3E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Thallium	Gambel's Quail	ND	nd	100% Plants	1.0E-01	7.4E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	4.3E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Bis (2-ethylhexyl) phthalate	Gambel's Quail	6.4E-01	m	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	3.8E-01	m	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
PAH High molecular weight	Gambel's Quail	1.2E+00		100% Plants	1.0E-01	2.1E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Pesticides										
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.8E+00		100% Plants	1.0E-01	4.0E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
TEQ Mammals	Gambel's Quail	2.7E+00		100% Plants	1.0E-01	2.7E-01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Chromium, hexavalent	Cactus Wren	5.6E-01		100% Insects	9.3E-02	1.7E-01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Copper	Cactus Wren	1.2E+01		100% Insects	9.3E-02	5.9E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Lead	Cactus Wren	8.9E+00		100% Insects	9.3E-02	4.7E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Thallium	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	4.3E-01	m	100% Insects	9.3E-02	0.0E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Bis (2-ethylhexyl) phthalate	Cactus Wren	6.4E-01	m	100% Insects	9.3E-02	1.3E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	3.8E-01	m	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
PAH High molecular weight	Cactus Wren	1.2E+00		100% Insects	9.3E-02	3.0E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Pesticides										
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	1.8E+00		100% Insects	9.3E-02	5.5E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
TEQ Mammals	Cactus Wren	2.7E+00		100% Insects	9.3E-02	8.8E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	5.6E-01		100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.2E+01		100% Insects	2.0E-02	5.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	8.9E+00		100% Insects	2.0E-02	4.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	4.3E-01	m	100% Insects	2.0E-02	0.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	6.4E-01	m	100% Insects	2.0E-02	1.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	1.2E+00		100% Insects	2.0E-02	3.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides										
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	1.8E+00		100% Insects	2.0E-02	5.5E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	2.7E+00		100% Insects	2.0E-02	8.8E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.8E+00		100% Plants	2.4E-02	7.2E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	2.4E-02	--	--	--	1.9E-03	--	--	--	--
Chromium, hexavalent	Gambel's Quail	2.8E-03	--	--	2.2E-03	4.0E-04	2.5E+00	2.5E+01	2E-04	2E-05
Copper	Gambel's Quail	5.1E-01	--	--	4.6E-02	4.6E-02	4.1E+00	1.2E+01	1E-02	4E-03
Lead	Gambel's Quail	2.0E-01	--	--	3.5E-02	1.9E-02	1.6E+00	3.3E+00	1E-02	6E-03
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.4E-02	3.9E-02	1.8E-01	4E-01	8E-02
Thallium	Gambel's Quail	2.8E-04	--	--	--	2.3E-05	3.5E-01	3.5E+00	7E-05	7E-06
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	1.7E-03	1.4E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	2.6E-03	2.1E-04	1.1E+00	1.1E+01	2E-04	2E-05
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.6E-03	--	--	1.5E-03	6.6E-04	2.3E+01	2.3E+02	3E-05	3E-06
PAH High molecular weight	Gambel's Quail	8.1E-03	--	--	4.7E-03	1.0E-03	1.0E+01	1.0E+02	1E-04	1E-05
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	4.2E-06	2.3E-01	2.3E+00	2E-05	2E-06
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	5.2E-06	2.3E-01	2.3E+00	2E-05	2E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.1E-06	9.0E-02	1.3E+00	1E-05	9E-07
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.5E-02	--	--	7.1E-03	1.8E-03	1.4E+01	1.4E+02	1E-04	1E-05
TEQ Mammals	Gambel's Quail	1.0E-02	--	--	1.1E-02	1.7E-03	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chromium, hexavalent	Cactus Wren	--	3.1E-02	--	9.5E-03	2.5E-02	2.5E+00	2.5E+01	1E-02	1E-03
Copper	Cactus Wren	--	1.1E+00	--	2.0E-01	7.7E-01	4.1E+00	1.2E+01	2E-01	6E-02
Lead	Cactus Wren	--	8.6E-01	--	1.5E-01	6.1E-01	1.6E+00	3.3E+00	4E-01	2E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	8.0E-02	3.9E-02	1.8E-01	2E+00	4E-01
Thallium	Cactus Wren	--	--	--	--	0.0E+00	3.5E-01	3.5E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	0.0E+00	--	7.3E-03	4.4E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	2.3E-01	--	1.1E-02	1.5E-01	1.1E+00	1.1E+01	1E-01	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.5E-03	1.3E-01	2.3E+01	2.3E+02	6E-03	6E-04
PAH High molecular weight	Cactus Wren	--	5.6E-01	--	2.0E-02	3.5E-01	1.0E+01	1.0E+02	3E-02	3E-03
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	6.0E-03	2.3E-01	2.3E+00	3E-02	3E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	7.7E-03	2.3E-01	2.3E+00	3E-02	3E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.0E+00	--	3.0E-02	6.2E-01	1.4E+01	1.4E+02	4E-02	4E-03
TEQ Mammals	Cactus Wren	--	1.6E+00	--	4.5E-02	1.0E+00	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Chromium, hexavalent	Desert Shrew	--	3.5E-02	--	2.3E-03	3.7E-02	9.2E+00	3.8E+01	4E-03	1E-03
Copper	Desert Shrew	--	1.2E+00	--	4.7E-02	1.2E+00	9.4E+00	1.6E+01	1E-01	8E-02
Lead	Desert Shrew	--	9.5E-01	--	3.6E-02	9.9E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	0.0E+00	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	2.6E-01	--	2.6E-03	2.6E-01	1.8E+01	1.8E+02	1E-02	1E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	6.6E+01	3.3E+02	4E-03	7E-04
PAH High molecular weight	Desert Shrew	--	6.2E-01	--	4.8E-03	6.2E-01	6.2E-01	3.1E+00	1E+00	2E-01
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	1.5E-01	7.4E-01	7E-02	1E-02
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	1.5E-01	7.4E-01	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.1E+00	--	7.2E-03	1.1E+00	--	--	--	--
TEQ Mammals	Desert Shrew	--	1.8E+00	--	1.1E-02	1.8E+00	1.0E+00	1.0E+01	2E+00	2E-01
Inorganics										
Antimony	Merriam's Kangaroo Rat	5.1E-02	--	--	3.7E-02	8.9E-02	5.9E-02	5.9E-01	2E+00	2E-01
Chromium, hexavalent	Merriam's Kangaroo Rat	5.9E-03	--	--	3.5E-03	9.4E-03	9.2E+00	3.8E+01	1E-03	2E-04

Table AOC14-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Copper	Merriam's Kangaroo Rat	1.3E+02		100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.1E+02		100% Plants	2.4E-02	5.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	4.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	6.4E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	1.2E+00		100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	7.1E+01		100% Plants	2.4E-02	4.0E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	4.8E+01		100% Plants	2.4E-02	2.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Copper	Merriam's Kangaroo Rat	1.1E+00	--	--	2.6E-01	1.4E+00	9.0E+00	1.5E+01	2E-01	9E-02
Lead	Merriam's Kangaroo Rat	4.4E-01	--	--	4.1E-01	8.5E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	8.5E-04	8.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.3E-03	1.3E-03	1.8E+01	1.8E+02	7E-05	7E-06
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	5E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.7E-02	--	--	2.3E-03	2.0E-02	6.2E-01	3.1E+00	3E-02	6E-03
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	1.5E-01	7.4E-01	6E-04	1E-04
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	1.5E-01	7.4E-01	8E-04	2E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	3.3E-02	--	--	1.4E-01	1.7E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	2.2E-02	--	--	9.4E-02	1.2E-01	1.0E+00	1.0E+01	1E-01	1E-02

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC ^a (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.2E+01	100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Lead	Gambel's Quail	8.9E+00	100% Plants	1.0E-01	5.3E+00	1.7E-01	3.8E-02	4.0E-03	8.1E-02
Mercury	Gambel's Quail	4.1E-01	m	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03
Pesticides									
4,4-DDT	Gambel's Quail	3.0E-03	m	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03
4,4-DDE	Gambel's Quail	2.9E-03	m	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	ND	nd	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03
Inorganics									
Copper	Cactus Wren	1.2E+01	100% Insects	9.3E-02	5.9E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Lead	Cactus Wren	8.9E+00	100% Insects	9.3E-02	4.7E+00	3.9E-02	1.8E-01	1.7E-02	6.0E-01
Mercury	Cactus Wren	4.1E-01	m	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02
Pesticides									
4,4-DDT	Cactus Wren	3.0E-03	m	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02
4,4-DDE	Cactus Wren	2.9E-03	m	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02
Inorganics									
Copper	Desert Shrew	1.2E+01	100% Insects	2.0E-02	5.9E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	8.9E+00	100% Insects	2.0E-02	4.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	m	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03
Thallium	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.8E-01	m	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03
PAH High molecular weight	Desert Shrew	1.2E+00		100% Insects	2.0E-02	3.0E+00	5.0E-03	2.0E-01	4.1E-03
Pesticides									
4,4-DDT	Desert Shrew	3.0E-03	m	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03
4,4-DDE	Desert Shrew	2.9E-03	m	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03
Inorganics									
Copper	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.1E+02	100% Plants	2.4E-02	5.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	m	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03
Thallium	Merriam's Kangaroo Rat	1.9E+00	m	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	m	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03
PAH High molecular weight	Merriam's Kangaroo Rat	1.2E+00		100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03
Pesticides									
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	m	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	m	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	m	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03

Table AOC14-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose ^b (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless) ^c	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	5.1E-01	--	--	4.6E-02	4.6E-02	2.3E+00	5.2E+01	2E-02	9E-04
Lead	Gambel's Quail	2.0E-01	--	--	3.5E-02	1.9E-02	1.4E-02	8.8E+00	1E+00	2E-03
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.4E-02	3.9E-02	1.8E-01	4E-01	8E-02
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	4.2E-06	9.0E-03	1.5E+00	5E-04	3E-06
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	5.2E-06	9.0E-03	6.0E-01	6E-04	9E-06
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.1E-06	9.0E-02	1.3E+00	1E-05	9E-07
Inorganics										
Copper	Cactus Wren	--	1.1E+00	--	2.0E-01	7.7E-01	2.3E+00	5.2E+01	3E-01	1E-02
Lead	Cactus Wren	--	8.6E-01	--	1.5E-01	6.1E-01	1.4E-02	8.8E+00	4E+01	7E-02
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	8.0E-02	3.9E-02	1.8E-01	2E+00	4E-01
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	6.0E-03	9.0E-03	1.5E+00	7E-01	4E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	7.7E-03	9.0E-03	6.0E-01	9E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Inorganics										
Copper	Desert Shrew	--	1.2E+00	--	4.7E-02	1.2E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Desert Shrew	--	9.5E-01	--	3.6E-02	9.9E-01	1.0E+00	2.4E+02	1E+00	4E-03
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	6.2E-01	--	4.8E-03	6.2E-01	1.3E+00	3.3E+01	5E-01	2E-02
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	8.0E-01	1.6E+01	1E-02	7E-04
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	8.0E-01	1.6E+01	2E-02	9E-04
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Inorganics										
Copper	Merriam's Kangaroo Rat	1.1E+00	--	--	2.6E-01	1.4E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Merriam's Kangaroo Rat	4.4E-01	--	--	4.1E-01	8.5E-01	1.0E+00	2.4E+02	8E-01	4E-03
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	1.7E-02	--	--	2.3E-03	2.0E-02	1.3E+00	3.3E+01	2E-02	6E-04
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	8.0E-01	1.6E+01	1E-04	6E-06
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	8.0E-01	1.6E+01	2E-04	8E-06
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC14-C.10.

Table AOC14-C Table Notes
Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

ATTACHMENT D

Dose and Risk Calculations for Ecological Receptors at AOC 14 Using
Maximum Depth-Weighted EPCs



Attachment AOC14-D**Dose and Risk Calculations for Ecological Receptors at AOC 14 Using Maximum Depth-Weighted EPCs**

Table AOC14-D.1	Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 14
Table AOC14-D.2	Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 14
Table AOC14-D.3	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 14
Table AOC14-D.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 14
Table AOC14-D.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 14
Table AOC14-D Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC14-D.1
Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics									
Antimony	mg/kg	--	1.90E+01	1.00E+01	--	6.24E-01	3.42E-01	--	0.00E+00
Chromium, hexavalent	mg/kg	5.80E+00	1.20E+01	1.42E+01	2.38E-01	4.92E-01	5.82E-01	1.77E+00	8.44E-01
Copper	mg/kg	4.40E+01	1.80E+03	9.10E+02	8.66E+00	3.74E+01	2.86E+01	2.27E+01	1.33E+01
Lead	mg/kg	1.80E+01	1.60E+03	8.03E+02	1.34E+00	1.66E+01	1.13E+01	8.29E+00	3.87E+00
Mercury	mg/kg	4.10E-01	6.03E+01	1.02E+02	2.27E-01	3.44E+00	4.57E+00	6.85E-01	7.87E-02
Thallium	mg/kg	--	1.43E+00	1.85E+00	--	5.72E-03	7.40E-03	--	--
Semi-Volatile Organic Compounds									
4-Methylphenol	mg/kg	4.30E-01	3.45E-01	2.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Bis (2-ethylhexyl) phthalate	mg/kg	6.40E-01	4.82E-01	3.23E-01	0.00E+00	0.00E+00	0.00E+00	1.28E+00	0.00E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	mg/kg	3.80E-01	2.53E-01	1.42E-01	1.72E-01	1.43E-01	1.10E-01	1.16E+00	0.00E+00
PAH High molecular weight	mg/kg	8.07E+00	5.38E+00	2.69E+00	1.32E+00	8.96E-01	4.65E-01	2.10E+01	0.00E+00
Pesticides									
4,4-DDT	mg/kg	3.00E-03	3.00E-03	3.00E-03	1.03E-03	1.03E-03	1.03E-03	5.38E-02	3.90E-01
4,4-DDE	mg/kg	2.90E-03	4.40E-03	2.90E-03	1.00E-03	1.37E-03	1.00E-03	6.95E-02	6.89E+00
Polychlorinated Biphenyls									
Total PCBs	mg/kg	--	3.50E-02	2.18E-02	--	3.50E-04	2.18E-04	--	0.00E+00
Dioxins									
TEQ Avian	ng/kg	5.30E+00	2.10E+02	1.31E+02	2.97E-02	1.18E+00	7.34E-01	1.99E+01	3.57E+00
TEQ Mammals	ng/kg	8.20E+00	1.40E+02	8.17E+01	4.59E-02	7.84E-01	4.58E-01	3.33E+01	5.77E+00
2,3,7,8-TCDD	ng/kg	0.18	17	8.61	--	--	--	--	--

Notes:

a. Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

b. Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC14-D.2

Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	SUF = 1	
NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																		
Antimony	4E+00	ND	--	--	--	--	--	--	2E+00	2E-01	--	--	--	--	--	--	--	--
Chromium, hexavalent	1E+01	1E+01	2E-02	2E-03	2E-01	2E-02	4E-02	1E-02	8E-03	2E-03	--	--	--	--	--	--	--	--
Copper	3E+01	6E-01	4E-01	1E-01	1E+00	4E-01	5E-01	3E-01	7E-01	4E-01	7E-01	3E-02	2E+00	9E-02	2E+00	8E-03	2E+00	1E-02
Lead	1E+01	1E-02	4E-01	2E-01	1E+00	6E-01	4E-01	2E-01	1E+00	5E-01	5E+01	8E-02	1E+02	2E-01	2E+00	7E-03	5E+00	2E-02
Mercury	3E+02	4E+00	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01	5E+00	1E+00	3E+00	7E-01	6E-01	4E-02	2E+00	1E-01
Thallium	2E+00	ND	8E-04	8E-05	--	--	--	--	9E-03	3E-03	--	--	--	--	--	--	9E-03	3E-03
Semi-Volatile Organic Compounds																		
4-Methylphenol	4E-02	5E+00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phth	3E-03	3E-03	2E-03	2E-04	2E-01	2E-02	1E-02	1E-03	7E-05	7E-06	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	4E-02	1E-02	4E-04	4E-05	1E-02	1E-03	4E-03	7E-04	2E-04	5E-05	--	--	--	--	5E-03	2E-03	3E-04	1E-04
PAH High molecular weight	7E+00	4E-01	8E-03	8E-04	4E-01	4E-02	7E+00	1E+00	2E-01	4E-02	--	--	--	--	3E+00	1E-01	9E-02	4E-03
Pesticides																		
4,4-DDT	3E-03	3E-01	2E-04	2E-05	4E-02	4E-03	7E-02	1E-02	6E-04	1E-04	6E-03	3E-05	1E+00	7E-03	1E-02	7E-04	1E-04	6E-06
4,4-DDE	5E-03	3E-01	3E-04	3E-05	6E-02	6E-03	1E-01	2E-02	8E-04	2E-04	7E-03	1E-04	1E+00	2E-02	2E-02	9E-04	2E-04	8E-06
Polychlorinated Biphenyls																		
Total PCBs	9E-04	ND	1E-04	1E-05	--	--	--	--	3E-04	8E-05	1E-04	1E-05	--	--	--	--	3E-04	8E-05
Dioxins																		
2,3,7,8-TCDD	No SL	2E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	5E-03	5E-04	3E-01	3E-02	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	7E+00	7E-01	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level

NOAEL = no-observed adverse effect level
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TRV = toxicity reference value

Table AOC14-D.3

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 14

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	1.90E+01	5	4E+00	ND	78	ND
Chromium, hexavalent	1.42E+01	1	1E+01	5.80E+00	0.4	1E+01
Copper	1.80E+03	70	3E+01	4.40E+01	80	6E-01
Lead	1.60E+03	120	1E+01	1.80E+01	1700	1E-02
Mercury	1.02E+02	0.3	3E+02	4.10E-01	0.1	4E+00
Thallium	1.85E+00	1	2E+00	ND	--	ND
Semi-Volatile Organic Compounds						
4-Methylphenol	4.30E-01	10	4E-02	4.30E-01	0.08	5E+00
Bis (2-ethylhexyl) phthalate	6.40E-01	200	3E-03	6.40E-01	200	3E-03
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	3.80E-01	10	4E-02	3.80E-01	29	1E-02
PAH High molecular weight	8.07E+00	1.2	7E+00	8.07E+00	18	4E-01
Pesticides						
4,4-DDT	3.00E-03	0.9	3E-03	3.00E-03	0.01	3E-01
4,4-DDE	4.40E-03	0.9	5E-03	2.90E-03	0.01	3E-01
Polychlorinated Biphenyls						
Total PCBs	3.50E-02	40	9E-04	ND	1	ND
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	--	--	No SL	0.18	8800	2E-05

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 NOAEL = no-observed adverse effect level
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC14-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Antimony	Gambel's Quail	ND	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	5.8E+00	100% Plants	1.0E-01	5.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	4.4E+01	100% Plants	1.0E-01	3.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.8E+01	100% Plants	1.0E-01	1.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Thallium	Gambel's Quail	ND	100% Plants	1.0E-01	7.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Semi-Volatile Organic Compounds									
4-Methylphenol	Gambel's Quail	4.3E-01	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Gambel's Quail	6.4E-01	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	3.8E-01	100% Plants	1.0E-01	1.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	8.1E+00	100% Plants	1.0E-01	1.3E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDT	Gambel's Quail	3.0E-03	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
4,4-DDE	Gambel's Quail	2.9E-03	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	ND	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	5.3E+00	100% Plants	1.0E-01	1.2E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	8.2E+00	100% Plants	1.0E-01	7.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Antimony	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	5.8E+00	100% Insects	9.3E-02	1.8E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	4.4E+01	100% Insects	9.3E-02	2.3E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.8E+01	100% Insects	9.3E-02	8.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Thallium	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Semi-Volatile Organic Compounds									
4-Methylphenol	Cactus Wren	4.3E-01	100% Insects	9.3E-02	0.0E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Bis (2-ethylhexyl) phthalate	Cactus Wren	6.4E-01	100% Insects	9.3E-02	1.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	3.8E-01	100% Insects	9.3E-02	1.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	8.1E+00	100% Insects	9.3E-02	2.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDT	Cactus Wren	3.0E-03	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
4,4-DDE	Cactus Wren	2.9E-03	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	5.3E+00	100% Insects	9.3E-02	2.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	8.2E+00	100% Insects	9.3E-02	3.3E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Antimony	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	5.8E+00	100% Insects	2.0E-02	1.8E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	4.4E+01	100% Insects	2.0E-02	2.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.8E+01	100% Insects	2.0E-02	8.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds									
4-Methylphenol	Desert Shrew	4.3E-01	100% Insects	2.0E-02	0.0E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	6.4E-01	100% Insects	2.0E-02	1.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.8E-01	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.1E+00	100% Insects	2.0E-02	2.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDT	Desert Shrew	3.0E-03	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC14-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	2.4E-02	--	--	--	2.4E-02	--	--	--	--
Chromium, hexavalent	Gambel's Quail	2.2E-02	--	--	2.3E-02	4.5E-02	2.5E+00	2.5E+01	2E-02	2E-03
Copper	Gambel's Quail	1.4E+00	--	--	1.8E-01	1.6E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Gambel's Quail	6.4E-01	--	--	7.2E-02	7.1E-01	1.6E+00	3.3E+00	4E-01	2E-01
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Thallium	Gambel's Quail	2.8E-04	--	--	--	2.8E-04	3.5E-01	3.5E+00	8E-04	8E-05
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	2.6E-03	2.6E-03	1.1E+00	1.1E+01	2E-03	2E-04
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	6.6E-03	--	--	1.5E-03	8.1E-03	2.3E+01	2.3E+02	4E-04	4E-05
PAH High molecular weight	Gambel's Quail	5.0E-02	--	--	3.2E-02	8.3E-02	1.0E+01	1.0E+02	8E-03	8E-04
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	2.3E-01	2.3E+00	2E-04	2E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	2.3E-01	2.3E+00	3E-04	3E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	4.5E-02	--	--	2.1E-02	6.6E-02	1.4E+01	1.4E+02	5E-03	5E-04
TEQ Mammals	Gambel's Quail	3.0E-02	--	--	3.3E-02	6.3E-02	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chromium, hexavalent	Cactus Wren	--	3.3E-01	--	9.9E-02	4.2E-01	2.5E+00	2.5E+01	2E-01	2E-02
Copper	Cactus Wren	--	4.2E+00	--	7.5E-01	4.9E+00	4.1E+00	1.2E+01	1E+00	4E-01
Lead	Cactus Wren	--	1.5E+00	--	3.1E-01	1.8E+00	1.6E+00	3.3E+00	1E+00	6E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Thallium	Cactus Wren	--	--	--	--	0.0E+00	3.5E-01	3.5E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	0.0E+00	--	7.3E-03	7.3E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	2.3E-01	--	1.1E-02	2.4E-01	1.1E+00	1.1E+01	2E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.1E-01	--	6.5E-03	2.2E-01	2.3E+01	2.3E+02	1E-02	1E-03
PAH High molecular weight	Cactus Wren	--	3.8E+00	--	1.4E-01	4.0E+00	1.0E+01	1.0E+02	4E-01	4E-02
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	2.3E-01	2.3E+00	4E-02	4E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	2.3E-01	2.3E+00	6E-02	6E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	3.6E+00	--	9.0E-02	3.7E+00	1.4E+01	1.4E+02	3E-01	3E-02
TEQ Mammals	Cactus Wren	--	6.1E+00	--	1.4E-01	6.2E+00	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Chromium, hexavalent	Desert Shrew	--	3.6E-01	--	2.4E-02	3.8E-01	9.2E+00	3.8E+01	4E-02	1E-02
Copper	Desert Shrew	--	4.6E+00	--	1.8E-01	4.8E+00	9.4E+00	1.6E+01	5E-01	3E-01
Lead	Desert Shrew	--	1.7E+00	--	7.3E-02	1.8E+00	4.7E+00	8.9E+00	4E-01	2E-01
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	0.0E+00	--	1.7E-03	1.7E-03	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	2.6E-01	--	2.6E-03	2.6E-01	1.8E+01	1.8E+02	1E-02	1E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	6.6E+01	3.3E+02	4E-03	7E-04
PAH High molecular weight	Desert Shrew	--	4.3E+00	--	3.3E-02	4.3E+00	6.2E-01	3.1E+00	7E+00	1E+00
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	1.5E-01	7.4E-01	7E-02	1E-02
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	1.5E-01	7.4E-01	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--

Table AOC14-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	5.3E+00	100% Insects	2.0E-02	2.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	8.2E+00	100% Insects	2.0E-02	3.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Antimony	Merriam's Kangaroo Rat	1.9E+01	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.4E+01	100% Plants	2.4E-02	5.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.8E+03	100% Plants	2.4E-02	3.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.6E+03	100% Plants	2.4E-02	1.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds									
4-Methylphenol	Merriam's Kangaroo Rat	4.3E-01	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	6.4E-01	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	8.1E+00	100% Plants	2.4E-02	1.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	2.1E+02	100% Plants	2.4E-02	1.2E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.4E+02	100% Plants	2.4E-02	7.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC14-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.0E+00	--	2.2E-02	4.1E+00	--	--	--	--
TEQ Mammals	Desert Shrew	--	6.8E+00	--	3.3E-02	6.8E+00	1.0E+00	1.0E+01	7E+00	7E-01
Inorganics										
Antimony	Merriam's Kangaroo Rat	5.1E-02	--	--	3.7E-02	8.9E-02	5.9E-02	5.9E-01	2E+00	2E-01
Chromium, hexavalent	Merriam's Kangaroo Rat	4.8E-02	--	--	2.8E-02	7.6E-02	9.2E+00	3.8E+01	8E-03	2E-03
Copper	Merriam's Kangaroo Rat	3.1E+00	--	--	3.6E+00	6.6E+00	9.0E+00	1.5E+01	7E-01	4E-01
Lead	Merriam's Kangaroo Rat	1.4E+00	--	--	3.2E+00	4.5E+00	4.7E+00	8.9E+00	1E+00	5E-01
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	8.5E-04	8.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.3E-03	1.3E-03	1.8E+01	1.8E+02	7E-05	7E-06
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	6.6E+01	3.3E+02	2E-04	5E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.1E-01	--	--	1.6E-02	1.2E-01	6.2E-01	3.1E+00	2E-01	4E-02
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	1.5E-01	7.4E-01	6E-04	1E-04
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	1.5E-01	7.4E-01	8E-04	2E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	9.7E-02	--	--	4.1E-01	5.1E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	6.4E-02	--	--	2.8E-01	3.4E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC14-D.5.

Table AOC14-D.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	4.4E+01	100% Plants	1.0E-01	3.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.8E+01	100% Plants	1.0E-01	1.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	4.1E-01	100% Plants	1.0E-01	4.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Pesticides									
4,4-DDT	Gambel's Quail	3.0E-03	100% Plants	1.0E-01	1.0E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
4,4-DDE	Gambel's Quail	2.9E-03	100% Plants	1.0E-01	1.4E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	ND	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Copper	Cactus Wren	4.4E+01	100% Insects	9.3E-02	2.3E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.8E+01	100% Insects	9.3E-02	8.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	4.1E-01	100% Insects	9.3E-02	6.8E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Pesticides									
4,4-DDT	Cactus Wren	3.0E-03	100% Insects	9.3E-02	5.4E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
4,4-DDE	Cactus Wren	2.9E-03	100% Insects	9.3E-02	6.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	4.4E+01	100% Insects	2.0E-02	2.3E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.8E+01	100% Insects	2.0E-02	8.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	4.1E-01	100% Insects	2.0E-02	6.8E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Thallium	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.8E-01	100% Insects	2.0E-02	1.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.1E+00	100% Insects	2.0E-02	2.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Pesticides									
4,4-DDT	Desert Shrew	3.0E-03	100% Insects	2.0E-02	5.4E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
4,4-DDE	Desert Shrew	2.9E-03	100% Insects	2.0E-02	6.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.8E+03	100% Plants	2.4E-02	3.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.6E+03	100% Plants	2.4E-02	1.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.0E+02	100% Plants	2.4E-02	4.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Thallium	Merriam's Kangaroo Rat	1.9E+00	100% Plants	2.4E-02	7.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.8E-01	100% Plants	2.4E-02	1.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	8.1E+00	100% Plants	2.4E-02	1.3E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Pesticides									
4,4-DDT	Merriam's Kangaroo Rat	3.0E-03	100% Plants	2.4E-02	1.0E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
4,4-DDE	Merriam's Kangaroo Rat	4.4E-03	100% Plants	2.4E-02	1.4E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

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Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 14

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	1.4E+00	--	--	1.8E-01	1.6E+00	2.3E+00	5.2E+01	7E-01	3E-02
Lead	Gambel's Quail	6.4E-01	--	--	7.2E-02	7.1E-01	1.4E-02	8.8E+00	5E+01	8E-02
Mercury	Gambel's Quail	1.8E-01	--	--	1.6E-03	1.8E-01	3.9E-02	1.8E-01	5E+00	1E+00
Pesticides										
4,4-DDT	Gambel's Quail	3.9E-05	--	--	1.2E-05	5.1E-05	9.0E-03	1.5E+00	6E-03	3E-05
4,4-DDE	Gambel's Quail	5.2E-05	--	--	1.2E-05	6.4E-05	9.0E-03	6.0E-01	7E-03	1E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.3E-05	--	--	--	1.3E-05	9.0E-02	1.3E+00	1E-04	1E-05
Inorganics										
Copper	Cactus Wren	--	4.2E+00	--	7.5E-01	4.9E+00	2.3E+00	5.2E+01	2E+00	9E-02
Lead	Cactus Wren	--	1.5E+00	--	3.1E-01	1.8E+00	1.4E-02	8.8E+00	1E+02	2E-01
Mercury	Cactus Wren	--	1.3E-01	--	7.0E-03	1.3E-01	3.9E-02	1.8E-01	3E+00	7E-01
Pesticides										
4,4-DDT	Cactus Wren	--	9.9E-03	--	5.1E-05	9.9E-03	9.0E-03	1.5E+00	1E+00	7E-03
4,4-DDE	Cactus Wren	--	1.3E-02	--	4.9E-05	1.3E-02	9.0E-03	6.0E-01	1E+00	2E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	--	--	--	0.0E+00	9.0E-02	1.3E+00	--	--
Inorganics										
Copper	Desert Shrew	--	4.6E+00	--	1.8E-01	4.8E+00	2.7E+00	6.3E+02	2E+00	8E-03
Lead	Desert Shrew	--	1.7E+00	--	7.3E-02	1.8E+00	1.0E+00	2.4E+02	2E+00	7E-03
Mercury	Desert Shrew	--	1.4E-01	--	1.7E-03	1.4E-01	2.5E-01	4.0E+00	6E-01	4E-02
Thallium	Desert Shrew	--	--	--	--	0.0E+00	4.8E-01	1.4E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.3E-01	--	1.5E-03	2.4E-01	5.0E+01	1.5E+02	5E-03	2E-03
PAH High molecular weight	Desert Shrew	--	4.3E+00	--	3.3E-02	4.3E+00	1.3E+00	3.3E+01	3E+00	1E-01
Pesticides										
4,4-DDT	Desert Shrew	--	1.1E-02	--	1.2E-05	1.1E-02	8.0E-01	1.6E+01	1E-02	7E-04
4,4-DDE	Desert Shrew	--	1.4E-02	--	1.2E-05	1.4E-02	8.0E-01	1.6E+01	2E-02	9E-04
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	--	--	--	0.0E+00	3.6E-01	1.3E+00	--	--
Inorganics										
Copper	Merriam's Kangaroo Rat	3.1E+00	--	--	3.6E+00	6.6E+00	2.7E+00	6.3E+02	2E+00	1E-02
Lead	Merriam's Kangaroo Rat	1.4E+00	--	--	3.2E+00	4.5E+00	1.0E+00	2.4E+02	5E+00	2E-02
Mercury	Merriam's Kangaroo Rat	3.8E-01	--	--	2.0E-01	5.8E-01	2.5E-01	4.0E+00	2E+00	1E-01
Thallium	Merriam's Kangaroo Rat	6.1E-04	--	--	3.7E-03	4.3E-03	4.8E-01	1.4E+00	9E-03	3E-03
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.4E-02	--	--	7.5E-04	1.5E-02	5.0E+01	1.5E+02	3E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	1.1E-01	--	--	1.6E-02	1.2E-01	1.3E+00	3.3E+01	9E-02	4E-03
Pesticides										
4,4-DDT	Merriam's Kangaroo Rat	8.4E-05	--	--	5.9E-06	9.0E-05	8.0E-01	1.6E+01	1E-04	6E-06
4,4-DDE	Merriam's Kangaroo Rat	1.1E-04	--	--	8.7E-06	1.2E-04	8.0E-01	1.6E+01	2E-04	8E-06
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	6.9E-05	9.8E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC14-D.5.

Table AOC14-D Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment PG&E Topock Compressor Station Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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Appendix AOC27

Soil HHERA for AOC 27 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC27 SOIL HHERA FOR AOC 27 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes, creating a complex, angular form that extends from the bottom edge towards the top right corner.

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AOC27-4.2c Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers: COPCs in AOC 27 Subsurface I Soil (0 to 6 feet bgs)

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FIGURE

AOC27-1.1	Soil Sampling Locations AOC 27 Exposure Area
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ATTACHMENTS

- A Dataset and Exposure Point Concentration Calculations for the AOC 27 HHERA
- B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 27 Using Depth-Weighted EPCs and Area-Weighted EPCs
- C Dose and Risk Calculations for Ecological Receptors at AOC 27 Using Depth-Weighted EPCs and Area-Weighted EPCs
- D Dose and Risk Calculations for Ecological Receptors at AOC 27 Using Maximum Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

µg/dL	microgram per deciliter
AOC	area of concern
Arcadis	Arcadis U.S., Inc.
B(a)PEQ	benzo(a)pyrene equivalent
BAF	bioaccumulation factor
BCW	Bat Cave Wash
bgs	below ground surface
BTAG	Biological Technical Assistance Group
BTV	background threshold value
CDI	chronic daily intake
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CrVI	hexavalent chromium
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EcoSSL	Ecological Soil Screening Level
EPC	exposure point concentration
ERA	ecological risk assessment
FOD	frequency of detection
ft	foot/feet
GANDA	Garcia and Associates, Inc.
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
KM	Kaplan-Meier

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LMW	low molecular weight
LOAEL	lowest observed adverse effects level
LOE	line of evidence
main report	Soil Human Health and Ecological Risk Assessment Report
mg/kg	milligram per kilogram
mg/kg-bw/day	mg/kg body weight per day
ng/kg	nanogram per kilogram
NA	not applicable
NOAEL	no observed adverse effects level
OCS	outside the compressor station
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
SUF	site use factor
SWMU	solid waste management unit
T&E	threatened and endangered
TCDD	tetrachlorodibenzo-p-dioxin
TCS	Topock Compressor Station
TEQ	toxicity equivalent
TEQ human	dioxin toxicity equivalent for humans
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	undesignated area
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WOE	weight-of-evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern (AOC) 27 potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 27 potential exposure area, shown on Figure AOC27-1.1, is approximately 3.8 acres in total and includes sample locations shown in Table AOC27-1.1 of this appendix. Available soil data from the AOC 27 potential exposure area were used to conduct a quantitative HHERA as presented herein. A summary of the human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are presented in the main report (Sections 5 and 6, respectively) of the Soil Human Health and Ecological Risk Assessment Report (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the AOC 27 potential exposure area and the HHERA methodologies are provided in the main report and the Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways and the results of the HHERA risk characterization for soil in the AOC 27 potential exposure area. Tables and figures specific to the AOC 27 potential exposure area HHERA are also presented in this appendix.

1.1 Summary of Site Use

AOC 27, also referred to as the MW-24 Bench Exposure Area, is located outside the fence line north of the lower yard of the TCS and south of Interstate 40 (Figure AOC27-1.1) on property owned by Pacific Gas and Electric Company (PG&E) and Havasu National Wildlife Refuge. The primary source of contamination at AOC 27 is disposal of debris. As summarized in the Final Soil Remedial Facility Investigation/Remedial Investigation Work Plan (CH2M 2013), during interviews conducted by PG&E in late 2009 and early 2010, a former PG&E employee indicated this area was used as a potential waste disposal area. Before construction of Interstate 40, this area was contiguous with AOC 14 – Railroad Debris Site. Miscellaneous construction debris is present in AOC 27.

In January 2008, during trenching activities in AOC 27 associated with installation of a control panel related to the upland in situ pilot test, debris consisting mostly of treated wood, concrete, and scrap steel/tin (including a possible fragment of a storage tank) was encountered at a depth of approximately 3 feet (ft) below ground surface (bgs). The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) and the United States Department of the Interior were notified of this discovery in an e-mail dated January 12, 2008.

During the 2011 site walk DTSC and United States Department of the Interior noted discolored soil in the embankment of an unpaved access road leading from the MW-24 Bench to Bat Cave Wash (BCW). In 2011, DTSC identified potential burn waste in the eastern edge of the road cut on the road from AOC 27 to BCW. Potential sources of dioxins and furans in the vicinity of the TCS may include historical industrial activities as

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SOIL HHERA FOR AOC 27 EXPOSURE AREA

well as other sources unrelated to TCS activities (i.e., unauthorized dumping and burning; regional wildfires; combustion of diesel and leaded gas; and exhaust from cars, trucks, and trains) (CH2M 2017a).

Subsequently, PG&E collected samples of the waste material and defined the lateral and vertical extent of waste and any associated contamination observed in the in situ pilot study trench.

Constituents present in these debris materials could have been deposited on surface soil as particulates or could have entered surface soil as dissolved constituents through infiltration of rainfall. Because some material is buried, constituents could also have affected shallow and subsurface soils in the immediate vicinity of the debris. Therefore, primary source media consist of surface, shallow, and subsurface soils.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 27 HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 27 potential exposure area.

All soil sampling locations at the AOC 27 potential exposure area are presented on Figure AOC27-1.1 and in Table AOC27-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report (currently being prepared by Jacobs).

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. For the AOC 27 potential exposure area, soil data available from 63 samples from 0 to 10 ft bgs were all considered for use in the HHERA and the data are presented in Attachment AOC27-A1. Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo(a)pyrene equivalent [B(a)PEQ], polychlorinated biphenyls [PCBs], and dioxin/furan toxicity equivalents [TEQs]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 27 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 27 potential exposure area), as presented in Attachment AOC27-A1. Inorganic compounds, LMW PAHs, HMW PAHs, B(a)PEQ, and dioxin TEQ were above the background levels in AOC 27 potential exposure area soil (i.e., 0 to 10 ft bgs), and therefore, are included as COPCs and/or COPECs in the baseline exposure depths evaluated in the HHERA. When detected above background levels, carcinogenic PAHs (i.e., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, chrysene, and indeno[1,2,3-cd]pyrene) associated with B(a)PEQ are also selected as COPCs in the HHERA for the evaluation of the noncancer endpoint for each PAH. All other detected organic constituents in AOC 27 potential exposure area soil in the baseline exposure depths are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios evaluated in the HHERA for the AOC 27 potential exposure area are summarized in Tables AOC27-2.1a through AOC27-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 27 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 27 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC27-A2. The summary statistics for these AOC 27 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP documents, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (i.e., cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to potential ecological receptors (i.e., hazard quotient [HQ] exceeds 1 for any COPEC). For the AOC 27 potential exposure area, area-weighted EPCs were deemed necessary for either the HHRA or the ERA and, therefore, were evaluated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC27-A3.

Soil summary statistics for constituents measured at the AOC 27 potential exposure area¹ and depth- and area-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed above for the AOC 27 potential exposure area for the baseline scenario are presented in Table AOC27-3.1. If the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset. Table AOC27-3.1 also presents the basis of the calculated depth- and area-weighted EPCs, including whether the EPC is based on the maximum detected concentration.

¹ The list of constituents shown in the main report Section 3 tables is based on analytes that were detected at least once at the site (including all potential exposure areas inside or outside the TCS) and measured at AOC 27.

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 27 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the AOC 27 potential exposure area are presented in Attachment AOC27-B.

Risks/hazards estimated for an individual AOC/solid waste management unit (SWMU)/undesignated area (UA) potential exposure area like AOC 27 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks/hazards associated with a lifetime of contact with soil only in the AOC 27 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the AOC 27 potential exposure area. The potential receptors and exposure pathways evaluated for the AOC 27 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and volatile organic compound (VOC) vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and off-highway vehicle [OHV] rider)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 27 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. The COPC selection process using soil data encompassing all relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for the AOC 27 potential exposure area) are presented in Attachment AOC27-A. COPCs for the four exposure depths and one scenario (baseline) evaluated for the AOC 27 potential exposure area HHRA are summarized in Table AOC27-4.1 (details are presented in Tables AOC27-2.1a through AOC27-2.1d).

COPCs included metals (antimony, cadmium, hexavalent chromium, copper, lead, mercury, and zinc), VOCs (bromomethane and chloromethane), PAHs, PCBs, total petroleum hydrocarbon (TPH) as diesel, TPH as motor oil, and dioxin TEQ in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC27-A. Depth- and area-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables AOC27-4.2a through AOC27-4.2h and Tables AOC27-4.3a through AOC27-4.3f, respectively, for the four exposure depths in the baseline scenario.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Workers**— surface, shallow, subsurface I, and subsurface II soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and off-highway vehicle [OHV] rider)** – surface and shallow soil
- **Tribal Users** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values using depth-weighted EPCs are presented in Tables AOC27-B1.1a through AOC27-B1.1g (carcinogenic effects) and Tables AOC27-B1.2a through AOC27-B1.2g (noncarcinogenic effects) in Attachment AOC27-B1 for the potential receptors evaluated. The calculated EC and CDI values using area-weighted EPCs are presented in Tables AOC27-B2.1a through AOC27-B2.1c (carcinogenic effects) and Tables AOC27-B2.2a through AOC27-B2.2c (noncarcinogenic effects) in Attachment AOC27-B2 for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to DTSC's guidance (DTSC 2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the AOC 27 potential exposure area, the incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC's point of departure for risk management decision of 1×10^{-6} . Risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks with between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (United States Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC27-4.4 summarizes cumulative ILCRs and HIs estimated using depth-weighted EPCs for potential exposure to soil for each potential human receptor at the AOC 27 potential exposure area in the baseline scenario. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC27-B1.3a through AOC27-B1.3g) and noncancer hazard calculations (Tables AOC27-B1.4a through AOC27-B1.4g) are presented in Attachment AOC27-B1.

Risk and hazard estimates for the AOC 27 potential exposure area are summarized in the tables and discussed below. Assuming that lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for each receptor potentially exposed to COPCs in the AOC 27 potential exposure area soil at all exposure depths are at or below the *de minimis* levels of 1×10^{-6} and 1, respectively, for the short-term maintenance worker, camper, hunter and tribal user. Estimates for potential soil contact limited to the AOC 27 potential exposure area for lifetime exposure are above *de minimis*

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levels, but within the acceptable risk management range, for the long-term maintenance worker and certain recreational users (hiker and OHV rider).

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	3E-07	NA	0.07	NA
	Shallow	2E-07	NA	0.08	NA
	Subsurface I	2E-07	NA	0.08	NA
	Subsurface II	1E-07	NA	0.06	NA
Long-Term Maintenance Worker	Surface	3E-06	CrVI (7E-07) B(a)PEQ (6E-07) TEQ human (1E-06)	0.09	NA
	Shallow	2E-06	CrVI (5E-07) B(a)PEQ (4E-07) TEQ human (1E-06)	0.05	NA
	Subsurface I	2E-06	CrVI (7E-07) B(a)PEQ (2E-07) TEQ human (8E-07)	0.05	NA
	Subsurface II	9E-07	NA	0.03	NA

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

CrVI = hexavalent chromium

NA = not applicable

TEQ human = dioxin toxicity equivalent for humans

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative ILCRs for the short-term maintenance worker potentially exposed to COPCs in the AOC 27 potential exposure area surface, shallow, subsurface I, and subsurface II soil are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions (Table AOC27-B1.3a).

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this potential receptor, risk estimates above *de minimis* levels were primarily attributed to B(a)PEQ and dioxin TEQ in soil via the dermal contact and soil ingestion pathways and to hexavalent chromium in soil via the inhalation of particulates pathway (Table AOC27-B1.3b).

Elevated concentrations of hexavalent chromium, B(a)PEQ, and dioxin TEQ appear to be localized in the area around sampling locations AOC27-6 and AOC27-7 (i.e., the locations with the highest concentrations of hexavalent chromium, B(a)PEQ, and dioxin TEQ detected in the AOC 27 potential exposure area soil). Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for hexavalent chromium, B(a)PEQ, and dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted cumulative ILCRs for the long-term maintenance worker were estimated, as discussed below in

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Section 4.6.2, and are approximately 2.9 to 3 times lower than the depth-weighted cumulative ILCRs for certain exposure depths.

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative HIs for the short- and long-term maintenance workers (Tables AOC27-B1.4a and AOC27-B1.4b, respectively) potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are below an HI of 1. The depth-weighted EPCs for lead in AOC 27 potential exposure area soil at surface shallow, subsurface I, and subsurface II exposure depths are not expected to result in an increase in blood lead levels above the California Office of Environmental Health Hazard Assessment's (OEHHA's) benchmark value of 1 microgram per deciliter (µg/dL) in the fetus of a short- or long-term maintenance worker (Tables AOC27-B1.5a and AOC27-B1.5b, respectively).

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	1E-06	NA	0.06	NA
	Shallow	8E-07	NA	0.05	NA
Hiker	Surface	2E-06	CrVI (2E-07) B(a)PEQ (1E-06) TEQ human (1E-06)	0.1	NA
	Shallow	2E-06	CrVI (1E-07) B(a)PEQ (7E-07) TEQ human (8E-07)	0.1	NA
Hunter	Surface	2E-07	NA	0.02	NA
	Shallow	2E-07	NA	0.01	NA
OHV Rider	Surface	2E-06	CrVI (4E-07) B(a)PEQ (7E-07) TEQ human (6E-07)	0.03	NA
	Shallow	1E-06	NA	0.02	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

The depth-weighted estimated cumulative ILCRs for the camper and hunter potentially exposed to COPCs in AOC 27 potential exposure area surface and shallow soil are at or below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions. However, assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative ILCRs for the hiker and OHV rider potentially exposed to COPCs in surface and/or shallow soil are above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For these potential receptors, risk estimates above *de minimis* levels were primarily attributed to B(a)PEQ, hexavalent chromium, and dioxin TEQ in soil via the soil ingestion pathway (Tables AOC27-B1.3c thru AOC27-B1.3f).

As previously discussed, elevated concentrations of hexavalent chromium, B(a)PEQ, and dioxin TEQ appear to be localized in the area around sampling locations AOC27-6 and AOC27-7. Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for hexavalent chromium, B(a)PEQ, and dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted estimated cumulative ILCRs for the hiker and OHV rider were estimated, as discussed below in Section 4.6.2, and are approximately 3 to 3.6 times lower than the depth-weighted cumulative ILCRs for certain exposure depths.

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative HIs for the camper, hiker, hunter, and OHV rider (Tables AOC27-B1.4c through AOC27-B1.4f) potentially exposed to COPCs in AOC 27 potential exposure area soil at surface and shallow exposure depths are below an HI of 1. The depth-weighted EPCs for lead in AOC 27 potential exposure area soil at surface and shallow exposure depths are not expected to result in an increase in blood lead levels above OEHHHA's benchmark value of 1 µg/dL for the child recreational user and the fetus of a hunter (Tables AOC27-B1.5c through AOC27-B1.5i).

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	1E-09	NA	0.0002	NA
	Shallow	1E-09	NA	0.0002	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for the tribal user potentially exposed to COPCs in surface and shallow soil (Tables AOC27-B1.3g and AOC27-B1.4g) are below the *de minimis* levels of 1×10^{-6} , the point of departure for risk management decisions and HI of 1, respectively. Based on the results of the HHRA, potential exposures to COPCs in soil at the AOC 27 potential exposure area are not expected to pose unacceptable risk to the tribal user, and no further evaluation is considered necessary.

4.6.2 Risk Characterization for Exposure to Soil (Baseline Scenario and Area-Weighted EPCs)

Table AOC27-4.5 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the AOC 27 potential exposure area in the baseline scenario, calculated using area-weighted EPCs, for receptors where the depth-weighted estimated cumulative ILCRs and HIs were above 1×10^{-6} and 1, respectively. Therefore, area-weighted ILCRs and HIs were provided for the long-term maintenance worker and certain recreational users (hiker and OHV rider). The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC27-B2.3a through AOC27-B2.3c) and noncancer hazard calculations (Tables AOC27-B2.4a through AOC27-B2.4c) are presented in Attachment AOC27-B2.

The baseline scenario area-weighted estimated cumulative ILCRs and HIs for each potential receptor selected for evaluation are summarized in the tables below. The area-weighted estimated cumulative ILCRs and HIs

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for the long-term maintenance worker, hiker, and OVH rider potentially exposed to COPCs in AOC 27 potential exposure area soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively, assuming lifetime soil contact is limited to the AOC 27 potential exposure area.

In general, the area-weighted approach resulted in a reduction in the risk or hazard estimates ranging from 2.9 to 3.6 times lower than the depth-weighted estimates. Furthermore, the area-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil are not expected to result in an increase in blood lead levels above OEHHA's benchmark value of 1 ($\mu\text{g}/\text{dL}$) in the fetus of a long-term maintenance worker or in a child camper or OHV rider (Tables AOC27-B2.5a through AOC27-B2.5e).

Maintenance Workers

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Long-Term Maintenance Worker	Surface	9E-07	NA	0.06	NA
	Shallow	7E-07	NA	0.03	NA
	Subsurface I	6E-07	NA	0.03	NA
	Subsurface II	4E-07	NA	0.03	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Recreational Users

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Hiker	Surface	7E-07	NA	0.05	NA
	Shallow	4E-07	NA	0.04	NA
OHV Rider	Surface	5E-07	NA	0.01	NA
	Shallow	4E-07	NA	0.009	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

4.6.3 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative. As agreed in the RAWP (Arcadis 2008), the values follow agency guidance, and reflect a 90th or 95th percentile value, rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of

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significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 27 potential exposure area are discussed in detail below.

Uncertainties for the AOC 27 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC27-3.1.

For the AOC 27 potential exposure area, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: one metal (cadmium) and PAHs (acenaphthene, dibenzo[a,h]anthracene, fluorene, and naphthalene)
- Shallow soil: one metal (antimony), VOCs (bromomethane and chloromethane), and PAHs (acenaphthene, acenaphthylene, dibenzo[a,h]anthracene, fluorene, and naphthalene)
- Subsurface I soil: one metal (antimony), VOCs (bromomethane and chloromethane), and PAHs (acenaphthene, acenaphthylene, dibenzo[a,h]anthracene, fluorene, and naphthalene)
- Subsurface II soil: one metal (antimony), VOCs (bromomethane and chloromethane), and PAHs (acenaphthene, acenaphthylene, dibenzo[a,h]anthracene, fluorene, and naphthalene).

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs listed above may not appropriately represent exposures and resulting risks/hazards. This approach to estimating EPCs does not materially impact the results of the HHRA because the AOC 27 potential exposure area COPCs with low frequency of detection and/or fewer than eight observations are not risk drivers at the site.

5 ECOLOGICAL RISK ASSESSMENT

This section summarizes the ERA approach; presents the COPECs, EPCs, dose, and risk tables for the AOC 27 potential exposure area ERA; and characterizes potential risk to potential ecological receptors exposed to COPECs in soil at the AOC 27 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the AOC 27 potential exposure area ERA based on risk calculations conducted using depth-weighted EPCs and area-weighted EPCs are presented in Attachment AOC27-C and described below.

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), ecological risks were also calculated using maximum depth-weighted concentrations and are presented in Attachment AOC27-D. Risks estimated using maximum depth-weighted concentrations are considered overly conservative and generally are used for screening-level purposes. Use of maximum concentrations is not recommended for use in the risk management decisions at the AOC 27 potential exposure area, where the area has been adequately characterized and data are available to estimate upper confidence limits (UCLs). Therefore, the risk results based on maximum depth-weighted concentrations are presented (Attachment AOC27-D), but are not discussed in this section.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil at the AOC 27 potential exposure area. These potential receptors included plants, soil invertebrates, and small home-range receptors:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammalian indicator receptors evaluated in this ERA for the AOC 27 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations exposed to surface, shallow and/or subsurface I soil (incidental and through biota uptake)
 - **Desert Shrew** – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the AOC 27 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake)

- **Gambel's Quail** – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Large home-range potential receptors (i.e., desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs/investigation areas) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the AOC 27 potential exposure area were estimated and characterized as part of the evaluation of all AOCs/investigation areas outside the compressor station (OCS) and AOCs OCS excluding BCW and AOC 4 (OCSxBCW+AOC4); please see Appendix OCS and Appendix OCSxBCW+AOC4 for risk estimates for these large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Although potential habitat exists for special-status² species at or near the site, none have been recorded as observed at the AOC 27 potential exposure area. The primary vegetation present at the AOC 27 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed T&E or candidates for listing were found at the site, including the AOC 27 potential exposure area.

Several species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E wildlife species or candidates for listing were observed at the AOC 27 potential exposure area.

The risk estimates presented here are considered to be protective of special-status-species due to the conservative nature of the ERA, where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical potential receptors at the site within that group, use of no-effects based toxicity values) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

² Special-status species include both state- and federal-listed fully protected threatened and endangered (T&E) species, state/federal species of concern, and traditional culturally significant plants; however, protection at the no-observed adverse effects level (NOAEL) is warranted only for fully protected species.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 27 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 27 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC27-A1.

Because a potential ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario. Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate), are not typically evaluated in ERAs and were not selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC27-5.1.

COPECs included metals (antimony, cadmium, hexavalent chromium, copper, lead, mercury, and zinc), VOCs (bromomethane and chloromethane), LMW PAHs, HMW PAHs, PCBs, dioxin TEQ (for potential wildlife receptors only), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD; for ecological communities only). TPHs were also identified as COPECs; however, due to lack of appropriate toxicity values to evaluate TPHs for potential ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs), when detected, are used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix.

For the AOC 27 potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs and area-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC27-A2. Area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment AOC27-A3.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in Section 6.4 and shown in Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each potential receptor are presented in Table AOC27-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these potential receptors.

- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5, 0 to 3, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table AOC27-5.3 and the representative soil and/or biota EPCs identified for the risk calculations are bolded in this table. Of the COPECs identified at the AOC 27 potential exposure area, antimony, bromomethane, and chloromethane were not detected in surface soil; therefore, exposure to these COPECs by potential receptors only exposed to surface soil was not estimated. These receptors include soil invertebrates, invertivorous small mammals (desert shrew), and insectivorous birds (cactus wren). For the granivorous bird (Gambel's quail), risks from antimony were estimated only from diet. Although VOCs were detected in shallow and subsurface soil, uptake into biota is considered negligible (assumed to be zero for the risk calculations³); therefore, exposure through diet is considered incomplete. For plants and granivorous wildlife, only direct exposure via direct contact/incidental ingestion of soil was considered a complete pathway for VOCs.

Similarly, area-weighted soil EPCs and biota tissue EPCs calculated from area-weighted soil EPCs are presented in Table AOC27-5.4. The representative soil and/or biota EPCs identified for the risk calculations are bolded in this table.

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), risk calculations based on both the maximum depth-weighted concentration and the UCL for each COPEC are required. As mentioned earlier in this section, using the maximum depth-weighted concentrations results in overly conservative risks and is not recommended for risk management decisions. The estimated risks based on maximum depth-weighted concentrations are presented in Attachment AOC27-D, but results are not discussed in this report.

5.4 Estimation of Exposure Concentration or Dose

Exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (e.g., in units of milligrams per kilogram [mg/kg]). Exposures for wildlife (mammals and birds) are quantified as doses (e.g., in units of mg/kg body weight per day [mg/kg-bw/day]). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the AOC 27 potential exposure area for the baseline scenario and are presented in Table AOC27-5.3. Area-weighted EPCs for the baseline scenario are presented in Table AOC27-5.4.

For wildlife, doses were calculated using the exposure parameters and equations presented in Table 6-4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the AOC 27 potential exposure area, as presented in Table AOC27-5.3 for the depth-weighted risk evaluations, and area-weighted soil and

³ VOCs have low bioaccumulation potential (octanol-water partition coefficient is low [$\log K_{ow} < 2$]) and uptake into biota is considered negligible for these constituents.

biota tissue EPCs as presented in Table AOC27-5.4 for the area-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC27-C. Dose calculations using area-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are also presented in Attachment AOC27-C. Dose calculations using maximum depth-weighted concentrations for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC27-D.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to potential ecological receptors potentially exposed to COPECs in soil and biota tissue at the AOC 27 potential exposure area.

For plants and soil invertebrates, screening values are discussed in Section 6.3 and presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the NOAEL-based TRVs and lowest-observed-adverse-effects-level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop USEPA's Ecological Soil Screening Levels (EcoSSLs; USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-based TRVs⁴ based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009) were also used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in Tables 6-7 and 6-8 of the main report, respectively.

Plant screening values are not available for bromomethane, chloromethane, and 2,3,7,8-TCDD. Avian TRVs are not available for antimony, bromomethane, and chloromethane. Mammal TRVs are not available for bromomethane and chloromethane. Therefore, risks to these potential receptors from exposure to these specific COPECs could not be estimated. In addition, appropriate screening values and TRVs are not available for TPHs; therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the AOC 27 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimates (HQs) involved integrating exposure profiles with the exposure-effects information. For each potential receptor and COPEC,

⁴ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily the LOAEL. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are discussed below for interpreting the risk results and identifying potential unacceptable risk to potential ecological receptors. Uncertainties specific to the AOC 27 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.5 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC with respective screening values and these HQs were compared to the target HQ of 1. Following USEPA (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach using multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to plants and invertebrates.
- COPECs with HQs greater than 1 indicate unacceptable risk to plants and invertebrates is possible. However, exceedances of the screening values (which are conservative and are generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection (FOD), site use history, and confidence in the screening values was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: 1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOEs to support a conclusion of no unacceptable risk); or 3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs was calculated using the NOAEL- and LOAEL-based TRVs previously identified in the RAWP documents (Arcadis 2008, 2009, 2015). HQs based on the LOAEL-based TRVs selected in the RAWP are referred to as “LOAEL-based HQs.” HQs based on NOAEL-based TRVs selected in the RAWP are referred as “NOAEL-based HQs.” Additionally, the NOAEL- and LOAEL-based HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.7.5 of the main report. The BTAG NOAEL-based TRVs are considered very conservative, resulting in a wide range of risk estimates for wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at the AOC 27 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of potential wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1, but a LOAEL-based HQ less than or equal to 1, pose no unacceptable risk to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study and the nature and magnitude of the effects, if any, that may occur at exposures

between these values is unknown. In such cases, a WOE approach, including multiple LOEs, was used in reducing uncertainty for characterizing potential risk to individual potential wildlife receptors.

- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of potential wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for one LOE. In such cases, a WOE approach (including an alternate target HQ of 10 for dioxin TEQ)⁵ was used to reduce uncertainty for characterizing potential risk to wildlife populations at the AOC 27 potential exposure area, as described in the above bullet.
- The NOAEL-based HQs greater than 1 are considered one LOE in assessing potential risk to sensitive species, if present in the AOC 27 potential exposure area. Potential risks to T&E species for the AOC 27 potential exposure area is presented in Section 5.1.1 of this appendix.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE: 1) unacceptable risk to individual wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to individual wildlife is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or 3) unacceptable risk to individual wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each potential receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOE in reaching the WOE conclusions.

For the AOC 27 potential exposure area, evaluations were completed for the following scenarios and are discussed in this section:

- Baseline scenario using depth-weighted EPCs
- Baseline scenario using area-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables AOC27-5.5a through AOC27-5.6b; however, risk results for only a subset of the COPECs are discussed in the evaluations using area-weighted EPCs. For plants and soil invertebrates, COPECs with HQs greater than 1 based on the depth-weighted EPC are discussed in the evaluations using area-weighted EPCs. For wildlife (i.e., mammals and birds), COPECs with NOAEL-based HQs greater than 1 based on the depth-weighted EPC and species- and site-specific site use factor (SUF) are discussed in the area-weighted EPC evaluations. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community-/population-level risk was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs).

⁵ For dioxin TEQ, the selected bioaccumulation factors (BAFs) and TRVs result in significant overestimation of risk for key wildlife receptors, primarily for invertivorous small mammals and insectivorous birds. Due to the compounded conservatism in the risk estimates for dioxin TEQ, HQs greater than 10 were considered to pose unacceptable risk. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are presented in Sections 6.4.3 and 6.5.2 of the main report, respectively. These alternate BAFs and TRVs are based on current understanding of uptake and toxicity of TEQ mixtures and represent an additional LOE considered for dioxin TEQ. As a result, a target LOAEL-based HQ of 10 for dioxin TEQ was used. Uncertainty in the risk estimates for dioxin TEQ is discussed in detail in Section 6.7.6 of the main report.

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) for the baseline scenario using depth-weighted EPCs are summarized in this section. Detailed risk calculations for plants and soil invertebrates (Table AOC27-C.1) and detailed dose and risk calculations for wildlife (Tables AOC27-C.2 through AOC27-C.5) are presented in Attachment AOC27-C. COPECs identified at the AOC 27 potential exposure area for the baseline scenario include seven metals (antimony, cadmium, hexavalent chromium, copper, lead, mercury, and zinc), VOCs (bromomethane and chloromethane), LMW PAHs, HMW PAHs, TPHs, PCBs, dioxin TEQ (for potential wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) (Table AOC27-5.1). Potential risk to potential receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table AOC27-5.5a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 27 potential exposure area for the baseline scenario using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are greater than 1 for copper, lead, zinc, and HMW PAHs based on the highest EPC value from the shallow, surface, and subsurface I depth intervals. HQs for remaining COPECs are less than 1 for plants, indicating *de minimis risk* to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, HQs are greater than 1 for hexavalent chromium, copper, mercury, and zinc based on exposure to surface soil only. HQs for remaining COPECs are less than 1 for soil invertebrates. As mentioned earlier in Section 5.3, antimony, bromomethane, and chloromethane were not detected in surface soil; therefore, risks to soil invertebrates, which are only exposed to surface soil, were not estimated.

For hexavalent chromium, the HQ for soil invertebrates was greater than 1. The screening value for soil invertebrates is based on a limited number of studies, most of which were conducted in artificial test systems with species unlikely to be present in the AOC 27 potential exposure area. Efroymson et al. (1997) indicates that there is low confidence in these screening values and their ability to predict toxicity to soil invertebrates. In addition, the invertebrate screening value for hexavalent chromium (0.4 mg/kg) is less than the background threshold value (BTV = 0.83 mg/kg), indicating uncertainty associated with the risk estimates for this COPEC at the AOC 27 potential exposure area. Hexavalent chromium was frequently detected at the AOC 27 potential exposure area (at 10 of 16 locations in the 0- to 0.5-ft bgs depth interval). However, depth-weighted concentrations were greater than the BTV in only two locations. The depth-weighted EPC for hexavalent chromium in surface soil (1.12 mg/kg) is only slightly elevated compared with background (i.e., exceeding the BTV by approximately 1.3 times [0 to 0.5 ft bgs]) and the magnitude of the HQ is low. No locations have concentrations more than 10 times the BTV. Using the depth-weighted mean concentration for surface soil (0.408 mg/kg in 0 to 0.5 ft bgs based on the Kaplan-Meier [KM] mean) results in an HQ equal to 1. Based on the risk results and discussion above, unacceptable risk to soil invertebrate communities from exposure to hexavalent chromium is considered uncertain in this scenario.

For copper, the HQs for plants and soil invertebrates were greater than 1. Copper was detected in 100 percent of samples in the surface soil (0 to 0.5 ft bgs), shallow soil (0 to 3 ft bgs), and subsurface I soil (0 to 6 ft bgs). The depth-weighted EPC for copper from surface soil (0 to 0.5 ft bgs) was used to evaluate potential

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risk to plants (as it was the highest EPC) and soil invertebrates from exposure to copper in soil. The depth-weighted concentrations for copper were greater than the BTV (16.8 mg/kg) in four of the 16 surface soil locations. The depth-weighted EPC for copper in surface soil (276 mg/kg) is considered elevated compared with background (i.e., exceeding the BTV by approximately 16 times). Concentrations greater than 10 times the BTV are limited to two locations (500 mg/kg at AOC27-6 and 580 mg/kg at AOC27-7). The plant screening value (70 mg/kg) and soil invertebrate screening value (80 mg/kg) are both considered relatively robust, as they are based on ample datasets representing multiple species and are above the BTV concentration. Based on the risk results and discussion above, unacceptable risk to plants and soil invertebrates from exposure to copper is considered uncertain in this scenario.

For lead, the HQ for plants was greater than 1. Lead was detected in 100 percent of samples in the surface soil (0 to 0.5 ft bgs), shallow soil (0 to 3 ft bgs), and subsurface I soil (0 to 6 ft bgs). The depth-weighted EPC from surface soil (0 to 0.5 ft bgs), the highest EPC, was used to evaluate potential risk to plants from exposure to lead in soil. The depth-weighted concentrations for lead were greater than the BTV (8.39 mg/kg) in six of 16 of the surface soil (0 to 0.5 ft bgs) locations. Depth-weighted EPCs for lead are considered elevated compared with background (i.e., exceeding the BTV by approximately 15 times [0- to 6-ft bgs depth interval]) to 28 times [0- to 0.5-ft bgs depth interval]). However, the magnitude of the HQ is low (HQ = 2). Concentrations greater than 10 times the BTV are limited to two locations (630 mg/kg at AOC27-6 and 170 mg/kg at AOC27-7). The plant screening level (120 mg/kg) is considered robust as it is based on multiple studies representing four species and various soil exposure conditions and is greater than the BTV concentration. As mentioned in Section 1.1, above, before the construction of Interstate 40, this area was contiguous with AOC 14 – Railroad Debris Site, and miscellaneous construction debris is present in the AOC 27 potential exposure area. Based on the risk results and discussion above, unacceptable risk to plant communities from exposure to lead is considered uncertain in this scenario.

For mercury, the HQ for soil invertebrates was greater than 1. Mercury was detected in only four of 16 locations in surface soil (FOD = 25% in 0- to 0.5-ft bgs depth interval) and at concentrations close to the reporting limit (0.5 mg/kg). Mercury was not detected in the background dataset; therefore, a BTV could not be developed for comparison. The screening value for soil invertebrates (0.1 mg/kg) is based on a limited number of studies and different forms of mercury. Based on the two studies available, which use different systems and earthworm species, it was not possible to evaluate the relative toxicity of forms of mercury. Efroymson et al. (1997) indicates that there is low confidence in the screening value and its ability to predict toxicity to soil invertebrates. The magnitude of the HQ is low. Using the depth-weighted mean concentration for surface soil (0.105 mg/kg in 0 to 0.5 ft bgs based on the KM mean) results in an HQ equal to 1. Based on the risk results and uncertainty discussed above, unacceptable risk to soil invertebrate communities from exposure to mercury is considered unlikely.

For zinc, the HQs for plants and soil invertebrates were greater than 1. Zinc was detected in 100 percent of samples in the surface soil (0 to 0.5 ft bgs), shallow soil (0 to 3 ft bgs), and subsurface I soil (0 to 6 ft bgs). The depth-weighted EPC from surface soil (0 to 0.5 ft bgs) was used to evaluate potential risk to plants (highest EPC) and soil invertebrates from exposure to zinc in soil. The depth-weighted concentrations for zinc were greater than the BTV (58 mg/kg) in five of 16 of the surface soil (0 to 0.5 ft bgs) locations. Depth-weighted EPCs for zinc are considered elevated compared with background (i.e., exceeding the BTV by approximately six times [0 to 6 ft bgs]) to nine times [0 to 0.5 ft bgs]); however, concentrations greater than 10 times the BTV are limited to two locations (1,200 mg/kg at AOC27-51 and 700 mg/kg at AOC27-6). The plant screening level (160 mg/kg) and soil invertebrate screening level (120 mg/kg) are based on multiple studies

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and test species representing various soil exposure conditions (USEPA 2007c). The screening values are also greater than the BTV. Therefore, there is confidence in the ability of the screening levels to predict risk to plant and soil invertebrate communities. Based on the risk results and discussion above, unacceptable risk to plant and soil invertebrate communities from exposure to zinc is considered uncertain in this scenario.

For HMW PAHs, the HQ for plants was greater than 1. HMW PAHs were detected in most of the locations in surface soil (88% in the 0- to 0.5-ft bgs depth interval), shallow soil (95% in the 0- to 3-ft bgs depth interval), and subsurface I soil (95% in the 0- to 6-ft bgs depth interval). The depth-weighted EPC from surface soil (22.3 mg/kg) was used to evaluate potential risk to plants (highest EPC) and soil invertebrates from exposure to HMW PAHs in soil, but EPCs were lower (approximately 50%) at deeper intervals. Depth-weighted concentrations for HMW PAHs were greater than the BTV (0.0376 mg/kg) in 10 of 16 of the surface soil (0 to 0.5 ft bgs) locations. Depth-weighted EPCs for HMW PAHs are considered elevated compared with background (i.e., exceeding the BTV by approximately 230 times [0 to 6 ft bgs] to 600 times [0 to 0.5 ft bgs]). The elevated concentrations of HMW PAHs driving risk are localized in surface and shallow soil in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW where potential burn waste was identified. Depth-weighted concentrations more than 10 times the BTV are limited to four locations (31.5 mg/kg at AOC27-6, 4.04 mg/kg at AOC27-50, 3.78 mg/kg at AOC27-51, and 3.39 mg/kg at AOC27-7).

The screening level (1.2 mg/kg) cited in USEPA (1999) for benzo(a)pyrene and benzo(b)fluoranthene is based on a reported chronic no-effects concentration (Sims and Overcash 1983). Reduced stem growth was observed in summer wheat at 6.254 mg/kg, but no effects were seen on rye plants at this concentration. The plant toxicity data cited in Sims and Overcash (1983) were not included in the plant EcoSSL; no sufficient studies were identified by USEPA to calculate a plant EcoSSL for HMW PAHs (USEPA 2007a). As such, there is low confidence in the selected plant screening value to predict toxicity to plants exposure to mixtures of HMW PAHs at the site. The authors also note that the most important source of PAHs for plants is the atmosphere where they enter via the gaseous phase or deposit bound to particles on the plant surface (Sims and Overcash 1983; USEPA 2007a). Thus, the relevance of the soil potential exposure pathway for plants at the AOC 27 potential exposure area is uncertain. The assumption that plants are significantly exposed to PAHs in soil is conservative. Based on the risk results and discussion above, unacceptable risk to plant communities from exposure to HMW PAHs is considered uncertain in this scenario.

For TPH mixtures, individual constituents were used to characterize potential risks to plants and invertebrates. BTEX were not detected in any samples (Attachment AOC27-A1) and HQs for PAHs for soil invertebrates were equal to 1, indicating no unacceptable risk for soil invertebrates from TPHs. For plants, the LMW PAH HQ was less than 1, but the HQ for plants exposed to HMW PAHs was greater than 1. As discussed above for HMW PAHs, unacceptable risk to plants is uncertain for PAHs. Elevated concentrations of TPHs and PAHs are likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW). Therefore, unacceptable risk is not expected for communities of soil invertebrates, but unacceptable risk to plants from exposure to TPHs at the AOC 27 potential exposure area is uncertain.

To summarize, based on the risk results and WOE, potential risk to plants from exposure to copper, lead, zinc, HMW PAHs, and TPHs is uncertain. Unacceptable risk to soil invertebrate communities from exposure to mercury and TPHs is considered unlikely, and risk from hexavalent chromium and copper is uncertain. *De minimis* risk to plant and invertebrate communities is expected from remaining inorganic COPECs (antimony and cadmium) and organic COPECs (PCBs, dioxins, and VOCs). Based on the risk estimates and potential

uncertainties associated with the baseline risk using depth-weighted EPCs, copper, lead, zinc, and HMW PAH for plants; and hexavalent chromium, copper, mercury, and zinc for soil invertebrates were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

5.6.1.2 Small Mammals

For the AOC 27 potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using the Selected TRVs

Table AOC27-5.5a summarizes HQs estimated for small mammals at the AOC 27 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all individual COPECs, indicating no unacceptable risk to individuals and populations of granivorous small mammals.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous small mammals from exposure to TPHs is expected.
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this potential receptor are less than 1 for COPECs except for cadmium, copper, lead, zinc, HMW PAHs, and dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below:
 - For cadmium, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Cadmium was detected in only three of 16 locations in surface soil (FOD = 19% in 0 to 0.5 ft bgs) and the EPC was based on the maximum detected concentration (2.3 mg/kg). Each of the three depth-weighted concentrations (range from 1.5 to 2.3 mg/kg) exceed the BTV (1.1 mg/kg). However, the mean concentration in surface soil (0.75 mg/kg in 0 to 0.5 ft bgs, based on the KM mean) is less than the BTV and would reduce the NOAEL-based HQ by half. For areas where a constituent is largely not detected, use of a maximum

concentration as the EPC may not appropriately characterize risk. For copper, the NOAEL- and LOAEL-based HQs are greater than 1, indicating potential unacceptable risk for individuals and populations of invertivorous small mammals exposed to copper in soil based on the HQ. Copper was frequently detected in surface soil (FOD = 100% in 0 to 0.5 ft bgs) with four of the surface soil locations having depth-weighted concentrations exceeding the BTV (16.8 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (500 mg/kg at AOC27-6 and 580 mg/kg at AOC27-7). There is moderate confidence in the TRVs. Although the NOAEL-based TRV is the EcoSSL (USEPA 2007b), it is based on the highest bounded NOAEL (5.6 mg/kg-bw/day) below the lowest bounded LOAEL and is based on toxicity data from a study with pigs. The geometric mean of growth and reproduction NOAELs is 25 mg/kg-bw/day. Unacceptable risk to the shrew from exposure to copper is considered uncertain in this scenario.

- For lead, the NOAEL- and LOAEL-based HQs are greater than 1, indicating potential unacceptable risk for individuals and populations of invertivorous small mammals exposed to lead in soil. Lead was frequently detected in surface soil (FOD = 100% in 0 to 0.5 ft bgs) with six of the surface soil locations having depth-weighted concentrations exceeding the BTV (8.39 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (630 mg/kg at AOC27-6 and 170 mg/kg at AOC27-7). There is low confidence in the TRVs. Although the NOAEL-based TRV is the EcoSSL (USEPA 2005b), it is based on the highest bounded NOAEL (4.7 mg/kg-bw/day) below the lowest bounded LOAEL and is based on a study showing reduced growth in rats exposed to lead acetate in drinking water. The geometric mean of growth and reproduction NOAELs is 40.7 mg/kg-bw/day. Unacceptable risk to the shrew from exposure to lead is considered uncertain in this scenario.
- For zinc, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The NOAEL-based HQ for zinc is low. Zinc was frequently detected in surface soil (FOD = 100% in 0 to 0.5 ft bgs) with five of the 16 surface soil locations having depth-weighted concentrations exceeding the BTV (58 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (1,200 mg/kg at AOC27-51 and 700 mg/kg at AOC27-6). The TRVs are considered robust, as the NOAEL-based TRV is the EcoSSL (USEPA 2007c) and is based on the geometric mean of growth and reproduction NOAELs from a dataset representing multiple species. Unacceptable risk to the shrew from exposure to lead is considered uncertain in this scenario.
- For HMW PAHs, the NOAEL- and LOAEL-based HQs are greater than 1, indicating potential unacceptable risk for individuals and populations of invertivorous small mammals exposed to HMW PAHs in soil based on the HQ. HMW PAHs were frequently detected in surface soil (FOD = 88% in 0 to 0.5 ft bgs) with 10 of the 16 locations having depth-weighted concentrations exceeding the BTV (0.0376 mg/kg). The elevated concentrations of HMW PAHs driving risk are localized in surface and shallow soil likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW). HMW PAH concentrations more than 10 times the BTV are limited to four locations (31.5 mg/kg at AOC27-6, 4.04 mg/kg at AOC27-50, 3.78 mg/kg at AOC27-51, and 3.39 mg/kg at AOC27-7).

There is a wide range of toxicity information available for PAHs. For the selected TRVs for HMW PAHs, there is moderate confidence in ability to predict toxicity to small mammals. While the selected TRVs are

based on EcoSSL data from multiple studies representing at least three small mammal species and five individual HMW PAHs (USEPA 2007a), the data were derived for individual PAHs (not mixtures) and the geometric mean NOAEL-based TRV is nearly 20 times greater than the selected NOAEL-based TRV value. For HMW PAHs, the NOAEL-based BTAG TRV (1.31 mg/kg-bw/day) is twice the EcoSSL-based TRV (0.65 mg/kg-bw/day).

In a toxicity study conducted by MacKenzie and Angevine (1981), where mice were administered oral doses of benzo(a)pyrene during 7 to 16 days of gestation, the chronic LOAEL was calculated as 10 mg/kg-bw/day based on reduced pregnancy rates and decreased percentage of viable mice litter. Using an uncertainty factor of 10 would result in a NOAEL of 1 mg/kg-bw/day. There is limited information available on the bioaccumulation potential of PAHs in terrestrial ecosystems. Vertebrates possess efficient metabolic and excretion mechanisms and studies have shown that PAHs do not accumulate in tissues (USEPA 2007a). Based on the variability of the toxicity information, unacceptable risk to the shrew from exposure to HMW PAH is considered to be uncertain.

- For dioxin TEQ for mammals, the NOAEL- and LOAEL-based HQs are greater than 1, indicating unacceptable risk for individuals and populations of invertivorous small mammals exposed to dioxins in soil based on the HQ. As described in Section 6.7.6 of the main report, the mammalian TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. Conservative assumptions were used to estimate the HQs, including use of BAFs based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. As a result, the HQs are considered to be overestimated. Confidence in the ability of the mammalian dioxin TEQ TRV to predict risk is moderate. Dioxin TEQ was detected at all nine locations in surface soil (FOD = 100% in 0 to 0.5 ft bgs), with seven of the surface soil locations having depth-weighted concentrations above the BTV (5.58 nanograms per kilogram [ng/kg]). Similar to HMW PAHs, the elevated concentrations of dioxin TEQ driving risk are localized in surface and shallow soil likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW). Concentrations greater than 10 times the BTV are limited to two locations (120 ng/kg at AOC27-6 and 110 ng/kg at AOC27-7). Unacceptable risks to the shrew from exposure to dioxins is considered uncertain in this scenario.
- For TPH mixtures, individual constituents were used to characterize potential risks for invertivorous small mammals. BTEX were not detected in any samples (Attachment AOC27-A1) and HQs for LMW PAHs are less than 1. The NOAEL- and LOAEL-based HQs for HMW PAHs are greater than 1, indicating that unacceptable risk is possible for individuals and populations of invertivorous small mammals. Elevated concentrations of TPHs are likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW). However, as discussed above for the desert shrew, unacceptable risk from HMW PAH concentrations is uncertain, and unacceptable risk from TPHs is also considered to be uncertain.
- The NOAEL- and LOAEL-based HQs for remaining COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals for the remaining COPECs.

Based on the risk estimates and potential uncertainties associated with the baseline risk from cadmium, copper, lead, zinc, HMW PAHs, and dioxin TEQ for mammals, these COPECs were further evaluated using site-specific SUFs and area-weighted EPCs, as discussed below and in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC27-5.5a also summarizes HQs estimated for small mammals at the AOC 27 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – The NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating no unacceptable risk to individuals and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal)** – The NOAEL-based HQs for cadmium, copper, lead, zinc, and HMW PAHs are greater than 1 and the LOAEL-based HQs are less than 1 for these COPECs, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

The table below summarizes all HQ estimates for mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1.

Hazard Quotient Summary for Small Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Cadmium	1E-01	1E-02	1E+00	3E-02	4E+00	4E-01	5E+01	1E+00
Copper	2E-01	1E-01	8E-01	3E-03	3E+00	2E+00	1E+01	5E-02
Lead	2E-01	1E-01	9E-01	4E-03	3E+00	2E+00	1E+01	6E-02
Zinc	2E-01	5E-02	1E+00	3E-02	2E+00	5E-01	1E+01	3E-01
HMW PAHs	5E-01	1E-01	2E-01	1E-02	2E+01	4E+00	9E+00	4E-01
TEQ Mammals	3E-01	3E-02	--	--	1E+02	1E+01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table AOC27-5.5b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the AOC 27 potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUF was estimated as 1 for these potential receptors (i.e., their home range is less than or equal to the size of the exposure area). Therefore, the risk results using selected TRVs and BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Small Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for small mammals exposed to COPECs in soil at the AOC 27 potential exposure area using selected TRVs⁶, depth-weighted EPCs, and a species- and site-specific SUF (SUF equal to 1), the risk conclusions are as follows:

- **For Merriam's kangaroo rat (granivorous small mammal)**, the NOAEL-based and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of granivorous small mammals for all COPECs.
- **For desert shrew (invertivorous small mammal)**, the LOAEL-based HQs are less than 1 for all COPECs except copper, lead, HMW PAHs, and dioxin TEQ indicating potential unacceptable risk to invertivorous small mammal populations at the AOC 27 potential exposure area from these COPECs; however, the LOEs indicate potential risks are uncertain in this scenario. Additional COPECs indicative of uncertain risks (i.e., where the NOAEL-based HQs are greater than 1 but the LOAEL-based HQs are less than 1) included cadmium and zinc. For the remaining COPECs at the AOC 27 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1 indicating no unacceptable risk to individuals and populations of invertivorous small mammals.

Based on the risk estimates and potential uncertainties associated with the baseline risk to invertivorous small mammals from cadmium, copper, lead, zinc, HMW PAHs, and dioxin TEQ, these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

5.6.1.3 Birds

For the AOC 27 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using the Selected TRVs

Table AOC27-5.5a summarizes HQs estimated for birds at the AOC 27 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

⁶ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

- **Gambel's quail (granivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soil (0 to 6 ft bgs) through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all individual COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and the NOAEL- and LOAEL-based HQs for PAHs are less than 1, indicating that no unacceptable risk to granivorous birds from exposure to TPHs is expected.
- **Cactus wren (insectivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this potential receptor are less than 1 for most COPECs except for cadmium, copper, lead, mercury, zinc, and dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For cadmium, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Cadmium was detected in only three of 16 locations in surface soil (FOD = 19% in the 0- to 0.5-ft bgs depth interval) and the EPC was based on the maximum detected concentration (2.3 mg/kg), which is slightly greater than the BTV (1.1 mg/kg). The magnitude of the HQ is low; and the mean in surface soil (0.75 mg/kg for the 0- to 0.5-ft bgs depth interval, based on the KM mean) is less than the BTV and would reduce the NOAEL-based HQ to less than 1. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. All sample locations have concentrations less than 10 times the BTV. The TRVs are considered robust, as the NOAEL-based TRV is the EcoSSL (USEPA 2005a) and is based on the geometric mean of growth and reproduction NOAELs from a dataset representing multiple species. In this scenario, unacceptable risk to the individual cactus wren is considered unlikely.
 - For copper, the NOAEL- and LOAEL-based HQs are greater than 1, indicating unacceptable risk is possible for individuals and populations of insectivorous birds exposed to copper in soil based on the HQ. Copper was frequently detected in surface soil (FOD = 100% in the 0- to 0.5-ft bgs depth interval) with four of the locations having depth-weighted concentrations exceeding the BTV (16.8 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (500 mg/kg at AOC27-6 and 580 mg/kg at AOC27-7). There is moderate confidence in the TRVs. Although the NOAEL-based TRV is the EcoSSL (USEPA 2007b), it is based on the highest bounded NOAEL (4.05 mg/kg-bw/day) below the lowest bounded LOAEL and is based on reproductive effects in chickens. The geometric mean of growth and reproduction NOAELs is 18.5 mg/kg-bw/day. In this scenario, unacceptable risk to cactus wren is considered uncertain.
 - For lead, the NOAEL- and LOAEL-based HQs are greater than 1, indicating unacceptable risk is possible for individuals and populations of insectivorous birds exposed to lead in soil based on the HQ. Lead was frequently detected in surface soil (FOD = 100% in the 0- to 0.5-ft bgs depth interval) with six of the 16 locations having depth-weighted concentrations exceeding the BTV (8.39 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (630 mg/kg at AOC27-6 and 170 mg/kg at AOC27-7). There is moderate confidence in the TRVs. Although the NOAEL-based TRV is the EcoSSL (USEPA 2005b), it is based on the highest bounded NOAEL (1.63 mg/kg-bw/day) below the lowest bounded LOAEL and is based on reproductive effects in chickens. The geometric mean of

growth and reproduction NOAELs is 10.9 mg/kg-bw/day. In this scenario, unacceptable risk to cactus wren is considered uncertain.

- For mercury, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Mercury was infrequently detected (four out of 16 locations in surface soil; FOD = 25% in the 0- to 0.5-ft bgs depth interval) and the magnitude of the HQ is low. Detected concentrations ranged from 0.12 to 0.51 mg/kg. Mercury was not detected in the background dataset, and a BTV could not be estimated. Reporting limits (0.0495 to 0.07 mg/kg) for this metal also result in NOAEL-based HQs greater than 1, indicating uncertainty in the TRVs, which are based on methylmercury, as derived by DTSC (2009).
- For zinc, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Zinc was frequently detected in surface soil (FOD = 100% in the 0 to 0.5 ft bgs interval) with five of the 16 locations having depth-weighted concentrations exceeding the BTV (58 mg/kg). Concentrations greater than 10 times the BTV are limited to two locations (1,200 mg/kg at AOC27-51 and 700 mg/kg at AOC27-6). The TRVs are considered robust, as the NOAEL-based TRV is the EcoSSL (USEPA 2007c) and is based on the geometric mean of growth and reproduction NOAELs from a dataset representing multiple species. The magnitude of the HQ is low. In this scenario, unacceptable risk to individual cactus wren is considered unlikely.
- For dioxin TEQ for birds, the NOAEL-HQ is greater than 1 and the LOAEL-based HQ is equal to 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for dioxin TEQ in soil based on the HQ. Dioxin TEQ was frequently detected in surface soil (FOD = 100% in the 0- to 0.5-ft bgs depth interval) with seven of the locations having depth-weighted concentrations exceeding the BTV (5.98 ng/kg). Concentrations greater than 10 times the BTV are limited to two locations (120 ng/kg at AOC27-6 and 110 ng/kg at AOC27-7). There is uncertainty associated with the conservative avian TRVs and uptake factors selected for dioxins at this site. As described in Section 6.7.6 of the main report, avian TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. As discussed above for small mammals, elevated concentrations are limited in spatial extent and the HQs are low in magnitude. Additionally, T&E birds have not been observed in this area. Unacceptable risk to the individual cactus wren is considered unlikely in this scenario.
- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples. The LOAEL-based HQs for PAHs are less than 1, and the NOAEL-based HQs for PAHs is equal to 1, indicating that no unacceptable risk to insectivorous birds from exposure to TPHs is expected.
- The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1 indicating *de minimis* risk to individuals and populations of insectivorous birds.

Based on the risk estimates for birds and potential uncertainties associated with the baseline risk from cadmium, copper, lead, mercury, zinc, and dioxin TEQ, these COPECs were further evaluated using site- and species-specific SUFs as discussed below.

Risks Evaluated Using the BTAG TRVs

Table AOC27-5.5a also summarizes HQs estimated for birds at the AOC 27 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The NOAEL-based HQ for lead is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The risks from lead are likely overestimated due to the conservative avian TRV. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating no unacceptable risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – The NOAEL-based HQs for cadmium, copper, mercury, and zinc are greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQ. The NOAEL- and LOAEL-based HQs for lead are greater than 1, indicating unacceptable risk is possible for individuals and populations of insectivorous birds exposed to lead in soil. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to individuals and populations of insectivorous birds from these COPECs.

The table below summarizes all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1.

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Cadmium	3E-02	7E-03	7E-02	4E-03	2E+00	5E-01	4E+00	3E-01
Copper	4E-01	1E-01	8E-01	3E-02	8E+00	3E+00	1E+01	6E-01
Lead	7E-01	4E-01	8E+01	1E-01	1E+01	5E+00	1E+03	2E+00
Mercury	2E-01	3E-02	2E-01	3E-02	2E+00	5E-01	2E+00	5E-01
Zinc	1E-01	5E-02	5E-01	5E-02	2E+00	8E-01	8E+00	8E-01
TEQ Avian	4E-02	4E-03	--	--	1E+01	1E+00	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC27-5.5b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this receptor is 0.1, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs. No unacceptable risk (*de minimis* risk) to individuals and populations of granivorous birds is expected when accounting for site use at the AOC 27 potential exposure area.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this receptor is 0.8, which reduced the NOAEL- and LOAEL- based HQs slightly compared to the evaluation using a SUF of 1; however, the same COPECs had NOAEL- and/or LOAEL-based HQs greater than 1 (including cadmium, copper, lead, mercury, zinc, and dioxin TEQ) and the supporting LOEs are the same as described above in the SUF = 1 evaluation. The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating no unacceptable risk to individuals and populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk from cadmium, copper, lead, mercury, zinc, and dioxin TEQ for insectivorous birds, these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table AOC27-5.5b also summarizes HQs estimated for birds at AOC27 using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.1, which reduced the HQs for lead. The NOAEL-based HQ for lead is still greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The risks from lead are likely overestimated due to the conservative avian BTAG TRV. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating no unacceptable risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this potential receptor is 0.8. Although the magnitude of the NOAEL-based HQs was reduced for cadmium, copper, lead, mercury, and zinc in this evaluation, they are still greater than 1. The LOAEL-based HQ for lead was reduced to 1. The LOAEL-based HQs are less than or equal to 1 for all remaining COPECs, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals and populations of insectivorous birds from these COPECs.

For the COPECs with NOAEL-based HQs greater than 1 using a site-specific and species-specific SUF (using the selected TRV or BTAG TRV), the table below summarizes HQ estimates using the species- and site-specific SUF for birds.

APPENDIX AOC27
SOIL HHERA FOR AOC 27 EXPOSURE AREA

Hazard Quotient Summary for Birds (site-specific SUF)								
COPEC	Gambel's Quail (SUF = 0.1)				Cactus Wren (SUF = 0.8)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Cadmium	3E-03	8E-04	7E-03	5E-04	2E+00	4E-01	3E+00	2E-01
Copper	5E-02	2E-02	8E-02	4E-03	6E+00	2E+00	1E+01	5E-01
Lead	7E-02	4E-02	9E+00	1E-02	8E+00	4E+00	9E+02	1E+00
Mercury	2E-02	4E-03	2E-02	4E-03	2E+00	4E-01	2E+00	4E-01
Zinc	1E-02	5E-03	5E-02	5E-03	2E+00	6E-01	6E+00	6E-01
TEQ Avian	4E-03	4E-04	--	--	8E+00	8E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.3 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 27 potential exposure area using selected TRVs⁷, depth-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- **For Gambel's quail (granivorous bird)**, the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating no unacceptable risk to individuals and populations of granivorous birds for all COPECs.
- **For the cactus wren (insectivorous bird)**, the LOAEL-based HQs are less than 1 for all COPECs, except for copper and lead. For these COPECs, potential unacceptable risk to insectivorous bird populations at the AOC 27 potential exposure area is possible because of the following LOEs: 1) frequently detected; and 2) at concentrations frequently above the BTV. COPECs indicative of uncertain risks (i.e., where the NOAEL-based HQs are greater than 1 but the LOAEL-based HQs are less than 1) included cadmium, mercury, zinc, and dioxin TEQ. For the remaining COPECs at the AOC 27 potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of insectivorous birds.

Based on the baseline risk results for insectivorous birds, and potential uncertainties associated with exposures to cadmium, copper, lead, mercury, zinc, and dioxin TEQ at the AOC 27 potential exposure area, these COPECs were further evaluated using area-weighted EPCs, as discussed below in Section 5.6.2.

⁷ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

5.6.2 Risk Characterization (Baseline Scenario and Area-Weighted EPCs)

Based on the risk characterization of COPECs in the baseline scenario using depth-weighted EPCs (Section 5.6.1, above), risks were characterized for all COPECs using area-weighted EPCs. For those COPECs identified for further evaluation in the depth-weighted evaluation, the results of the area-weighted risk characterization are presented below. These included:

- Copper, lead, zinc, HMW PAHs, and TPHs for plants
- Hexavalent chromium, copper, mercury, and zinc for soil invertebrates
- Cadmium, copper, lead, zinc, HMW PAHs, and dioxin TEQ for invertivorous small mammals
- Cadmium, copper, lead, mercury, zinc, and dioxin TEQ for insectivorous birds only.

Potential risks to potential receptors from the COPECs listed above were characterized for the baseline scenario using area-weighted EPCs as discussed in this section. Detailed risk calculations for plants and soil invertebrates (Table AOC27-C.6) and detailed dose and risk calculations for wildlife for all COPECs (Tables AOC27-C.7 through AOC27-C.10) are presented in Attachment AOC27-C.

5.6.2.1 Plants and Soil Invertebrates

Table AOC27-5.6a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 27 potential exposure area for the baseline scenario using area-weighted EPCs for all COPECs; however, only the COPECs identified above in Section 5.6.1.1 for further evaluation using area-weighted EPCs are discussed here.

Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. HQs were based on the highest EPC from the surface, shallow, and subsurface I depth intervals. For plants, the magnitude of HQs for lead and zinc was reduced in this area-weighted evaluation and are equal to 1; therefore, unacceptable risk to plant communities is not expected for lead and zinc.

For copper, the magnitude of the HQ was reduced, but is still greater than 1. As discussed above in Section 5.6.1.1, copper was frequently detected at the AOC 27 potential exposure area and at concentrations (area-weighted EPC = 113 mg/kg in the 0- to 0.5-ft bgs depth interval) above the BTV (16.8 mg/kg). Although the HQ is low, there is confidence in the plant screening value for predicting of toxicity to plants. Based on the risk results and discussion above, unacceptable risk to plants from exposure to copper is considered unlikely.

For HMW PAHs (and TPHs), the HQ is reduced using area-weighted EPCs, but is still greater than 1. The uncertainty associated with concentrations of HMW PAHs is discussed in Section 6.7.2.1.2 of the main report and summarized above in Section 5.6.1. The HQ is low and driven by a few samples collected from the burn waste area of the AOC 27 potential exposure area. There is low confidence in the screening value for plants and its ability to predict risk to plant communities. The elevated concentrations of HMW PAHs are localized in a small area within the AOC 27 potential exposure area and in surface and shallow soil. Based on the risk results and discussion above, unacceptable risk to plant communities from exposure to HMW PAHs is unlikely.

Soil invertebrates can potentially be exposed only to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, the magnitude of HQs for hexavalent chromium, copper, and mercury were reduced in this evaluation and are equal to 1; therefore, unacceptable risk to soil invertebrate communities is not expected for

these COPECs. For zinc, the magnitude of the HQ was reduced by more than half, but is still greater than 1. As discussed above in Section 5.6.1.1., zinc was frequently detected at the AOC 27 potential exposure area. Concentrations of zinc (area-weighted EPC is 194 mg/kg) are above the BTV (58 mg/kg) in five of 16 of the surface soil (0 to 0.5 ft bgs) locations. There is confidence in the screening level for predicting risk to soil invertebrates, as it is based on multiple studies representing multiple species and soil conditions. Based on the risk results and discussion above, unacceptable risk to soil invertebrates from exposure to zinc is considered unlikely.

Vegetation communities observed at the site during the floristic surveys conducted in 2013 (Garcia and Associates, Inc. [GANDA] and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2 of the main report). More than a hundred different vascular plant species have been observed within the survey area that includes the AOC 27 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013; CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

Risk Summary and Risk Drivers for Ecological Communities

No risk drivers were identified for unacceptable ecological community-level risk predicted using the most refined exposure and effects assumptions (i.e., area-weighted EPCs) and additional LOEs supporting the conclusion of unacceptable risk. For plants, no risk-driving COPECs were identified at the AOC 27 potential exposure area for the baseline scenario using area-weighted EPCs based on an HQ greater than 1 and additional LOEs supporting the conclusion of potential unacceptable risk. For soil invertebrates, no risk-driving COPECs were identified at the AOC 27 potential exposure area for the baseline scenario using area-weighted EPCs based on an HQ greater than 1 and additional LOEs supporting the conclusion of potential unacceptable risk.

No unacceptable risk to plant and soil invertebrate communities is expected from COPECs at the AOC 27 potential exposure area.

5.6.2.2 Small Mammals

For the AOC 27 potential exposure area, baseline risks were estimated for small mammals using area-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.2.1 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC27-5.6a summarizes HQs estimated for small mammals at the AOC 27 potential exposure area using the selected TRVs, area-weighted EPCs, and an SUF equal to 1. However, this section discusses only the area-weighted HQs using the selected TRVs and site-specific SUF. Table AOC27-5.6b summarizes HQs

estimated for small mammals at the AOC 27 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1 as the home range for small mammals is less than or equal to the size of the AOC 27 potential exposure area) for all COPECs. However, only the COPECs identified above in Section 5.6.1.2 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. No unacceptable risk to individuals and populations of granivorous small mammals were identified using depth-weighted EPCs, Using area-weighted EPCs, the NOAEL- and LOAEL-based HQs are also less than 1. Therefore, no unacceptable risk to individuals and populations of granivorous small mammals were identified.
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The COPECs identified for further evaluation using area-weighted EPCs were cadmium, copper, lead, zinc, HMW PAHs, and dioxin TEQ.
 - For cadmium, the area-weighted NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because the EPCs for both evaluations were based on the maximum depth-weighted concentration due to a limited dataset. The NOAEL-based HQ is greater than 1, and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous small mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Cadmium was detected in only three out of 16 locations in surface soil (FOD = 19% in 0 to 0.5 ft bgs) and the EPC was based on the maximum depth-weighted concentration (2.3 mg/kg). Use of the maximum concentration as the EPC may not appropriately characterize risk. Potential risk to the desert shrew from exposure to cadmium is likely overestimated. Therefore, unacceptable risk to invertivorous small mammals from exposure to cadmium at the AOC 27 potential exposure area is unlikely.
 - For copper, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis. The NOAEL-based HQ is equal to 1, and the LOAEL-based HQ is less than 1, indicating unacceptable risk to individuals and populations of invertivorous small mammals is not expected.
 - For lead, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis, but the NOAEL-based HQ is still greater than 1. The LOAEL-based HQ is equal to 1, indicating no unacceptable risk to populations of invertivorous small mammals. Unacceptable risk to individual potential receptors is considered unlikely for lead based on the following LOEs: 1) low HQ; 2) exposure parameters assumed for this potential receptor are conservative (e.g., 100% invertebrate diet instead of a mixed diet, and invertebrate BAFs based on earthworm uptake only instead of mixed invertebrate species that are more likely encountered at the AOC 27 potential exposure area); and 3) T&E species with small home ranges have not been observed at AOC 27; therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted (see Section 5.1.1, above). Therefore, unacceptable risk to invertivorous small mammals from exposure to lead at the AOC 27 potential exposure area is unlikely.
 - For zinc, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis. The LOAEL-based HQ is less than 1, and the NOAEL-based HQ is equal

to 1, indicating unacceptable risk to individuals and populations of invertivorous small mammals is not expected.

- For HMW PAHs, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis. The NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of invertivorous small mammals. Unacceptable risk to individual potential receptors is uncertain for HMW PAHs based on the HQ. However, additional LOEs supporting a conclusion that unacceptable risk to individuals is unlikely include 1) low magnitude HQ, likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW); 2) the NOAEL-based TRV is conservative compared to other studies; 3) conservative assumptions used in the ERA (e.g., 100% invertebrate diet instead of a mixed diet, and invertebrate BAFs based on earthworm uptake only instead of mixed invertebrate species that are more likely encountered at the AOC 27 potential exposure area); and 4) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area; therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted. Unacceptable risk to invertivorous small mammals from exposure to HMW PAHs at the AOC 27 potential exposure area is unlikely.
- For dioxin TEQ, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis, but are still greater than 1 indicating potential unacceptable risks are possible for individuals and populations of invertivorous small mammals based on the HQ. Conservative assumptions were used to estimate the HQs, including use of BAFs based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. The magnitude of the HQs is low (less than 10) and the spatial extent of concentrations exceeding 10 times the BTV is limited to a few. As a result, the HQs are considered to be overestimated and the LOAEL-based HQ would likely be reduced to less than 1 when adjusted for compounded conservatism in the risk estimates for this COPEC (see Section 6.7.6 of the main report). T&E species with small home ranges have not been observed at the AOC 27 potential exposure area. Based on the LOEs, unacceptable risk to individuals and populations of invertivorous small mammals is considered to be unlikely.
- The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 indicating no unacceptable risk (*de minimis* risk) to individuals and populations of invertivorous small mammals for the remaining COPECs.

Risks Evaluated Using the BTAG TRVs

Table AOC27-5.6b also summarizes HQs estimated for small mammals at the AOC 27 potential exposure area using the BTAG TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1). Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – No unacceptable risk to granivorous small mammals was identified using depth-weighted EPCs, and the conclusions are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).

- **Desert shrew (invertivorous small mammal)** – The area-weighted NOAEL-based HQs for cadmium, copper, lead, zinc, and HMW PAHs are greater than 1 and the LOAEL-based HQs are less than 1, indicating no unacceptable risk to invertivorous small mammal populations; however, potential risk to individual potential receptors is uncertain for these COPECs based on the HQ. The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs indicating no unacceptable risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

The table below summarizes the NOAEL- and LOAEL-based HQs for mammals for COPECs identified above in Section 5.6.1.2 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species- and site-specific SUF (if applicable for a potential receptor).

Hazard Quotient Summary for Mammals (site-specific SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Cadmium	1E-01	1E-02	1E+00	3E-02	4E+00	4E-01	5E+01	1E+00
Copper	1E-01	8E-02	5E-01	2E-03	1E+00	8E-01	5E+00	2E-02
Lead	1E-01	6E-02	6E-01	2E-03	2E+00	1E+00	9E+00	4E-02
Zinc	1E-01	3E-02	8E-01	2E-02	1E+00	3E-01	1E+01	2E-01
HMW PAHs	1E-01	2E-02	5E-02	2E-03	4E+00	8E-01	2E+00	7E-02
TEQ Mammals	8E-02	8E-03	--	--	4E+01	4E+00	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.2.2 Baseline Risk Summary for Small Mammals Using Area-Weighted EPCs

To summarize, based on the risks characterized for small mammals exposed to COPECs in soil at the AOC 27 potential exposure area using selected TRVs⁸, area-weighted EPCs, and a site-specific SUF (SUF equal to 1 because the home ranges are less than or equal to the size of the exposure area), the risk conclusions are as follows:

- **For Merriam's kangaroo rat (granivorous small mammal)**, the area-weighted NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to individuals and populations of granivorous small mammals. Potential risk is *de minimis* from all COPECs at the AOC 27 potential exposure area for granivorous small mammals and no further evaluation is necessary.
- **For the desert shrew (invertivorous small mammal)**, the area-weighted NOAEL- and LOAEL-based HQs are greater than 1 for dioxin TEQ. Unacceptable risk to invertivorous small mammals from exposure to

⁸ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

dioxin TEQ is unlikely based on the following LOEs: 1) low magnitude of the HQs (LOAEL-based HQ is less than 10) and likely reduced to 1 or less if adjusted for compounding uncertainties associated with the conservative assumptions; these include diet (dietary composition assumes 100% of a single-item diet, uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by 10 times), and conservative TRVs (based on the lowest available NOAEL and LOAEL doses; 2) spatial extent of elevated concentrations were limited; and 3) T&E species with small home ranges have not been observed in the AOC 27 potential exposure area. COPECs indicative of uncertain risks to potential individual receptors (i.e., where the NOAEL-based HQs are greater than 1 but the LOAEL-based HQs are less than 1) included cadmium, lead, and HMW PAHs. For cadmium, lead, and HMW PAHs, unacceptable risk to individual potential receptors is considered unlikely based on supporting LOEs, including the low magnitude of the HQs, conservative assumptions used in the risk estimates, and no observations of T&E species at the AOC 27 potential exposure area. For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1 indicating no unacceptable risk to individuals and populations of invertivorous small mammals.

Potential Risk Drivers for Small Mammals at AOC 27 Potential Exposure Area

No risk-driving COPECs for small mammals were identified at AOC 27 as no unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1 [or LOAEL-based HQs greater than 10 for dioxin TEQ]) was predicted from HQs calculated using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional supporting WOE. COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for the AOC 27 potential exposure area. However, the additional LOEs support the conclusions that unacceptable risk to individual invertivorous small mammals is unlikely from exposure to cadmium, lead, HMW PAHs, and dioxin TEQ.

5.6.2.3 Birds

For the AOC 27 potential exposure area, baseline risks were estimated using area-weighted EPCs for the following evaluations and are discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.3.1 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using the Selected TRVs

Table AOC27-5.6a summarizes HQs estimated for birds at the AOC 27 potential exposure area using the selected TRVs, area-weighted EPCs, and an SUF equal to 1 for all COPECs. However, this section will only discuss the area-weighted HQs using the selected TRVs and site-specific SUF. Table AOC27-5.6b summarizes HQs estimated for birds at the AOC 27 potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 0.1 for Gambel's quail and 0.8 for cactus wren) for all COPECs. However, only the COPECs identified above in Section 5.6.1.3 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – No unacceptable risk to granivorous birds were identified using depth-weighted EPCs. Using area-weighted EPCs, the NOAEL- and LOAEL-based HQs are also less than 1. Therefore, no unacceptable risk to granivorous birds were identified.
- **Cactus wren (insectivorous bird)** – The area-weighted EPCs reduced the HQs estimated using depth-weighted EPCs (Section 5.6.1.3, above), as described below.
 - For cadmium, the area-weighted NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because the EPCs for both evaluations were based on the maximum depth-weighted concentration. The NOAEL-based HQ is greater than 1, and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. Although unacceptable risk to individual potential receptors is uncertain for cadmium based on the HQ, additional LOEs (i.e., low FOD, low HQ, and conservative assumptions), as discussed for the depth-weighted evaluation (Section 5.6.1.3, above), support the conclusion that unacceptable risk to individual potential receptors is unlikely.
 - For copper, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis, but the NOAEL-based HQ is still greater than 1. The LOAEL-based HQ is less than one, indicating no unacceptable risk to populations of insectivorous birds. Unacceptable risk to individual potential receptors is uncertain for copper based on the HQ. Additional LOEs, including low HQ, conservative assumptions (as discussed above in Section 5.6.1.3), and lack of T&E species at the AOC 27 potential exposure area (Section 5.1.1), support the conclusion that unacceptable risk to individual potential receptors is unlikely.
 - For lead, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis but are still greater than 1. Based on the HQ and supporting LOEs (as discussed above in Section 5.6.1), unacceptable risk is considered unlikely for individuals and populations of insectivorous birds exposed to lead in soil.
 - For mercury, the area-weighted NOAEL- and LOAEL-based HQs remained the same as using depth-weighted EPCs because area-weighting had little effect on the EPC. The NOAEL-based HQ is greater than 1, and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. Although unacceptable risk to individual potential receptors is uncertain based on the HQ, additional LOEs, including low FOD, low magnitude of the HQ, low confidence in the TRVs (as discussed above in Section 5.6.1.3), conservative assumptions, and lack of T&E species at the AOC 27 potential exposure area (Section 5.1.1.) support the conclusion that unacceptable risk to individual insectivorous birds is unlikely.
 - For zinc, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis. The LOAEL-based HQ is less than 1, and the NOAEL-based HQ is equal to 1 using an area-weighted EPC, indicating unacceptable risk to individuals and populations of insectivorous birds is not expected.
 - For dioxin TEQ, the magnitude of the area-weighted NOAEL- and LOAEL-based HQs was reduced from the depth-weighted EPC analysis. Using an area-weighted EPC, the LOAEL-based HQ is less than 1, but the NOAEL-based HQ is still greater than 1. The results indicate no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The magnitude of the NOAEL-based HQ is low. Conservative assumptions

were used to estimate the HQs, including use of BAFs based on uptake of a single congener (2,3,7,8-TCDD) to earthworms and a diet assumed to consist entirely of earthworms. As a result, the HQs are considered to be overestimated. Additionally, T&E species have not been observed at the AOC 27 potential exposure area, as described above in Section 5.1.1. Therefore, unacceptable risk to individual insectivorous birds is considered to be unlikely.

Risks Evaluated Using the BTAG TRVs

Table AOC27-5.6b also summarizes HQs estimated for birds at AOC27 using the BTAG TRVs, area-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.1. The area-weighted NOAEL-based HQ for lead was reduced from the depth-weighted EPC analysis but is still greater than 1, and the LOAEL-based HQ is less than 1. This indicates no unacceptable risk from lead to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain based on the HQ. The risks from lead are likely overestimated due to the conservative avian TRV. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. The NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating no unacceptable risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this potential receptor is 0.8. Although the magnitude of the area-weighted NOAEL-based HQs was reduced for copper, lead, and zinc in this evaluation, the NOAEL-based HQs for these COPECs are greater than 1. The area-weighted NOAEL-based HQs for cadmium and mercury are also greater than 1 and remained the same as the depth-weighted EPC analysis. In both cases the cadmium EPC was based on the maximum depth-weighted concentration in surface soil (0 to 0.5 ft bgs). Mercury was detected infrequently and resulted in depth-weighted and area-weighted EPCs that were similar. As discussed above, due to the infrequent detections of cadmium and mercury, risk from these COPECs is likely overestimated. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report.

The NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to individuals and populations of insectivorous birds from these COPECs.

The table below summarizes the NOAEL- and LOAEL-based HQs for birds for COPECs identified above in Section 5.6.1.3 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species- and site-specific SUF.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.1)				Cactus Wren (SUF = 0.8)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Cadmium	3E-03	8E-04	7E-03	5E-04	2E+00	4E-01	3E+00	2E-01
Copper	2E-02	8E-03	4E-02	2E-03	2E+00	8E-01	4E+00	2E-01
Lead	4E-02	2E-02	5E+00	8E-03	5E+00	2E+00	5E+02	8E-01
Mercury	1E-02	3E-03	1E-02	3E-03	2E+00	4E-01	2E+00	4E-01
Zinc	7E-03	3E-03	3E-02	3E-03	1E+00	4E-01	4E+00	4E-01
TEQ Avian	1E-03	1E-04	--	--	2E+00	2E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.3.2 Baseline Risk Summary for Birds Using Area-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 27 potential exposure area using selected TRVs⁹, area-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- **For Gambel's quail (granivorous small bird)**, the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to individuals and populations of granivorous birds. Potential risk is *de minimis* from all COPECs at the AOC 27 potential exposure area for these granivorous birds and no further evaluation is necessary.
- **For the cactus wren (insectivorous bird)**, the NOAEL- and LOAEL-based HQs are greater than 1 only for lead. However, based on the LOE, unacceptable risk to individuals and populations of insectivorous birds is unlikely. COPECs indicative of uncertain risks to individual potential receptors (i.e., where the NOAEL-based HQs are greater than 1 but the LOAEL-based HQs are less than 1) included cadmium, copper, mercury, and dioxin TEQ. For these COPECs, unacceptable risk to individual potential receptors is considered unlikely based on supporting LOEs, including the low magnitude of the HQs, conservative assumptions used in the risk estimates, no observations of T&E species at the AOC 27 potential exposure area (see Section 5.1.1), and low FOD (for cadmium and mercury). For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individuals and populations of insectivorous birds.

Potential Risk Drivers for Birds at AOC 27 Potential Exposure Area

⁹ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

APPENDIX AOC27
SOIL HHERA FOR AOC 27 EXPOSURE AREA

No risk drivers were identified for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional LOEs.

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for the AOC 27 potential exposure area (cadmium, copper, mercury, and dioxin TEQ); however, the additional LOEs support the conclusions that unacceptable risk to individual potential receptors from exposure to these COPECs is unlikely.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for potential human receptors were estimated, as presented above in Section 4. For potential ecological receptors, potential risks were estimated as presented above in Section 5. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Sections 5.6 and 6.7 of the main report, and uncertainties specific to the AOC 27 potential exposure area are discussed in this appendix. For the AOC 27 potential exposure area, the HHRA and ERA were conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline [no scouring]) was evaluated, and risks were estimated for various potential receptors using depth-weighted EPCs and area-weighted EPCs.

At the AOC 27 potential exposure area, the COPCs/COPECs identified for the HHRA include metals (antimony, cadmium, hexavalent chromium, copper, lead, mercury, and zinc), VOCs (bromomethane and chloromethane), LMW PAHs, HMW PAHs, PAHs, PCBs, TPH as diesel, TPH as motor oil, and dioxins and furans. A summary of these results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the AOC 27 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

The conclusions reached after completing the HHRA and ERA for the AOC 27 potential exposure area are presented below.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 27 potential exposure area using depth- and area-weighted EPCs under the baseline scenario were estimated. Assuming lifetime soil contact is limited to the AOC 27 potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface I	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface II	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Long-Term Maintenance Worker	Surface	3×10^{-6} (CrVI, B(a)PEQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
Long-Term Maintenance Worker	Shallow	2×10^{-6} (CrVI, B(a)PEQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 27 Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
	Subsurface I	2×10^{-6} CrVI, B(a)PEQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
Camper	Surface	$\leq 1 \times 10^{-6}$	--	≤ 1	--
	Shallow	$\leq 1 \times 10^{-6}$	--	≤ 1	--
Hiker	Surface	2×10^{-6} (CrVI, B(a)PEQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Shallow	2×10^{-6} (CrVI, B(a)PEQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
Hunter	Surface	$\leq 1 \times 10^{-6}$	--	≤ 1	--
	Shallow	$\leq 1 \times 10^{-6}$	--	≤ 1	--
OHV Rider	Surface	2×10^{-6} CrVI, B(a)P EQ, and dioxin TEQ)	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	$\leq 1 \times 10^{-6}$	≤ 1	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	--	≤ 1	--
	Shallow	$\leq 1 \times 10^{-6}$	--	≤ 1	--

Note:

--- = Area-weighted (area-wt) estimate not calculated because depth-weighted (depth-wt) estimates for the receptor was below *de minimis* levels.

Depth-Weighted

Potential exposures that are below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including: Short-Term Maintenance Worker, Long-Term Maintenance Worker, Camper, Hiker, Hunter, OHV Rider, and Tribal User
- **ILCR $\leq 1 \times 10^{-6}$** – Short-Term Maintenance Worker (all depths), Long Term Maintenance Worker (subsurface II), Camper (surface and shallow), Hunter (surface and shallow), OHV Rider (shallow), and Tribal User (surface and shallow).

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None

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- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Long-Term Maintenance Worker (surface, shallow, and subsurface I), Hiker (surface and shallow), and OHV Rider (surface)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – None
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the estimated risks and hazards above *de minimis* levels for the long-term maintenance worker, hiker, and OHV rider were due to hexavalent chromium, B(a)PEQ, and dioxin TEQ. Therefore, potential risks and hazards for these three potential receptors were estimated using area-weighted EPCs and are as follows:

Area-Weighted

Potential exposures that are below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including: Long-Term Maintenance Worker, Hiker, and, OHV Rider
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – All potential receptors evaluated including: Long-Term Maintenance Worker, Hiker, and, OHV Rider.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – None
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – None
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the AOC 27 potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 27 potential exposure area using depth-weighted EPCs for the short-term maintenance worker, camper, hunter, and tribal user are below 1×10^{-6} and 1, respectively. The estimated cumulative HI for the long-term maintenance worker, hiker, and OHV rider are below an HI of 1. The depth-weighted estimated cumulative ILCRs for the long-term maintenance worker, hiker, and OHV rider were slightly above the point of departure for risk management decisions of 1×10^{-6} , but below 5×10^{-6} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . Therefore, these potential receptors were carried forward to the area-weighted evaluation. The area-weighted approach resulted in a reduction in the risk or hazard estimates ranging from 2.9 to 3.6 times lower than the depth-weighted estimates. This reduction in the cumulative ILCR estimates for the long-term maintenance worker, hiker, and OHV rider brings estimated ILCR values to the point of departure for risk management decisions of 1×10^{-6} for the area-weighted evaluation.

The depth-and area-weighted EPCs for lead in the AOC 27 potential exposure area soil at all exposure depths are not expected to result in an increase in blood lead levels above OEHHA's benchmark value of 1 µg/dL in the fetus of a short- or long-term maintenance worker, fetus of a hunter, or child recreational user.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like AOC 27 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in AOC 27 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 27 potential exposure area, seven metals, PAHs, VOCs (bromomethane and chloromethane), PCBs, dioxin TEQ (for potential wildlife receptors only), 2,3,7,8-TCDD (for ecological communities only), and TPHs were identified as COPECs. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted and area-weighted EPCs. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and invertebrates).
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risk to wildlife populations; however, potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to potential individual receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors.

The risk estimates (HQs) represent only a single LOE for risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties, was used to characterize risk to wildlife populations at the AOC 27 potential exposure area.

Table AOC27-6.1 presents the HQs for all the COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs. The HQs/LOAEL-based HQs based on depth-weighted EPCs were greater than 1 for the following COPECs:

- **Plant Communities** – copper, lead, zinc, and HMW PAHs/TPHs
- **Soil Invertebrate Communities** – hexavalent chromium, copper, mercury, and zinc
- **Small Mammals** – none for granivorous small mammals; copper, lead, HMW PAHs/TPHs, and dioxin TEQ for invertivorous small mammals
- **Birds** – none for granivorous birds; copper and lead for insectivorous birds.

HQs were also calculated for all the COPECs using area-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs and are presented in Table AOC27-6.1. For COPECs with HQs/LOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions (i.e., area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs), a WOE assessment was used to draw risk conclusions and identify potential risk drivers for the AOC 27 potential exposure area. The various LOEs considered in the WOE assessment and risk conclusions are presented in Table AOC27-6.2.

Based on the ecological risk characterization for the AOC 27 potential exposure area, using area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs, the following conclusions were made:

6.2.1 Plant Communities

Overall, no unacceptable risk was identified for plants at the AOC 27 potential exposure area, including special-status species. Conclusions are as follows:

- No federal- or state-listed T&E or rare plants or candidates for listing were found at the site, including the AOC 27 potential exposure area.
- Potential risk to plants is *de minimis* from exposure to antimony, cadmium, hexavalent chromium, mercury, LMW PAHs, and PCBs at the AOC 27 potential exposure area. The HQs for lead and zinc were reduced to less than 1 using area-weighted EPCs, indicating *de minimis* risk to plant communities from these COPECs at the AOC 27 potential exposure area.

- The HQ for HMW PAHs was reduced from the depth-weighted evaluation, but is still greater than 1. Unacceptable risk to plants from exposure to HMW PAHs is unlikely based on the following LOEs: 1) low magnitude of the HQ; 2) low confidence in screening values to predict risk; and 3) limited spatial extent of elevated concentrations; the elevated concentrations of HMW PAHs driving risk are localized in surface and shallow soil in the eastern edge of the road from the AOC 27 potential exposure area to BCW where potential burn waste was identified. Depth-weighted concentrations more than 10 times the BTV are limited to four locations (31.5 mg/kg at AOC27-6, 4.04 mg/kg at AOC27-50, 3.78 mg/kg at AOC27-51, and 3.39 mg/kg at AOC27-7).
- The HQ for copper was reduced from the depth-weighted evaluation, but is still greater than 1. Although copper was frequently detected at the AOC 27 potential exposure area, unacceptable risk to plants from exposure to copper is unlikely based on the following LOEs: 1) magnitude of the HQ is low; and 2) the spatial extent of elevated concentrations is limited to two locations (580 mg/kg at AOC27-7 and 500 mg/kg at AOC27-6).
- Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017b) is typical of Mojave Desert plant communities (summarized in Section 2.4.2 of the main report). More a hundred different vascular plant species have been observed within the survey area that includes the AOC 27 potential exposure area; documented as Segment H in these survey reports (GANDA and CH2M 2013; CH2M 2017b). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

6.2.2 Soil Invertebrate Communities

Overall, no unacceptable risk to soil invertebrates is expected at the AOC 27 potential exposure area. Conclusions are as follows:

- Potential risk to soil invertebrates is *de minimis* from exposure to cadmium, lead, PAHs, PCBs, and 2,3,7,8-TCDD at the AOC 27 potential exposure area. Antimony, bromomethane, and chloromethane were not detected in surface soil, where exposure occurs for these potential receptors. The HQs for hexavalent chromium, copper, and mercury were reduced to less than 1 using area-weighted EPCs, indicating *de minimis* risk to soil invertebrate communities from these COPECs at the AOC 27 potential exposure area.
- The HQ for zinc was reduced from the depth-weighted evaluation, but is still greater than 1. Although zinc was frequently detected at the AOC 27 potential exposure area, unacceptable risk to soil invertebrates from exposure to zinc is unlikely based on the following LOEs: 1) magnitude of the HQ is low; and 2) the spatial extent of elevated concentrations is limited to two locations (1,200 mg/kg at AOC27-51 and 700 mg/kg at AOC27-6).

6.2.3 Small Mammals

Overall, no unacceptable risk to populations of small mammals (granivorous and invertivorous) exposed to COPECs in soil at the AOC 27 potential exposure area is expected. Conclusions are as follows:

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- Several species of mammals have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, T&E species with small home ranges were not observed at the AOC 27 potential exposure area; therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Merriam's kangaroo rat (granivorous small mammal):
 - The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, which is consistent with the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- For the desert shrew (invertivorous small mammal):
 - Potential risk is *de minimis* from exposure to hexavalent chromium, mercury, LMW PAHs, and PCBs. Antimony, bromomethane, and chloromethane were not detected in surface soil, where exposure occurs for this potential receptor. The NOAEL- and LOAEL-based HQs for copper were reduced to 1 or less from the depth-weighted evaluation, indicating *de minimis* risk to invertivorous small mammals from this COPEC at the AOC 27 potential exposure area.
 - COPECs indicative of uncertain risk to individual potential receptors included cadmium, lead, and HMW PAHs. For cadmium, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, same as the depth-weighted evaluation. The NOAEL-based HQs for lead and HMW PAHs were reduced from the depth-weighted evaluation but are still greater than 1; the LOAEL-based HQs remained less than 1 for lead and HMW PAHs.
 - Unacceptable risk to individual potential receptors is unlikely for cadmium based on the following LOEs: 1) low magnitude of the HQ; 2) low FOD; 3) EPCs based on the maximum depth-weighted concentrations; for areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk; and 4) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area.
 - Unacceptable risk to individual potential receptors is unlikely for lead based on the following LOEs: 1) low magnitude of the HQ; 2) conservative assumptions in the risk estimates (not accounting for site-specific bioavailability of lead and assuming 100% invertebrate diet; see Section 6.5 of the main report); and 3) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area.
 - Unacceptable risk to individual potential receptors is unlikely for HMW PAHs based on the following LOEs: 1) low magnitude of the HQ; 2) likely associated with the burn waste activities in the AOC 27 potential exposure area (in the eastern edge of the road cut on the road from the AOC 27 potential exposure area to BCW); 3) the NOAEL-based TRV is conservative compared to other studies (see Section 6.5 of the main report); 4) conservative assumptions used in the ERA (e.g., 100% invertebrate diet, instead of a mixed diet and invertebrate BAFs based on earthworm uptake only, instead of mixed invertebrate species that are more likely encountered at the AOC 27 potential exposure area); and 5) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area. Risk conclusions are the same for TPHs.
 - The NOAEL- and LOAEL-based HQs for dioxin TEQ were reduced from the depth-weighted evaluation, but are still greater than 1. Unacceptable risk to invertivorous small mammals from exposure to dioxin TEQ is unlikely based on the following LOEs: 1) low magnitude of the HQs (LOAEL-based HQ is less

than 10) and likely reduced to 1 or less if adjusted for compounding uncertainties associated with the conservative assumptions (see Section 6.5.6 of the main report); these include diet (dietary composition assumes 100% of a single-item diet; see Section 6.5.3 of the main report), uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by 10 times; see Section 6.5.4 of the main report), and conservative TRVs (likely overestimates HQs by more than 7 times; see Section 6.5.5 of the main report); 2) the spatial extent of elevated concentrations is limited to two locations: AOC27-6 (120 ng/kg) and AOC27-7 (110 ng/kg); and 3) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area.

6.2.4 Birds

Overall, no unacceptable risk to bird populations (granivorous and insectivorous) exposed to COPECs in soil at the AOC 27 potential exposure area is expected. Conclusions are as follows:

- Several species of birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, T&E species with small home ranges were not observed at the AOC 27 potential exposure area; therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Gambel's quail (granivorous bird), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, which is consistent with the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous birds at the AOC 27 potential exposure area.
- For the cactus wren (insectivorous bird):
 - Potential risk is *de minimis* from exposure to hexavalent chromium, PAHs, and TPHs (based on BTEX and PAH results). The NOAEL- and LOAEL-based HQs for zinc were reduced to less than 1 from the depth-weighted evaluation, indicating *de minimis* risk to invertivorous small mammals from this COPEC at the AOC 27 potential exposure area.
 - COPECs indicative of uncertain risk to potential individual receptors included cadmium, copper, mercury, and dioxin TEQ. For cadmium and mercury, the NOAEL- based HQ is greater than 1 and the LOAEL-based HQ is less than 1, which is consistent with the depth-weighted evaluation. The NOAEL-based HQs for copper and dioxin TEQ were reduced from the depth-weighted evaluation, but are still greater than 1; the LAOEL-based HQs remained less than 1 for copper and dioxin TEQ.
 - Unacceptable risk to individual potential receptors is unlikely for cadmium based on the following LOEs: 1) low magnitude of the HQ; 2) low FOD; 3) EPCs based on the maximum depth-weighted concentrations; for areas where a constituent is largely not detected, the use of a maximum concentration as the EPC may not appropriately characterize risk; and 3) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area.
 - Unacceptable risk to individual potential receptors is unlikely for copper, mercury, and dioxin TEQ based on the following LOEs: 1) low magnitude of the HQs; 2) conservative TRVs for dioxins and mercury; 3) conservative assumptions used in the risk estimates (dietary composition assumes 100% of a single-item diet, bioaccumulation based on a single congener for dioxins, and very conservative TRVs and BAFs for dioxins; see Section 6.5 of the main report); and 4) T&E species with small home ranges have not been observed at the AOC 27 potential exposure area.

- The NOAEL- and LOAEL- HQs for lead were reduced from the depth-weighted evaluation, but are still greater than 1. Unacceptable risk to insectivorous birds from exposure to lead is unlikely based on the following LOEs: 1) magnitude of the HQ is low; 2) assumes lead in soil is 100% available for uptake by prey/absorption to the target organ, which is rarely the case for lead; the average is 60% (see Section 6.5.3 of the main report); and 3) the spatial extent of elevated concentrations is limited to two locations.

6.2.5 Potential Risk Drivers for the AOC 27 Exposure Area

As presented in Table AOC27-6.1 and summarized in the table below, no risk drivers were identified for the AOC 27 potential exposure area based on unacceptable community-/population-level risk (i.e., HQs greater than 1 for plants and soil invertebrates and the LOAEL-based HQs greater than 1 for mammals and birds [or LOAEL-based HQs greater than 10 for dioxin TEQ]) predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk.

Scenario	Potential Receptors and Risk Drivers at AOC 27 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's kangaroo rat)	Insectivorous Mammals (desert shrew)	Granivorous Birds (Gambel's quail)	Insectivorous Birds (cactus wren)
Baseline	None	None	None	None	None	None

7 REFERENCES

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TABLES



Table AOC27-1.1
Samples amnd Sampling Locations Included in the AOC 27 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
24soil-01	01/31/08	24soil-01	2.5	3	3	0-03	--
24soil-02	01/31/08	24soil-02	2.5	3	3	0-03	--
AOC27-1-28545	03/18/16	AOC27-1	0	1	0.5	0-0.5	--
AOC27-1-28546	03/18/16	AOC27-1	2	3	3	0-03	--
AOC27-1-28547	03/18/16	AOC27-1	5	6	6	0-06	--
AOC27-1-28548	03/18/16	AOC27-1	9	10	10	0-10	--
AOC27-18-28528	03/17/16	AOC27-18	0	1	0.5	0-0.5	--
AOC27-18-28529	03/17/16	AOC27-18	2	3	3	0-03	--
AOC27-18-28530	03/17/16	AOC27-18	5	6	6	0-06	--
AOC27-18-28531	03/17/16	AOC27-18E	4	5	5	0-06	--
AOC27-18-28532	03/17/16	AOC27-18	9	10	10	0-10	--
AOC27-20-28508	03/01/16	AOC27-20	0	1	0.5	0-0.5	--
AOC27-20-28509	03/01/16	AOC27-20	2	3	3	0-03	--
AOC27-20-28510	03/01/16	AOC27-20	2	3	3	0-03	--
AOC27-20-28511	03/01/16	AOC27-20	5	6	6	0-06	--
AOC27-20-28512	03/01/16	AOC27-20	9	10	10	0-10	--
AOC27-2-28541	03/18/16	AOC27-2	0	1	0.5	0-0.5	--
AOC27-2-28542	03/18/16	AOC27-2	2	3	3	0-03	--
AOC27-2-28543	03/18/16	AOC27-2	5	6	6	0-06	--
AOC27-2-28544	03/18/16	AOC27-2	9	10	10	0-10	--
AOC27-24-28549	03/18/16	AOC27-24	0	1	0.5	0-0.5	--
AOC27-24-28550	03/18/16	AOC27-24	2	3	3	0-03	--
AOC27-24-28551	03/18/16	AOC27-24	5	6	6	0-06	--
AOC27-24-28552	03/18/16	AOC27-24	9	10	10	0-10	--
AOC27-24SW-28553	03/18/16	AOC27-24SW	0	1	0.5	0-0.5	--
AOC27-24SW-28554	03/18/16	AOC27-24SW	2	3	3	0-03	--
AOC27-24SW-28555	03/18/16	AOC27-24SW	5	6	6	0-06	--
AOC27-24SW-28556	03/18/16	AOC27-24SW	9	10	10	0-10	--
AOC27-27-28517	03/02/16	AOC27-27	0	1	0.5	0-0.5	--
AOC27-27-28518	03/02/16	AOC27-27	2	3	3	0-03	--
AOC27-36-28524	03/17/16	AOC27-36	0	1	0.5	0-0.5	--
AOC27-36-28525	03/17/16	AOC27-36	2	3	3	0-03	--
AOC27-36-28526	03/17/16	AOC27-36	5	6	6	0-06	--
AOC27-36-28527	03/17/16	AOC27-36	9.6	10	10	0-10	--
AOC27-4-28537	03/17/16	AOC27-4	0	1	0.5	0-0.5	--
AOC27-4-28538	03/17/16	AOC27-4	0	1	0.5	0-0.5	--
AOC27-4-28539	03/17/16	AOC27-4	2	3	3	0-03	--
AOC27-4-28540	03/17/16	AOC27-4	5	6	6	0-06	--
AOC27-50-28513	03/02/16	AOC27-50	0	1	0.5	0-0.5	--
AOC27-50-28514	03/02/16	AOC27-50	2	3	3	0-03	--
AOC27-50-28515	03/02/16	AOC27-50	5	6	6	0-06	--

Table AOC27-1.1

Samples amnd Sampling Locations Included in the AOC 27 Exposure Area

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC27-50-28516	03/02/16	AOC27-50	9	10	10	0-10	--
AOC27-51-28557	02/17/17	AOC27-51	0	0.5	0.5	0-0.5	--
AOC27-51-28558	02/17/17	AOC27-51	2	3	3	0-03	--
AOC27-51-28559	02/17/17	AOC27-51	5	6	6	0-06	--
AOC27-5-28533	03/17/16	AOC27-5	0	1	0.5	0-0.5	--
AOC27-5-28534	03/17/16	AOC27-5	2	3	3	0-03	--
AOC27-5-28535	03/17/16	AOC27-5	5	6	6	0-06	--
AOC27-5-28536	03/17/16	AOC27-5	9	10	10	0-10	--
AOC27-6-28500	02/29/16	AOC27-6	0	1	0.5	0-0.5	--
AOC27-6-28501	02/29/16	AOC27-6	2	3	3	0-03	--
AOC27-6-28502	02/29/16	AOC27-6	5	6	6	0-06	--
AOC27-7-28503	02/29/16	AOC27-7	0	1	0.5	0-0.5	--
AOC27-7-28504	02/29/16	AOC27-7	2	3	3	0-03	--
AOC27-7-28505	03/01/16	AOC27-7	5	6	6	0-06	--
AOC27-8-28506	03/01/16	AOC27-8	1	2	2	0-03	--
AOC27-8-28507	03/01/16	AOC27-8	5	6	6	0-06	--
AOC27-9-28519	03/08/16	AOC27-9	0	1	0.5	0-0.5	--
AOC27-9-28520	03/08/16	AOC27-9	0	1	0.5	0-0.5	--
AOC27-9-28521	03/08/16	AOC27-9	2	3	3	0-03	--
AOC27-9-28522	03/08/16	AOC27-9	5	6	6	0-06	--
AOC27-9-28523	03/08/16	AOC27-9	9	10	10	0-10	--
PA-13-01	01/27/16	PA-13	0	1	0.5	0-0.5	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	1 / 1	8,100	mg/kg	No	Within Background
Antimony	0 / 16	ND	mg/kg	No	Not Detected
Arsenic	16 / 16	1.9 - 5.7	mg/kg	No	Within Background
Barium	16 / 16	84 - 200	mg/kg	No	Within Background
Beryllium	0 / 16	ND	mg/kg	No	Not Detected
Cadmium	3 / 16	1.5 - 2.3	mg/kg	Yes	Above Background
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	10 / 16	0.20 - 2.7	mg/kg	Yes	Above Background
Chromium, total	16 / 16	13 - 150	mg/kg	No	Within Background
Cobalt	16 / 16	3.2 - 11	mg/kg	No	Within Background
Copper	16 / 16	5.6 - 580	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	28,000	mg/kg	No	Within Background
Lead	16 / 16	3.8 - 630	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,200	mg/kg	No	Within Background
Manganese ^b	1 / 1	310	mg/kg	No	Within Background
Mercury (inorganic)	4 / 16	0.12 - 0.51	mg/kg	Yes	Above Background
Molybdenum	2 / 16	8.3 - 11	mg/kg	No	Within Background
Nickel	16 / 16	5.2 - 35	mg/kg	No	Within Background
Potassium ^b	1 / 1	2,900	mg/kg	No	Within Background
Selenium	0 / 16	ND	mg/kg	No	Not Detected
Silver	0 / 16	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	460	mg/kg	No	Within Background
Thallium	0 / 16	ND	mg/kg	No	Not Detected
Vanadium	16 / 16	19 - 38	mg/kg	No	Within Background
Zinc	16 / 16	24 - 1,200	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 1	ND	ug/kg	No	Not Detected

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 1	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 16	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 16	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 1	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 1	ND	ug/kg	No	Not Detected
Acetone	0 / 1	ND	ug/kg	No	Not Detected
Acrolein	0 / 1	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 1	ND	ug/kg	No	Not Detected
Benzene	0 / 1	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 16	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 16	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 1	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 1	ND	ug/kg	No	Not Detected

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 1	ND	ug/kg	No	Not Detected
Bromoform	0 / 1	ND	ug/kg	No	Not Detected
Bromomethane	0 / 1	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 1	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 1	ND	ug/kg	No	Not Detected
Chloro methane	0 / 1	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
Chloroethane	0 / 1	ND	ug/kg	No	Not Detected
Chloroform	0 / 1	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 1	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 1	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 1	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 1	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 16	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 16	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 1	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 1	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 1	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 1	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 16	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 1	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 1	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Styrene	0 / 1	ND	ug/kg	No	Not Detected

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 1	ND	ug/kg	No	Not Detected
Toluene	0 / 1	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 1	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 1	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 1	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 1	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 1	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 1	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 16	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 16	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 16	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 16	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 16	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 16	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 16	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 16	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 16	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 16	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 16	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 16	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 16	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 16	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 16	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 16	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 16	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 16	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 16	ND	ug/kg	No	Not Detected

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 16	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 16	ND	ug/kg	No	Not Detected
Acetophenone	0 / 1	ND	ug/kg	No	Not Detected
Atrazine	0 / 1	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 1	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 16	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 16	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 16	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 16	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 16	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 1	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 16	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 16	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 16	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 16	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 16	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 16	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 16	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 16	ND	ug/kg	No	Not Detected
Phenol	0 / 16	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	16 / 16	0 - 31,500	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	16 / 16	0 - 3,880	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 16	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 16	ND	ug/kg	No	Not Detected
Acenaphthene	2 / 16	8.3 - 51	ug/kg	Yes	Detected
Acenaphthylene	0 / 16	ND	ug/kg	No	Not Detected
Anthracene	5 / 16	6.8 - 710	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	8 / 16	6.1 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^d	9 / 16	5.4 - 2,000	ug/kg	Yes	Above Background (HHRA Only)

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^d	14 / 16	7.5 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	7 / 16	12 - 1,500	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	8 / 16	8.5 - 1,300	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^d	13 / 16	5.1 - 3,000	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^d	2 / 16	20 - 530	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	12 / 16	5.4 - 8,600	ug/kg	Yes	Detected
Fluorene	1 / 16	9.2	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	7 / 16	8.5 - 1,200	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	1 / 16	6.4	ug/kg	Yes	Detected
Phenanthrene	6 / 16	5.4 - 3,100	ug/kg	Yes	Detected
Pyrene	12 / 16	6.1 - 6,600	ug/kg	Yes	Detected
B(a)P Equivalent ^e	14 / 16	6.4 - 3,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 15	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 15	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 15	ND	ug/kg	No	Not Detected
Aldrin	0 / 15	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 15	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 15	ND	ug/kg	No	Not Detected
beta-BHC	0 / 15	ND	ug/kg	No	Not Detected
delta-BHC	0 / 15	ND	ug/kg	No	Not Detected
Dieldrin	0 / 15	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 15	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 15	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 15	ND	ug/kg	No	Not Detected
Endrin	0 / 15	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 15	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 1	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 15	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 15	ND	ug/kg	No	Not Detected
Heptachlor	0 / 15	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 15	ND	ug/kg	No	Not Detected

Table AOC27-2.1a

Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 15	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 16	ND	ug/kg	No	Not Detected
Toxaphene	0 / 15	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	7 / 16	17 - 49	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	5 / 16	12 - 79	mg/kg	Yes	Detected
TPH as gasoline	0 / 1	ND	mg/kg	No	Not Detected
TPH as motor oil	9 / 16	16 - 270	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	3 / 9	1.3 - 19	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^g	9 / 9	0.87 - 120	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^g	9 / 9	0.84 - 120	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^g	9 / 9	0.84 - 120	ng/kg	Yes	Above Background (ERA Only)

Table AOC27-2.1a**Chemicals Included in the Risk Assessment: AOC 27 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA and ERA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	1 / 1	8,100	mg/kg	No	Within Background
Antimony	1 / 34	3.5	mg/kg	Yes	Above Background
Arsenic	33 / 34	1.9 - 20	mg/kg	No	Within Background
Barium	34 / 34	68 - 210	mg/kg	No	Within Background
Beryllium	0 / 34	ND	mg/kg	No	Not Detected
Cadmium	8 / 34	0.30 - 4.5	mg/kg	Yes	Above Background
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	18 / 34	0.20 - 4.8	mg/kg	Yes	Above Background
Chromium, total	34 / 34	10 - 290	mg/kg	No	Within Background
Cobalt	34 / 34	3.2 - 16	mg/kg	No	Within Background
Copper	34 / 34	5.6 - 1,000	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	28,000	mg/kg	No	Within Background
Lead	34 / 34	1.4 - 630	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,200	mg/kg	No	Within Background
Manganese ^b	1 / 1	310	mg/kg	No	Within Background
Mercury (inorganic)	9 / 34	0.10 - 0.95	mg/kg	Yes	Above Background
Molybdenum	6 / 34	0.63 - 26	mg/kg	No	Within Background
Nickel	34 / 34	5.2 - 97	mg/kg	No	Within Background
Potassium ^b	1 / 1	2,900	mg/kg	No	Within Background
Selenium	2 / 34	1.4 - 6.2	mg/kg	No	Within Background
Silver	0 / 34	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	460	mg/kg	No	Within Background
Thallium	0 / 34	ND	mg/kg	No	Not Detected
Vanadium	34 / 34	17 - 38	mg/kg	No	Within Background
Zinc	34 / 34	16 - 1,300	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 16	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 16	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 16	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 16	ND	ug/kg	No	Not Detected

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 16	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 16	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 16	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 16	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 16	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 33	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 16	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 16	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 16	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 33	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 16	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 16	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 16	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 33	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 16	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 33	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 16	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 33	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 33	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 16	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 16	ND	ug/kg	No	Not Detected
Acetone	0 / 16	ND	ug/kg	No	Not Detected
Acrolein	0 / 16	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 16	ND	ug/kg	No	Not Detected
Benzene	0 / 16	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 33	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 33	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 16	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 16	ND	ug/kg	No	Not Detected

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 16	ND	ug/kg	No	Not Detected
Bromoform	0 / 16	ND	ug/kg	No	Not Detected
Bromomethane	2 / 16	23 - 26	ug/kg	Yes	Detected
Carbon disulfide	0 / 16	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 16	ND	ug/kg	No	Not Detected
Chloro methane	3 / 16	5.5 - 11	ug/kg	Yes	Detected
Chlorobenzene	0 / 16	ND	ug/kg	No	Not Detected
Chloroethane	0 / 16	ND	ug/kg	No	Not Detected
Chloroform	0 / 16	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 16	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 16	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 16	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 16	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 16	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 16	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 33	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 33	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 16	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 16	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 16	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 16	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 16	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 16	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 33	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 16	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 16	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 16	ND	ug/kg	No	Not Detected
Styrene	0 / 16	ND	ug/kg	No	Not Detected

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 16	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 16	ND	ug/kg	No	Not Detected
Toluene	0 / 16	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 16	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 16	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 16	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 16	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 16	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 16	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 1	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 1	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 33	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 33	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 33	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 33	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 33	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 33	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 33	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 33	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 33	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 31	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 33	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 33	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 33	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 31	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 31	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 31	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 33	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 31	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 33	ND	ug/kg	No	Not Detected

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 33	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 33	ND	ug/kg	No	Not Detected
Acetophenone	0 / 1	ND	ug/kg	No	Not Detected
Atrazine	0 / 1	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 1	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 31	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 31	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 31	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 33	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 33	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 1	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 33	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 33	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 33	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 33	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 33	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 33	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 33	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 33	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 33	ND	ug/kg	No	Not Detected
Phenol	0 / 33	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	34 / 34	0 - 31,500	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	34 / 34	0 - 3,880	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 32	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 34	ND	ug/kg	No	Not Detected
Acenaphthene	2 / 34	8.3 - 51	ug/kg	Yes	Detected
Acenaphthylene	1 / 34	5.1	ug/kg	Yes	Detected
Anthracene	8 / 34	6.8 - 710	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	14 / 34	6.1 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^d	14 / 34	5.4 - 2,000	ug/kg	Yes	Above Background (HHRA Only)

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^d	24 / 34	5.2 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	13 / 34	5.1 - 1,500	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	15 / 34	8.4 - 1,300	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^d	20 / 34	5.1 - 3,000	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^d	3 / 34	6.9 - 530	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	20 / 34	5.4 - 8,600	ug/kg	Yes	Detected
Fluorene	1 / 34	9.2	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	12 / 34	8.5 - 1,200	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	1 / 34	6.4	ug/kg	Yes	Detected
Phenanthrene	12 / 34	5.1 - 3,100	ug/kg	Yes	Detected
Pyrene	20 / 34	5.4 - 6,600	ug/kg	Yes	Detected
B(a)P Equivalent ^e	26 / 34	6.3 - 3,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 30	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 30	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 30	ND	ug/kg	No	Not Detected
Aldrin	0 / 30	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 30	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 30	ND	ug/kg	No	Not Detected
beta-BHC	0 / 30	ND	ug/kg	No	Not Detected
delta-BHC	0 / 30	ND	ug/kg	No	Not Detected
Dieldrin	0 / 30	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 30	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 30	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 30	ND	ug/kg	No	Not Detected
Endrin	0 / 30	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 30	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 1	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 30	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 30	ND	ug/kg	No	Not Detected
Heptachlor	0 / 30	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 30	ND	ug/kg	No	Not Detected

Table AOC27-2.1b

Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 30	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 33	ND	ug/kg	No	Not Detected
Toxaphene	0 / 30	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	8 / 32	17 - 49	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	12 / 34	11 - 160	mg/kg	Yes	Detected
TPH as gasoline	0 / 17	ND	mg/kg	No	Not Detected
TPH as motor oil	17 / 32	11 - 790	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	6 / 21	1.3 - 29	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^g	21 / 21	0.20 - 260	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^g	21 / 21	0.12 - 230	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^g	21 / 21	0.12 - 230	ng/kg	Yes	Above Background (ERA Only)

Table AOC27-2.1b**Chemicals Included in the Risk Assessment: AOC 27 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA and ERA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	1 / 1	8,100	mg/kg	No	Within Background
Antimony	1 / 50	3.5	mg/kg	Yes	Above Background
Arsenic	49 / 50	1.1 - 20	mg/kg	No	Within Background
Barium	50 / 50	28 - 210	mg/kg	No	Within Background
Beryllium	0 / 50	ND	mg/kg	No	Not Detected
Cadmium	10 / 50	0.30 - 4.5	mg/kg	Yes	Above Background
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	20 / 50	0.20 - 4.8	mg/kg	Yes	Above Background
Chromium, total	50 / 50	10 - 290	mg/kg	No	Within Background
Cobalt	50 / 50	3.2 - 16	mg/kg	No	Within Background
Copper	50 / 50	5.6 - 1,000	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	28,000	mg/kg	No	Within Background
Lead	49 / 50	1.4 - 630	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,200	mg/kg	No	Within Background
Manganese ^b	1 / 1	310	mg/kg	No	Within Background
Mercury (inorganic)	12 / 50	0.10 - 0.95	mg/kg	Yes	Above Background
Molybdenum	6 / 50	0.63 - 26	mg/kg	No	Within Background
Nickel	50 / 50	5.2 - 97	mg/kg	No	Within Background
Potassium ^b	1 / 1	2,900	mg/kg	No	Within Background
Selenium	2 / 50	1.4 - 6.2	mg/kg	No	Within Background
Silver	0 / 50	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	460	mg/kg	No	Within Background
Thallium	0 / 50	ND	mg/kg	No	Not Detected
Vanadium	50 / 50	17 - 38	mg/kg	No	Within Background
Zinc	50 / 50	16 - 1,300	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 31	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 31	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 31	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 31	ND	ug/kg	No	Not Detected

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 31	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 31	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 31	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 31	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 31	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 31	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 48	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 31	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 31	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 31	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 48	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 31	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 31	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 31	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 48	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 31	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 48	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 31	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 48	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 48	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 31	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 31	ND	ug/kg	No	Not Detected
Acetone	0 / 31	ND	ug/kg	No	Not Detected
Acrolein	0 / 31	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 31	ND	ug/kg	No	Not Detected
Benzene	0 / 31	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 48	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 48	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 31	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 31	ND	ug/kg	No	Not Detected

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 31	ND	ug/kg	No	Not Detected
Bromoform	0 / 31	ND	ug/kg	No	Not Detected
Bromomethane	3 / 31	11 - 26	ug/kg	Yes	Detected
Carbon disulfide	0 / 31	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 31	ND	ug/kg	No	Not Detected
Chloro methane	4 / 31	5.3 - 11	ug/kg	Yes	Detected
Chlorobenzene	0 / 31	ND	ug/kg	No	Not Detected
Chloroethane	0 / 31	ND	ug/kg	No	Not Detected
Chloroform	0 / 31	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 31	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 31	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 31	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 31	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 31	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 31	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 48	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 48	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 31	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 31	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 31	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 31	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 31	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 31	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 48	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 31	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 31	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 31	ND	ug/kg	No	Not Detected
Styrene	0 / 31	ND	ug/kg	No	Not Detected

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 31	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 31	ND	ug/kg	No	Not Detected
Toluene	0 / 31	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 31	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 31	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 31	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 31	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 31	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 31	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 1	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 1	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 48	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 48	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 48	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 48	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 48	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 48	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 48	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 48	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 48	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 46	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 48	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 48	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 48	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 46	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 46	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 46	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 48	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 46	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 48	ND	ug/kg	No	Not Detected

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 48	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 48	ND	ug/kg	No	Not Detected
Acetophenone	0 / 1	ND	ug/kg	No	Not Detected
Atrazine	0 / 1	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 1	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 46	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 46	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 46	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 48	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 48	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 1	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 48	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 48	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 48	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 48	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 48	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 48	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 48	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 48	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 48	ND	ug/kg	No	Not Detected
Phenol	0 / 48	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	50 / 50	0 - 31,500	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	50 / 50	0 - 3,880	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 48	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 50	ND	ug/kg	No	Not Detected
Acenaphthene	2 / 50	8.3 - 51	ug/kg	Yes	Detected
Acenaphthylene	1 / 50	5.1	ug/kg	Yes	Detected
Anthracene	8 / 50	6.8 - 710	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	15 / 50	6.1 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^d	15 / 50	5.4 - 2,000	ug/kg	Yes	Above Background (HHRA Only)

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^d	29 / 50	5.1 - 3,400	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	14 / 50	5.1 - 1,500	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	17 / 50	7.2 - 1,300	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^d	21 / 50	5.1 - 3,000	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^d	3 / 50	6.9 - 530	ug/kg	Yes	Above Background (HHRA Only)
Fluoranthene	21 / 50	5.4 - 8,600	ug/kg	Yes	Detected
Fluorene	1 / 50	9.2	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	13 / 50	5.5 - 1,200	ug/kg	Yes	Above Background (HHRA Only)
Naphthalene	1 / 50	6.4	ug/kg	Yes	Detected
Phenanthrene	12 / 50	5.1 - 3,100	ug/kg	Yes	Detected
Pyrene	22 / 50	5.2 - 6,600	ug/kg	Yes	Detected
B(a)P Equivalent ^e	31 / 50	6.1 - 3,300	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
4,4-DDD	0 / 45	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 45	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 45	ND	ug/kg	No	Not Detected
Aldrin	0 / 45	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 45	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 45	ND	ug/kg	No	Not Detected
beta-BHC	0 / 45	ND	ug/kg	No	Not Detected
delta-BHC	0 / 45	ND	ug/kg	No	Not Detected
Dieldrin	0 / 45	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 45	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 45	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 45	ND	ug/kg	No	Not Detected
Endrin	0 / 45	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 45	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 1	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 45	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 45	ND	ug/kg	No	Not Detected
Heptachlor	0 / 45	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 45	ND	ug/kg	No	Not Detected

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 45	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 48	ND	ug/kg	No	Not Detected
Toxaphene	0 / 45	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	9 / 48	17 - 49	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	14 / 50	11 - 160	mg/kg	Yes	Detected
TPH as gasoline	0 / 33	ND	mg/kg	No	Not Detected
TPH as motor oil	24 / 48	11 - 790	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	6 / 32	1.3 - 29	ng/kg	Yes	Above Background (ERA Only)
TEQ Avian ^g	31 / 32	0.17 - 260	ng/kg	Yes	Above Background (ERA Only)
TEQ Human ^g	31 / 32	0.12 - 230	ng/kg	Yes	Above Background (HHRA Only)
TEQ Mammals ^g	31 / 32	0.12 - 230	ng/kg	Yes	Above Background (ERA Only)

Table AOC27-2.1c

Chemicals Included in the Risk Assessment: AOC 27 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA and ERA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	1 / 1	8,100	mg/kg	No	Within Background
Antimony	1 / 60	3.5	mg/kg	Yes	Above Background
Arsenic	59 / 60	1.1 - 20	mg/kg	No	Within Background
Barium	60 / 60	28 - 210	mg/kg	No	Within Background
Beryllium	0 / 60	ND	mg/kg	No	Not Detected
Cadmium	10 / 60	0.30 - 4.5	mg/kg	Yes	Above Background
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	21 / 60	0.20 - 4.8	mg/kg	Yes	Above Background
Chromium, total	60 / 60	10 - 290	mg/kg	No	Within Background
Cobalt	60 / 60	3.2 - 16	mg/kg	No	Within Background
Copper	60 / 60	5.6 - 1,000	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	28,000	mg/kg	No	Within Background
Lead	59 / 60	1.4 - 630	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,200	mg/kg	No	Within Background
Manganese ^b	1 / 1	310	mg/kg	No	Within Background
Mercury (inorganic)	13 / 60	0.10 - 0.95	mg/kg	Yes	Above Background
Molybdenum	6 / 60	0.63 - 26	mg/kg	No	Within Background
Nickel	60 / 60	5.2 - 97	mg/kg	No	Within Background
Potassium ^b	1 / 1	2,900	mg/kg	No	Within Background
Selenium	2 / 60	1.4 - 6.2	mg/kg	No	Within Background
Silver	0 / 60	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	460	mg/kg	No	Within Background
Thallium	0 / 60	ND	mg/kg	No	Not Detected
Vanadium	60 / 60	17 - 38	mg/kg	No	Within Background
Zinc	60 / 60	16 - 1,300	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 41	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 41	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 41	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 41	ND	ug/kg	No	Not Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 41	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 41	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 41	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 41	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 41	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 41	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 58	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 41	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 41	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 41	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 58	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 41	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 41	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 41	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 58	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 41	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 58	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 41	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 58	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 58	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 41	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 41	ND	ug/kg	No	Not Detected
Acetone	0 / 41	ND	ug/kg	No	Not Detected
Acrolein	0 / 41	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 41	ND	ug/kg	No	Not Detected
Benzene	0 / 41	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 58	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 58	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 41	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 41	ND	ug/kg	No	Not Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Bromodichloromethane	0 / 41	ND	ug/kg	No	Not Detected
Bromoform	0 / 41	ND	ug/kg	No	Not Detected
Bromomethane	3 / 41	11 - 26	ug/kg	Yes	Detected
Carbon disulfide	0 / 41	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 41	ND	ug/kg	No	Not Detected
Chloro methane	4 / 41	5.3 - 11	ug/kg	Yes	Detected
Chlorobenzene	0 / 41	ND	ug/kg	No	Not Detected
Chloroethane	0 / 41	ND	ug/kg	No	Not Detected
Chloroform	0 / 41	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 41	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 41	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 41	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 41	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 41	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 41	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 58	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 58	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 41	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 41	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 41	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 41	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 41	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 41	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 58	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 41	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 41	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 41	ND	ug/kg	No	Not Detected
Styrene	0 / 41	ND	ug/kg	No	Not Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
tert-Butylbenzene	0 / 41	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 41	ND	ug/kg	No	Not Detected
Toluene	0 / 41	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 41	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 41	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 41	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 41	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 41	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 41	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 1	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 1	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 58	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 58	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 58	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 58	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 58	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 58	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 58	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 58	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 58	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 56	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 58	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 58	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 58	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 56	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 56	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 56	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 58	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 56	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 58	ND	ug/kg	No	Not Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
4-Nitroaniline	0 / 58	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 58	ND	ug/kg	No	Not Detected
Acetophenone	0 / 1	ND	ug/kg	No	Not Detected
Atrazine	0 / 1	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 1	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 56	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 56	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 56	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 58	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 58	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 1	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 58	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 58	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 58	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 58	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 58	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 58	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 58	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 58	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 58	ND	ug/kg	No	Not Detected
Phenol	0 / 58	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 58	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 60	ND	ug/kg	No	Not Detected
Acenaphthene	2 / 60	8.3 - 51	ug/kg	Yes	Detected
Acenaphthylene	1 / 60	5.1	ug/kg	Yes	Detected
Anthracene	8 / 60	6.8 - 710	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	16 / 60	5.1 - 3,400	ug/kg	Yes	Above Background
Benzo (a) pyrene ^d	16 / 60	5.4 - 2,000	ug/kg	Yes	Above Background
Benzo (b) fluoranthene ^d	32 / 60	5.1 - 3,400	ug/kg	Yes	Above Background
Benzo (ghi) perylene	15 / 60	5.1 - 1,500	ug/kg	Yes	Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzo (k) fluoranthene ^d	18 / 60	7.2 - 1,300	ug/kg	Yes	Above Background
Chrysene ^d	23 / 60	5.1 - 3,000	ug/kg	Yes	Above Background
Dibenzo (a,h) anthracene ^d	3 / 60	6.9 - 530	ug/kg	Yes	Above Background
Fluoranthene	23 / 60	5.1 - 8,600	ug/kg	Yes	Detected
Fluorene	1 / 60	9.2	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	14 / 60	5.5 - 1,200	ug/kg	Yes	Above Background
Naphthalene	2 / 60	5.3 - 6.4	ug/kg	Yes	Detected
Phenanthrene	13 / 60	5.1 - 3,100	ug/kg	Yes	Detected
Pyrene	24 / 60	5.1 - 6,600	ug/kg	Yes	Detected
B(a)P Equivalent ^e	34 / 60	6.1 - 3,300	ug/kg	Yes	Above Background
Pesticides					
4,4-DDD	0 / 55	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 55	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 55	ND	ug/kg	No	Not Detected
Aldrin	0 / 55	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 55	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 55	ND	ug/kg	No	Not Detected
beta-BHC	0 / 55	ND	ug/kg	No	Not Detected
delta-BHC	0 / 55	ND	ug/kg	No	Not Detected
Dieldrin	0 / 55	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 55	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 55	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 55	ND	ug/kg	No	Not Detected
Endrin	0 / 55	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 55	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 1	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 55	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 55	ND	ug/kg	No	Not Detected
Heptachlor	0 / 55	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 55	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 55	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 58	ND	ug/kg	No	Not Detected

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Toxaphene	0 / 55	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	9 / 58	17 - 49	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	15 / 60	11 - 160	mg/kg	Yes	Detected
TPH as gasoline	0 / 43	ND	mg/kg	No	Not Detected
TPH as motor oil	25 / 58	11 - 790	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^g	31 / 32	0.12 - 230	ng/kg	Yes	Above Background

Table AOC27-2.1d

Chemicals Included in the Risk Assessment: AOC 27 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for chloride and sulfate, thus these chemicals are not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-0.5	1 / 1	100	8100	8100	NA	NA	8100	NA	8100	NA	NA	--	--	--	--		
Antimony	mg/kg	0-0.5	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--		
Arsenic	mg/kg	0-0.5	16 / 16	100	1.9	5.7	NA	NA	3.525	3.525	3.25	1.253	1.119	--	--	--	--		
Barium	mg/kg	0-0.5	16 / 16	100	84	200	NA	NA	144	144	145	1419	37.67	--	--	--	--		
Beryllium	mg/kg	0-0.5	0 / 16	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	--		
Cadmium	mg/kg	0-0.5	3 / 16	19	1.5	2.3	0.5	0.5	1.833	0.75	1.7	0.173	0.416	X	2.3	Max Detect	2.3	Max Detect	
Chromium, hexavalent	mg/kg	0-0.5	10 / 16	63	0.2	2.7	0.1	0.105	0.593	0.408	0.305	0.583	0.763	X	1.12	95% KM (Chebyshev) UCL	0.397	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-0.5	16 / 16	100	13	150	NA	NA	27.5	27.5	16.5	1126	33.56	--	--	--	--	--	
Cobalt	mg/kg	0-0.5	16 / 16	100	3.2	11	NA	NA	6.225	6.225	6.25	3.599	1.897	--	--	--	--	--	
Copper	mg/kg	0-0.5	16 / 16	100	5.6	580	NA	NA	78.68	78.68	11	32700	180.8	X	276	95% Chebyshev (Mean, Sd) UCL	113	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-0.5	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-0.5	1 / 1	100	28000	28000	NA	NA	28000	NA	28000	NA	NA	--	--	--	--	--	
Lead	mg/kg	0-0.5	16 / 16	100	3.8	630	NA	NA	61.62	61.62	6.6	24796	157.5	X	233	95% Chebyshev (Mean, Sd) UCL	125	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-0.5	1 / 1	100	310	310	NA	NA	310	NA	310	NA	NA	--	--	--	--	--	
Mercury	mg/kg	0-0.5	4 / 16	25	0.12	0.51	0.05	0.05	0.27	0.105	0.225	0.0341	0.185	X	0.168	95% KM (t) UCL	0.121	Bootstrap BCA 95UCL	
Molybdenum	mg/kg	0-0.5	2 / 16	13	8.3	11	0.5	0.5	9.65	1.644	9.65	3.645	1.909	--	--	--	--	--	
Nickel	mg/kg	0-0.5	16 / 16	100	5.2	35	NA	NA	12.05	12.05	10	52.43	7.241	--	--	--	--	--	
Selenium	mg/kg	0-0.5	0 / 16	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	--	--	
Silver	mg/kg	0-0.5	0 / 16	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-0.5	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-0.5	16 / 16	100	19	38	NA	NA	26.38	26.38	26	26.78	5.175	--	--	--	--	--	
Zinc	mg/kg	0-0.5	16 / 16	100	24	1200	NA	NA	188.9	188.9	38	107724	328.2	X	547	95% Chebyshev (Mean, Sd) UCL	194	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-0.5	0 / 1	0	NA	NA	32.5	32.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-0.5	0 / 1	0	NA	NA	32.5	32.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Xylene, m,p-	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-0.5	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-0.5	0 / 16	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 16	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-0.5	0 / 16	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 16	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-0.5	0 / 16	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-0.5	8 / 16	50	5.4	3880	0	0	619.5	309.8	24	1784409	1336	X	2007	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	762	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-0.5	14 / 16	88	13.3	31500	0	0	3133	2741	199.5	69013893	8307	X	22255	99% KM (Chebyshev) UCL	4560	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-0.5	0 / 16	0	NA	NA	2.55	2.65	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-0.5	0 / 16	0	NA	NA	2.55	2.65	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-0.5	2 / 16	13	8.3	51	2.55	2.65	29.65	5.938	29.65	911.6	30.19	X	51	Max Detect	51	Max Detect
Acenaphthylene	µg/kg	0-0.5	0 / 16	0	NA	NA	2.55	2.65	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-0.5	5 / 16	31	6.8	710	2.55	2.65	165	53.3	39	93207	305.3	X	381	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	138	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-0.5	8 / 16	50	6.1	3400	2.55	26	599.4	301.1	221	1329192	1153	X	1626	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	643	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-0.5	9 / 16	56	5.4	2000	2.55	26	324.3	183.8	19	413178	642.8	X	933	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	380	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-0.5	14 / 16	88	7.5	3400	2.55	2.55	400.5	350.8	65.5	807013	898.3	X	1680	97.5% KM (Chebyshev) UCL	518	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-0.5	7 / 16	44	12	1500	2.55	26	254.9	113.2	25	303723	551.1	X	802	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	211	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-0.5	8 / 16	50	8.5	1300	2.55	26	261.2	132.1	84.5	193904	440.3	X	587	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	253	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-0.5	13 / 16	81	5.1	3000	2.55	2.55	345.9	281.5	36	667615	817.1	X	2146	99% KM (Chebyshev) UCL	571	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-0.5	2 / 16	13	20	530	2.55	26	275	36.68	275	130050	360.6	X	530	Max Detect	530	Max Detect
Fluoranthene	µg/kg	0-0.5	12 / 16	75	5.4	8600	2.55	2.55	944.1	708.7	31.5	5965330	2442	X	6076	99% KM (Chebyshev) UCL	1654	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-0.5	1 / 16	6	9.2	9.2	2.55	2.65	9.2	2.966	9.2	NA	NA	X	9.2	Max Detect	9.2	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	7 / 16	44	8.5	1200	2.55	26	211.6	94.29	24	192277	438.5	X	622	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	241	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-0.5	1 / 16	6	6.4	6.4	2.55	2.65	6.4	2.791	6.4	NA	NA	X	6.4	Max Detect	6.4	Max Detect

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Phenanthrene	µg/kg	0-0.5	6 / 16	38	5.4	3100	2.55	2.65	675.6	254.9	222.5	1455928	1207	X	1572	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	612	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-0.5	12 / 16	75	6.1	6600	2.55	2.55	736.6	553.1	28.5	3508065	1873	X	4671	99% KM (Chebyshev) UCL	1347	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-0.5	14 / 16	88	6.4	3300	5.9	5.9	338.4	296.9	25.5	754728	868.8	X	2338	99% KM (Chebyshev) UCL	740	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-0.5	0 / 15	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-0.5	0 / 15	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-0.5	0 / 15	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-0.5	0 / 15	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-0.5	0 / 15	0	NA	NA	0.5	0.55	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-0.5	7 / 16	44	17	49	8.5	9	30.79	18.25	30	173	13.15	X	24.7	95% KM (t) UCL	35.3	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-0.5	9 / 9	100	0.84	120	NA	NA	34.63	34.63	12	2136	46.22	X	111	95% Adjusted Gamma UCL	34.4	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-0.5	9 / 9	100	0.87	120	NA	NA	32.41	32.41	13	2217	47.09	X	120	UCL>Max: Max Detect	34.4	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-0.5	9 / 9	100	0.84	120	NA	NA	34.63	34.63	12	2136	46.22	X	111	95% Adjusted Gamma UCL	33.9	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-0.5	3 / 9	33	1.3	19	0.033	0.75	8.9	2.989	6.4	83.01	9.111	X	19	Max Detect	19	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	5 / 16	31	12	79	5	5	31.2	13.19	18	802.7	28.33	X	22.3	95% KM (t) UCL	16.6	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-0.5	0 / 1	0	NA	NA	0.8	0.8	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-0.5	9 / 16	56	16	270	5	5	94.56	55.38	54	7361	85.79	X	90.3	95% KM (t) UCL	55.6	Bootstrap BCA 95UCL
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	1 / 1	100	8100	8100	NA	NA	8100	NA	8100	NA	NA	--	--	--	--	--
Antimony	mg/kg	0-3	1 / 19	5	1.83	1.83	0.2	1.05	1.83	0.286	1.83	NA	NA	X	1.83	Max Detect	1.83	Max Detect
Arsenic	mg/kg	0-3	19 / 19	100	1.7	10.5	NA	NA	3.681	3.681	3.4	3.487	1.867	--	--	--	--	--
Barium	mg/kg	0-3	19 / 19	100	79.3	200	NA	NA	139.2	139.2	133	1271	35.65	--	--	--	--	--
Beryllium	mg/kg	0-3	0 / 19	0	NA	NA	0.05	0.533	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-3	7 / 19	37	0.3	2.63	0.5	0.5	1.149	0.613	0.833	0.619	0.787	X	0.872	95% KM (t) UCL	0.675	Bootstrap BCA 95UCL
Chromium, hexavalent	mg/kg	0-3	12 / 19	63	0.18	3.13	0.1	0.2	0.712	0.488	0.297	0.88	0.938	X	0.752	KM H-UCL	0.433	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	19 / 19	100	14	197	NA	NA	28.11	28.11	16.7	1714	41.4	--	--	--	--	--
Cobalt	mg/kg	0-3	19 / 19	100	3.4	12.7	NA	NA	6.084	6.084	6.3	4.61	2.147	--	--	--	--	--
Copper	mg/kg	0-3	19 / 19	100	6.43	720	NA	NA	69.38	69.38	10.1	31177	176.6	X	246	95% Chebyshev (Mean, Sd) UCL	88.3	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-3	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-3	1 / 1	100	28000	28000	NA	NA	28000	NA	28000	NA	NA	--	--	--	--	--
Lead	mg/kg	0-3	19 / 19	100	4.43	432	NA	NA	52.31	52.31	6.83	13384	115.7	X	168	95% Chebyshev (Mean, Sd) UCL	73.2	Bootstrap BCA 95UCL
Manganese	mg/kg	0-3	1 / 1	100	310	310	NA	NA	310	NA	310	NA	NA	--	--	--	--	--
Mercury	mg/kg	0-3	5 / 19	26	0.113	0.53	0.05	0.0517	0.297	0.115	0.243	0.031	0.176	X	0.175	95% KM (t) UCL	0.102	Bootstrap BCA 95UCL
Molybdenum	mg/kg	0-3	5 / 19	26	0.63	16	0.5	0.5	4.986	1.681	1.9	42.17	6.494	--	--	--	--	--

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Nickel	mg/kg	0-3	19 / 19	100	5.37	55.7	NA	NA	12.47	12.47	9.57	119.6	10.94	--	--	--	--	--	
Selenium	mg/kg	0-3	2 / 19	11	1.4	6.2	0.5	0.533	3.8	0.847	3.8	11.52	3.394	--	--	--	--	--	
Silver	mg/kg	0-3	0 / 19	0	NA	NA	0.125	0.617	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-3	0 / 19	0	NA	NA	0.5	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-3	19 / 19	100	17	34.7	NA	NA	25.33	25.33	25	24.87	4.987	--	--	--	--	--	
Zinc	mg/kg	0-3	19 / 19	100	16	809	NA	NA	159.1	159.1	38	60088	245.1	X	404	95% Chebyshev (Mean, Sd) UCL	126	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-3	0 / 16	0	NA	NA	26	60	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-3	2 / 16	13	23	26	2.6	6	24.5	5.338	24.5	4.5	2.121	X	26	Max Detect	26	Max Detect	
Chloro methane	µg/kg	0-3	3 / 16	19	5.5	11	2.6	6	8.567	3.733	9.2	7.863	2.804	X	11	Max Detect	11	Max Detect	
Chloroform	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-3	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-3	0 / 16	0	NA	NA	26	60	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-3	0 / 16	0	NA	NA	2.6	6	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-3	0 / 19	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 19	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-3	0 / 19	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 19	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-3	0 / 19	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-3	10 / 19	53	3.6	2600	0	0	407.5	214.5	29.85	639514	799.7	X	949	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	414	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-3	18 / 19	95	10.2	22900	0	0	2014	1908	183.5	29874863	5466	X	14098	99% KM (Chebyshev) UCL	3673	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-3	0 / 17	0	NA	NA	2.55	2.65	NA	NA	NA	NA	NA	--	--	--	--	--	
2-Methyl naphthalene	µg/kg	0-3	0 / 19	0	NA	NA	2.55	165	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthene	µg/kg	0-3	2 / 19	11	6.38	34.9	2.55	165	20.64	4.678	20.64	406.7	20.17	X	34.9	Max Detect	34.9	Max Detect	
Acenaphthylene	µg/kg	0-3	1 / 19	5	3.4	3.4	2.55	165	3.4	2.6	3.4	NA	NA	X	3.4	Max Detect	3.4	Max Detect	

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Anthracene	µg/kg	0-3	5 / 19	26	5.38	476	2.55	165	112.9	32.12	29.1	41341	203.3	X	190	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	77.5	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-3	10 / 19	53	5.13	2450	2.55	165	389.1	206.6	20.35	580746	762.1	X	898	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	399	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-3	11 / 19	58	4.47	1640	2.55	165	239.7	140.7	30	238408	488.3	X	593	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	237	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-3	17 / 19	89	5.85	2870	165	165	312.7	283.3	47	512682	716	X	1262	97.5% KM (Chebyshev) UCL	342	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-3	9 / 19	47	6.7	1010	2.55	165	142.9	70.92	16.7	106998	327.1	X	411	97.5% KM (Chebyshev) UCL	192	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-3	10 / 19	53	6.52	1090	2.55	165	198.2	107.2	31.45	116169	340.8	X	384	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	142	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-3	15 / 19	79	4.27	2190	2.55	165	247.9	197.9	31	326138	571.1	X	939	97.5% KM (Chebyshev) UCL	290	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-3	2 / 19	11	14.2	356	2.55	165	185.1	21.89	185.1	58414	241.7	X	356	Max Detect	356	Max Detect
Fluoranthene	µg/kg	0-3	15 / 19	79	3.83	5950	2.55	165	611.9	484.3	26.2	2374893	1541	X	3664	99% KM (Chebyshev) UCL	845	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-3	1 / 19	5	7	7	2.55	165	7	2.812	7	NA	NA	X	7	Max Detect	7	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	9 / 19	47	6.03	806	2.55	165	118	59.05	13	67722	260.2	X	305	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	138	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-3	1 / 19	5	5.13	5.13	2.55	165	5.13	2.702	5.13	NA	NA	X	5.13	Max Detect	5.13	Max Detect
Phenanthrene	µg/kg	0-3	9 / 19	47	3.4	2080	2.55	165	385	183.9	36.7	448557	669.7	X	745	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	332	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-3	15 / 19	79	3.5	4600	2.55	165	464.2	368.2	19.7	1437134	1199	X	2839	99% KM (Chebyshev) UCL	734	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-3	19 / 19	100	6.23	2600	NA	NA	258.9	258.9	24	358697	598.9	X	1626	99% Chebyshev (Mean, Sd) UCL	353	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-3	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-3	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-3	0 / 16	0	NA	NA	0.5	0.533	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-3	0 / 16	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-3	0 / 16	0	NA	NA	0.5	0.533	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-3	7 / 17	41	14.2	47.5	8.5	8.83	25.76	15.61	22.8	164.4	12.82	X	20.8	95% KM (t) UCL	29.6	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-3	12 / 12	100	0.12	150	NA	NA	30.99	30.99	16.3	2003	44.75	X	83.7	95% Adjusted Gamma UCL	23.3	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-3	12 / 12	100	0.2	160	NA	NA	30.13	30.13	9.635	2310	48.06	X	84.2	95% Adjusted Gamma UCL	21.5	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-3	12 / 12	100	0.12	150	NA	NA	30.99	30.99	16.3	2003	44.75	X	83.7	95% Adjusted Gamma UCL	23.1	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-3	4 / 12	33	0.883	14.6	0.0265	2.02	8.346	2.809	8.95	48.18	6.941	X	5.94	95% KM (t) UCL	2.83	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons																		

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
TPH as diesel	mg/kg	0-3	9 / 19	47	9.33	160	5	5	46.88	24.84	43.3	2277	47.72	X	40.6	95% KM (t) UCL	28.2	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-3	0 / 16	0	NA	NA	0.38	1.1	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-3	10 / 17	59	29.7	443	5	5	138.5	83.55	67	18891	137.4	X	187	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	109	Bootstrap BCA 95UCL
Soil Depth Interval: 0-6 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-6	1 / 1	100	8100	8100	NA	NA	8100	NA	8100	NA	NA	--	--	--	--	--
Antimony	mg/kg	0-6	1 / 20	5	2.25	2.25	0.2	1.06	2.25	0.303	2.25	NA	NA	X	2.25	Max Detect	2.25	Max Detect
Arsenic	mg/kg	0-6	20 / 20	100	1.25	12.3	NA	NA	3.619	3.619	3.175	4.858	2.204	--	--	--	--	--
Barium	mg/kg	0-6	20 / 20	100	73.8	200	NA	NA	130.7	130.7	132.5	1028	32.06	--	--	--	--	--
Beryllium	mg/kg	0-6	0 / 20	0	NA	NA	0.05	0.525	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-6	8 / 20	40	0.3	2.9	0.5	0.508	1.195	0.658	0.917	0.662	0.814	X	0.927	95% KM (t) UCL	0.904	Bootstrap BCA 95UCL
Chromium, hexavalent	mg/kg	0-6	13 / 20	65	0.134	2.98	0.1	0.2	0.685	0.483	0.26	0.949	0.974	X	1.3	95% KM (Chebyshev) UCL	0.463	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-6	20 / 20	100	11	198	NA	NA	26.9	26.9	15.9	1661	40.75	--	--	--	--	--
Cobalt	mg/kg	0-6	20 / 20	100	3.4	13	NA	NA	6.105	6.105	6.16	4.597	2.144	--	--	--	--	--
Copper	mg/kg	0-6	20 / 20	100	6.6	695	NA	NA	57.46	57.46	10.55	24538	156.6	X	210	95% Chebyshev (Mean, Sd) UCL	63.3	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-6	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-6	1 / 1	100	28000	28000	NA	NA	28000	NA	28000	NA	NA	--	--	--	--	--
Lead	mg/kg	0-6	20 / 20	100	4.27	342	NA	NA	42.06	42.06	7.185	8095	89.97	X	130	95% Chebyshev (Mean, Sd) UCL	29.4	Bootstrap BCA 95UCL
Manganese	mg/kg	0-6	1 / 1	100	310	310	NA	NA	310	NA	310	NA	NA	--	--	--	--	--
Mercury	mg/kg	0-6	6 / 20	30	0.0633	0.59	0.0499	0.0533	0.256	0.112	0.225	0.0377	0.194	X	0.169	95% KM (t) UCL	0.0948	Bootstrap BCA 95UCL
Molybdenum	mg/kg	0-6	5 / 20	25	0.63	16.8	0.5	0.508	4.766	1.567	2.6	46.48	6.818	--	--	--	--	--
Nickel	mg/kg	0-6	20 / 20	100	5.9	62.2	NA	NA	12.62	12.62	9.61	145.9	12.08	--	--	--	--	--
Selenium	mg/kg	0-6	2 / 20	10	1.4	6.2	0.5	0.525	3.8	0.83	3.8	11.52	3.394	--	--	--	--	--
Silver	mg/kg	0-6	0 / 20	0	NA	NA	0.125	0.675	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-6	0 / 20	0	NA	NA	0.5	1.08	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-6	20 / 20	100	17	35.3	NA	NA	25.26	25.26	26.25	23.73	4.871	--	--	--	--	--
Zinc	mg/kg	0-6	20 / 20	100	16	796	NA	NA	140.2	140.2	37.25	38786	196.9	X	332	95% Chebyshev (Mean, Sd) UCL	124	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-6	0 / 17	0	NA	NA	26.5	55.5	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-6	2 / 17	12	19.6	23.5	2.65	5.55	21.55	4.874	21.55	7.605	2.758	X	23.5	Max Detect	23.5	Max Detect
Chloro methane	µg/kg	0-6	3 / 17	18	5.14	10.1	2.65	5.55	7.773	3.565	8.08	6.221	2.494	X	10.1	Max Detect	10.1	Max Detect
Chloroform	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Ethyl- benzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-6	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl ethyl ketone	µg/kg	0-6	0 / 17	0	NA	NA	26.5	55.5	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-6	0 / 17	0	NA	NA	2.65	5.55	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-6	0 / 20	0	NA	NA	165	178	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 20	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-6	0 / 20	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-6	0 / 20	0	NA	NA	165	178	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-6	0 / 20	0	NA	NA	165	178	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-6	10 / 20	50	1.8	1310	0	0	257.8	128.9	30.65	176020	419.5	X	447	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	161	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-6	19 / 20	95	5.1	13400	0	0	1310	1245	99.2	11276510	3358	X	8556	99% KM (Chebyshev) UCL	1418	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-6	0 / 18	0	NA	NA	2.54	2.7	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-6	0 / 20	0	NA	NA	2.54	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-6	2 / 20	10	4.47	18.7	2.54	165	11.59	3.545	11.59	101.2	10.06	X	18.7	Max Detect	18.7	Max Detect
Acenaphthylene	µg/kg	0-6	1 / 20	5	3.82	3.82	2.54	165	3.82	2.611	3.82	NA	NA	X	3.82	Max Detect	3.82	Max Detect
Anthracene	µg/kg	0-6	5 / 20	25	3.96	241	2.55	165	59.81	17.15	18	10298	101.5	X	73.5	95% KM (Chebyshev) UCL	38.4	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-6	10 / 20	50	3.87	1410	2.55	165	262.4	133	19.65	222156	471.3	X	506	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	154	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-6	11 / 20	55	3.53	1130	2.55	165	181.2	102.8	25.4	124943	353.5	X	393	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	118	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-6	18 / 20	90	4.2	2040	165	165	235	214.3	28.2	287345	536	X	714	95% KM (Chebyshev) UCL	224	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-6	9 / 20	45	6.37	512	2.55	165	80.8	39.15	16.1	26912	164	X	172	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	70.5	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-6	11 / 20	55	3.43	765	2.55	165	142.8	80.8	17.3	61939	248.9	X	274	95% KM (Chebyshev) UCL	84.7	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-6	15 / 20	75	3.45	1290	2.55	165	171.8	131.6	19	132788	364.4	X	448	95% KM (Chebyshev) UCL	143	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-6	2 / 20	10	8.38	181	2.54	165	94.69	11.83	94.69	14899	122.1	X	181	Max Detect	181	Max Detect
Fluoranthene	µg/kg	0-6	15 / 20	75	3.53	3200	2.55	165	401.9	302.5	14.4	802839	896	X	1414	97.5% KM (Chebyshev) UCL	336	Bootstrap BCA 95UCL

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Fluorene	µg/kg	0-6	1 / 20	5	4.79	4.79	2.54	165	4.79	2.665	4.79	NA	NA	X	4.79	Max Detect	4.79	Max Detect	
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	9 / 20	45	5.69	410	2.55	165	66.57	32.55	11.3	17136	130.9	X	135	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	53.4	Bootstrap BCA 95UCL	
	µg/kg	0-6	1 / 20	5	3.86	3.86	2.47	165	3.86	2.547	3.86	NA	NA	X	3.86	Max Detect	3.86	Max Detect	
Phenanthrene	µg/kg	0-6	9 / 20	45	3.53	1050	2.54	165	251.6	115.3	38.8	129919	360.4	X	368	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	110	Bootstrap BCA 95UCL	
	µg/kg	0-6	15 / 20	75	3.77	2500	2.55	165	302.3	228.2	13.9	504261	710.1	X	1107	97.5% KM (Chebyshev) UCL	262	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-6	20 / 20	100	6.07	1700	NA	NA	191.8	191.8	18.45	164546	405.6	X	587	95% Chebyshev (Mean, Sd) UCL	187	Bootstrap BCA 95UCL	
Pesticides																			
4,4-DDE	µg/kg	0-6	0 / 17	0	NA	NA	1	1.08	NA	NA	NA	NA	NA	--	--	--	--	--	
4,4-DDT	µg/kg	0-6	0 / 17	0	NA	NA	1	1.08	NA	NA	NA	NA	NA	--	--	--	--	--	
Alpha-Chlordane	µg/kg	0-6	0 / 17	0	NA	NA	0.5	0.525	NA	NA	NA	NA	NA	--	--	--	--	--	
Dieldrin	µg/kg	0-6	0 / 17	0	NA	NA	1	1.08	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-6	0 / 17	0	NA	NA	0.5	0.525	NA	NA	NA	NA	NA	--	--	--	--	--	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-6	8 / 18	44	11.3	47.5	8.5	9	22.29	14.63	16	175.1	13.23	X	19.3	95% KM (t) UCL	26	Bootstrap BCA 95UCL	
Dioxins																			
TEQ Human	ng/kg	0-6	13 / 13	100	0.12	152	NA	NA	25.55	25.55	10.9	1699	41.22	X	64.6	95% Adjusted Gamma UCL	17.8	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-6	13 / 13	100	0.2	167	NA	NA	25.34	25.34	7.4	2093	45.75	X	66.9	95% Adjusted Gamma UCL	18	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-6	13 / 13	100	0.12	152	NA	NA	25.55	25.55	10.9	1699	41.22	X	64.6	95% Adjusted Gamma UCL	17.6	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-6	4 / 13	31	0.461	16.7	0.0265	2.53	7.443	2.312	6.305	51.5	7.176	X	5.08	95% KM (t) UCL	2.1	Bootstrap BCA 95UCL	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-6	10 / 20	50	7.33	160	5	5.08	49.49	27.24	40.85	2279	47.74	X	43.1	95% KM (t) UCL	35.5	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-6	0 / 17	0	NA	NA	0.417	1.03	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-6	11 / 18	61	21.8	491	5	5.08	155.3	96.84	64.3	28475	168.7	X	218	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	131	Bootstrap BCA 95UCL	
Soil Depth Interval: 0-10 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-10	1 / 1	100	8100	8100	NA	NA	8100	NA	8100	NA	NA	--	--	--	--	--	
Antimony	mg/kg	0-10	1 / 20	5	1.75	1.75	0.2	1.08	1.75	0.278	1.75	NA	NA	X	1.75	Max Detect	1.75	Max Detect	
Arsenic	mg/kg	0-10	20 / 20	100	1.31	8.44	NA	NA	3.153	3.153	2.765	2.073	1.44	--	--	--	--	--	
Barium	mg/kg	0-10	20 / 20	100	67	200	NA	NA	116.4	116.4	115.5	791.8	28.14	--	--	--	--	--	
Beryllium	mg/kg	0-10	0 / 20	0	NA	NA	0.05	0.525	NA	NA	NA	NA	NA	--	--	--	--	--	
Cadmium	mg/kg	0-10	8 / 20	40	0.3	1.94	0.5	0.525	1.018	0.587	0.755	0.339	0.582	X	0.79	95% KM (t) UCL	0.91	Bootstrap BCA 95UCL	
Chromium, hexavalent	mg/kg	0-10	13 / 20	65	0.136	1.99	0.1	0.2	0.482	0.352	0.256	0.372	0.61	X	0.484	KM H-UCL	0.33	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-10	20 / 20	100	11	125	NA	NA	22.7	22.7	15.6	610.9	24.72	--	--	--	--	--	
Cobalt	mg/kg	0-10	20 / 20	100	3.4	10.9	NA	NA	6.207	6.207	6.26	3.191	1.786	--	--	--	--	--	

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Copper	mg/kg	0-10	20 / 20	100	6.6	421	NA	NA	38.7	38.7	10.45	8864	94.15	X	131	95% Chebyshev (Mean, Sd) UCL	50.5	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-10	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-10	1 / 1	100	28000	28000	NA	NA	28000	NA	28000	NA	NA	--	--	--	--	--	
Lead	mg/kg	0-10	20 / 20	100	3.53	206	NA	NA	28.04	28.04	6.765	3136	56	X	82.6	95% Chebyshev (Mean, Sd) UCL	23.9	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-10	1 / 1	100	310	310	NA	NA	310	NA	310	NA	NA	--	--	--	--	--	
Mercury	mg/kg	0-10	6 / 20	30	0.082	0.374	0.0498	0.054	0.192	0.0924	0.171	0.0129	0.114	X	0.129	95% KM (t) UCL	0.0826	Bootstrap BCA 95UCL	
Molybdenum	mg/kg	0-10	5 / 20	25	0.63	10.3	0.5	0.525	3.09	1.148	1.76	16.64	4.08	--	--	--	--	--	
Nickel	mg/kg	0-10	20 / 20	100	6.7	42.1	NA	NA	11.88	11.88	9.735	62.61	7.913	--	--	--	--	--	
Selenium	mg/kg	0-10	2 / 20	10	1.4	6.2	0.5	0.525	3.8	0.83	3.8	11.52	3.394	--	--	--	--	--	
Silver	mg/kg	0-10	0 / 20	0	NA	NA	0.125	0.605	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-10	0 / 20	0	NA	NA	0.5	1.08	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-10	20 / 20	100	17	35.6	NA	NA	26.31	26.31	28.05	25.03	5.003	--	--	--	--	--	
Zinc	mg/kg	0-10	20 / 20	100	16	493	NA	NA	103.2	103.2	36.65	15318	123.8	X	224	95% Chebyshev (Mean, Sd) UCL	102	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-10	0 / 17	0	NA	NA	26.3	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-10	2 / 17	12	12.7	17.7	2.72	17.5	15.2	4.227	15.2	12.5	3.536	X	17.7	Max Detect	17.7	Max Detect	
Chloro methane	µg/kg	0-10	3 / 17	18	4.41	7.94	2.72	17.5	6.06	3.354	5.83	3.155	1.776	X	7.94	Max Detect	7.94	Max Detect	
Chloroform	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-10	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-10	0 / 17	0	NA	NA	26.3	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-10	0 / 17	0	NA	NA	2.63	17.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-10	0 / 20	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 20	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-10	0 / 20	0	NA	NA	165	1700	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-10	0 / 20	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--	

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Isophorone	µg/kg	0-10	0 / 20	0	NA	NA	165	175	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-10	10 / 20	50	1.08	788	0	0	173.9	86.95	23	71158	266.8	X	283	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	97.6	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-10	19 / 20	95	4.22	8100	0	0	803.7	763.6	59.5	4091007	2023	X	5168	99% KM (Chebyshev) UCL	855	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-10	0 / 18	0	NA	NA	2.53	2.64	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-10	0 / 20	0	NA	NA	2.53	165	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-10	2 / 20	10	3.7	12.3	2.53	165	8	3.138	8	36.98	6.081	X	12.3	Max Detect	12.3	Max Detect
Acenaphthylene	µg/kg	0-10	1 / 20	5	3.29	3.29	2.53	165	3.29	2.572	3.29	NA	NA	X	3.29	Max Detect	3.29	Max Detect
Anthracene	µg/kg	0-10	5 / 20	25	3.38	145	2.55	165	36.8	12.06	11.9	3673	60.6	X	49.3	95% KM (Chebyshev) UCL	26	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-10	11 / 20	55	2.81	853	2.55	165	144.8	82.38	10.3	75014	273.9	X	384	97.5% KM (Chebyshev) UCL	90.1	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-10	12 / 20	60	3.16	686	2.55	165	101.6	63.27	12.95	42545	206.3	X	236	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	73.7	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-10	18 / 20	90	3.54	1230	165	165	144.7	132.9	17.95	103661	322	X	433	95% KM (Chebyshev) UCL	138	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-10	10 / 20	50	3.9	310	2.55	165	45.11	24.67	9.99	8925	94.47	X	93.4	95% KM (Chebyshev) UCL	41.1	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-10	11 / 20	55	4.65	462	2.55	165	87.06	50.47	11.4	22380	149.6	X	167	95% KM (Chebyshev) UCL	52.6	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-10	16 / 20	80	3.15	779	2.55	165	99.32	81.95	11.65	45457	213.2	X	272	95% KM (Chebyshev) UCL	88.1	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-10	2 / 20	10	6.07	109	2.53	165	57.54	8.668	57.54	5297	72.78	X	109	Max Detect	109	Max Detect
Fluoranthene	µg/kg	0-10	16 / 20	80	2.81	1920	2.55	165	237.5	191.3	10.07	273454	522.9	X	858	97.5% KM (Chebyshev) UCL	207	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-10	1 / 20	5	3.9	3.9	2.53	165	3.9	2.606	3.9	NA	NA	X	3.9	Max Detect	3.9	Max Detect
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	10 / 20	50	3.6	248	2.55	165	37.31	20.65	7.765	5670	75.3	X	75.6	95% KM (Chebyshev) UCL	34.5	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-10	2 / 20	10	2.81	3.34	2.29	165	3.075	2.377	3.075	0.14	0.375	X	3.34	Max Detect	3.34	Max Detect
Phenanthrene	µg/kg	0-10	9 / 20	45	3.16	631	2.53	165	172.9	79.64	24.3	55287	235.1	X	240	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	74.1	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-10	16 / 20	80	2.81	1500	2.55	165	172.3	140.5	8.995	170924	413.4	X	666	97.5% KM (Chebyshev) UCL	159	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-10	20 / 20	100	6	1030	NA	NA	134.2	134.2	13.4	65396	255.7	X	383	95% Chebyshev (Mean, Sd) UCL	122	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-10	0 / 17	0	NA	NA	1	1.07	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-10	0 / 17	0	NA	NA	1	1.07	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-10	0 / 17	0	NA	NA	0.5	0.525	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-10	0 / 17	0	NA	NA	1	1.07	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-10	0 / 17	0	NA	NA	0.5	0.525	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-10	8 / 18	44	10.2	47.5	8.5	8.8	20.08	13.64	13	192.1	13.86	X	16.8	KM H-UCL	24.2	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-10	13 / 13	100	0.12	93.2	NA	NA	16.73	16.73	9.1	629.4	25.09	X	40	95% Adjusted Gamma UCL	10.7	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-10	13 / 13	100	0.2	102	NA	NA	16.36	16.36	4.8	771.6	27.78	X	40.5	95% Adjusted Gamma UCL	11.7	Bootstrap BCA 95UCL

Table AOC27-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 27 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
TEQ Mammals	ng/kg	0-10	13 / 13	100	0.12	93.2	NA	NA	16.73	16.73	9.1	629.4	25.09	X	40	95% Adjusted Gamma UCL	10.7	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-10	4 / 13	31	0.284	10	0.0265	1.54	4.514	1.412	3.885	18.53	4.305	X	3.08	95% KM (t) UCL	1.3	Bootstrap BCA 95UCL	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-10	10 / 20	50	6.4	160	5	5.25	40.94	22.97	29.95	2147	46.33	X	37.6	95% KM (t) UCL	27.9	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-10	0 / 17	0	NA	NA	0.49	0.875	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-10	11 / 18	61	17.9	308	5	5.25	109.7	68.98	40.6	12217	110.5	X	147	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	105	Bootstrap BCA 95UCL	

Notes:
^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:
"--" = not applicable
AOC = area of concern
B(a)P equivalent = benzo(a)pyrene equivalent
BCA = Bias-corrected accelerated bootstrap method
COPC = constituent of potential concern
COPEC = constituent of potential ecological concern
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
EPC = exposure point concentration
FOD = frequency of detection
ft bgs = feet below ground surface
KM = Kaplan-Meier
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not applicable
ND = not detected
ng/kg = nanograms per kilogram
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls
PG&E = Pacific Gas and Electric Company
TCDD = Tetrachlorodibenzo-p-dioxin
TEQ = toxic equivalent
TPH = total petroleum hydrocarbons
UCL = upper confidence limit
X = COPC/COPEC in the exposure depth interval

Table AOC27-4.1

Summary of COPCs Evaluated in the HHRA for AOC 27: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Antimony	--	X	X	X
Cadmium	X	X	X	X
Chromium, Hexavalent	X	X	X	X
Copper	X	X	X	X
Lead	X	X	X	X
Mercury (inorganic)	X	X	X	X
Zinc	X	X	X	X
Volatile Organic Compounds				
Bromomethane	--	X	X	X
Chloro methane	--	X	X	X
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	X	X	X	X
Acenaphthylene	--	X	X	X
Anthracene	X	X	X	X
Benzo (a) anthracene	X	X	X	X
Benzo (a) pyrene	X	X	X	X
Benzo (b) fluoranthene	X	X	X	X
Benzo (ghi) perylene	X	X	X	X
Benzo (k) fluoranthene	X	X	X	X

Table AOC27-4.1

Summary of COPCs Evaluated in the HHRA for AOC 27: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Chrysene	x	x	x	x
Dibenzo (a,h) anthracene	x	x	x	x
Fluoranthene	x	x	x	x
Fluorene	x	x	x	x
Indeno (1,2,3-cd) pyrene	x	x	x	x
Naphthalene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
B(a)P Equivalent	x	x	x	x
Polychlorinated Biphenyls				
Total PCBs	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x
Dioxins/Furans				
TEQ Human	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	ND	1.8E+00	NA	NV	NA	NV
Cadmium	2.3E+00	7.9E-01	2.3E-06	NV	2.3E-06	NV
Chromium, Hexavalent	1.1E+00	4.8E-01	1.1E-06	NV	1.1E-06	NV
Copper	2.8E+02	1.3E+02	2.8E-04	NV	2.8E-04	NV
Lead	2.3E+02	8.3E+01	2.3E-04	NV	2.3E-04	NV
Mercury (inorganic)	1.7E-01	1.3E-01	1.7E-07	NV	1.7E-07	NV
Zinc	5.5E+02	2.2E+02	5.5E-04	NV	5.5E-04	NV
Volatile Organic Compounds						
Bromomethane	ND	1.8E-02	NA	5.2E-05	NA	9.5E-06
Chloro methane	ND	7.9E-03	NA	2.8E-05	NA	5.1E-06
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	5.1E-02	1.2E-02	5.1E-08	3.5E-07	5.1E-08	6.3E-08
Acenaphthylene	ND	3.3E-03	NA	NV	NA	NV
Anthracene	3.8E-01	4.9E-02	3.8E-07	3.9E-07	3.8E-07	7.1E-08
Benzo (a) anthracene	1.6E+00	3.8E-01	1.6E-06	3.6E-07	1.6E-06	6.6E-08
Benzo (a) pyrene	9.3E-01	2.4E-01	9.3E-07	NV	9.3E-07	NV
Benzo (b) fluoranthene	1.7E+00	4.3E-01	1.7E-06	NV	1.7E-06	NV
Benzo (ghi) perylene	8.0E-01	9.3E-02	8.0E-07	NV	8.0E-07	NV
Benzo (k) fluoranthene	5.9E-01	1.7E-01	5.9E-07	NV	5.9E-07	NV
Chrysene	2.1E+00	2.7E-01	2.1E-06	NV	2.1E-06	NV
Dibenzo (a,h) anthracene	5.3E-01	1.1E-01	5.3E-07	NV	5.3E-07	NV
Fluoranthene	6.1E+00	8.6E-01	6.1E-06	NV	6.1E-06	NV
Fluorene	9.2E-03	3.9E-03	9.2E-09	5.5E-08	9.2E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	6.2E-01	7.6E-02	6.2E-07	NV	6.2E-07	NV
Naphthalene	6.4E-03	3.3E-03	6.4E-09	2.9E-07	6.4E-09	5.3E-08
Phenanthrene	1.6E+00	2.4E-01	1.6E-06	NV	1.6E-06	NV
Pyrene	4.7E+00	6.7E-01	4.7E-06	1.1E-06	4.7E-06	2.0E-07
B(a)P Equivalent	2.3E+00	3.8E-01	2.3E-06	NV	2.3E-06	NV

Table AOC27-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	2.5E-02	1.7E-02	2.5E-08	1.3E-07	2.5E-08	2.4E-08
Total Petroleum Hydrocarbons						
TPH as diesel	2.2E+01	3.8E+01	2.2E-05	7.7E-02	2.2E-05	1.4E-02
TPH as motor oil	9.0E+01	1.5E+02	9.0E-05	NV	9.0E-05	NV
Dioxins/Furans						
TEQ Human	1.1E-04	4.0E-05	1.1E-10	8.4E-11	1.1E-10	1.5E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	1.8E+00	1.8E+00	1.8E-06	NV	1.8E-06	NV
Cadmium	8.7E-01	7.9E-01	8.7E-07	NV	8.7E-07	NV
Chromium, Hexavalent	7.5E-01	4.8E-01	7.5E-07	NV	7.5E-07	NV
Copper	2.5E+02	1.3E+02	2.5E-04	NV	2.5E-04	NV
Lead	1.7E+02	8.3E+01	1.7E-04	NV	1.7E-04	NV
Mercury (inorganic)	1.8E-01	1.3E-01	1.8E-07	NV	1.8E-07	NV
Zinc	4.0E+02	2.2E+02	4.0E-04	NV	4.0E-04	NV
Volatile Organic Compounds						
Bromomethane	2.6E-02	1.8E-02	2.6E-08	5.2E-05	2.6E-08	9.5E-06
Chloro methane	1.1E-02	7.9E-03	1.1E-08	2.8E-05	1.1E-08	5.1E-06
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	3.5E-02	1.2E-02	3.5E-08	3.5E-07	3.5E-08	6.3E-08
Acenaphthylene	3.4E-03	3.3E-03	3.4E-09	NV	3.4E-09	NV
Anthracene	1.9E-01	4.9E-02	1.9E-07	3.9E-07	1.9E-07	7.1E-08
Benzo (a) anthracene	9.0E-01	3.8E-01	9.0E-07	3.6E-07	9.0E-07	6.6E-08
Benzo (a) pyrene	5.9E-01	2.4E-01	5.9E-07	NV	5.9E-07	NV
Benzo (b) fluoranthene	1.3E+00	4.3E-01	1.3E-06	NV	1.3E-06	NV
Benzo (ghi) perylene	4.1E-01	9.3E-02	4.1E-07	NV	4.1E-07	NV
Benzo (k) fluoranthene	3.8E-01	1.7E-01	3.8E-07	NV	3.8E-07	NV
Chrysene	9.4E-01	2.7E-01	9.4E-07	NV	9.4E-07	NV
Dibenzo (a,h) anthracene	3.6E-01	1.1E-01	3.6E-07	NV	3.6E-07	NV
Fluoranthene	3.7E+00	8.6E-01	3.7E-06	NV	3.7E-06	NV
Fluorene	7.0E-03	3.9E-03	7.0E-09	5.5E-08	7.0E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	3.1E-01	7.6E-02	3.1E-07	NV	3.1E-07	NV
Naphthalene	5.1E-03	3.3E-03	5.1E-09	2.9E-07	5.1E-09	5.3E-08
Phenanthrene	7.5E-01	2.4E-01	7.5E-07	NV	7.5E-07	NV
Pyrene	2.8E+00	6.7E-01	2.8E-06	1.1E-06	2.8E-06	2.0E-07
B(a)P Equivalent	1.6E+00	3.8E-01	1.6E-06	NV	1.6E-06	NV

Table AOC27-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	2.1E-02	1.7E-02	2.1E-08	1.3E-07	2.1E-08	2.4E-08
Total Petroleum Hydrocarbons						
TPH as diesel	4.1E+01	3.8E+01	4.1E-05	7.7E-02	4.1E-05	1.4E-02
TPH as motor oil	1.9E+02	1.5E+02	1.9E-04	NV	1.9E-04	NV
Dioxins/Furans						
TEQ Human	8.4E-05	4.0E-05	8.4E-11	8.4E-11	8.4E-11	1.5E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	2.3E+00	1.8E+00	2.3E-06	NV	2.3E-06	NV
Cadmium	9.3E-01	7.9E-01	9.3E-07	NV	9.3E-07	NV
Chromium, Hexavalent	1.3E+00	4.8E-01	1.3E-06	NV	1.3E-06	NV
Copper	2.1E+02	1.3E+02	2.1E-04	NV	2.1E-04	NV
Lead	1.3E+02	8.3E+01	1.3E-04	NV	1.3E-04	NV
Mercury (inorganic)	1.7E-01	1.3E-01	1.7E-07	NV	1.7E-07	NV
Zinc	3.3E+02	2.2E+02	3.3E-04	NV	3.3E-04	NV
Volatile Organic Compounds						
Bromomethane	2.4E-02	1.8E-02	2.4E-08	5.2E-05	2.4E-08	9.5E-06
Chloro methane	1.0E-02	7.9E-03	1.0E-08	2.8E-05	1.0E-08	5.1E-06
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	1.9E-02	1.2E-02	1.9E-08	3.5E-07	1.9E-08	6.3E-08
Acenaphthylene	3.8E-03	3.3E-03	3.8E-09	NV	3.8E-09	NV
Anthracene	7.4E-02	4.9E-02	7.4E-08	3.9E-07	7.4E-08	7.1E-08
Benzo (a) anthracene	5.1E-01	3.8E-01	5.1E-07	3.6E-07	5.1E-07	6.6E-08
Benzo (a) pyrene	3.9E-01	2.4E-01	3.9E-07	NV	3.9E-07	NV
Benzo (b) fluoranthene	7.1E-01	4.3E-01	7.1E-07	NV	7.1E-07	NV
Benzo (ghi) perylene	1.7E-01	9.3E-02	1.7E-07	NV	1.7E-07	NV
Benzo (k) fluoranthene	2.7E-01	1.7E-01	2.7E-07	NV	2.7E-07	NV
Chrysene	4.5E-01	2.7E-01	4.5E-07	NV	4.5E-07	NV
Dibenzo (a,h) anthracene	1.8E-01	1.1E-01	1.8E-07	NV	1.8E-07	NV
Fluoranthene	1.4E+00	8.6E-01	1.4E-06	NV	1.4E-06	NV
Fluorene	4.8E-03	3.9E-03	4.8E-09	5.5E-08	4.8E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	1.4E-01	7.6E-02	1.4E-07	NV	1.4E-07	NV
Naphthalene	3.9E-03	3.3E-03	3.9E-09	2.9E-07	3.9E-09	5.3E-08
Phenanthrene	3.7E-01	2.4E-01	3.7E-07	NV	3.7E-07	NV
Pyrene	1.1E+00	6.7E-01	1.1E-06	1.1E-06	1.1E-06	2.0E-07
B(a)P Equivalent	5.9E-01	3.8E-01	5.9E-07	NV	5.9E-07	NV

Table AOC27-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	1.9E-02	1.7E-02	1.9E-08	1.3E-07	1.9E-08	2.4E-08
Total Petroleum Hydrocarbons						
TPH as diesel	4.3E+01	3.8E+01	4.3E-05	7.7E-02	4.3E-05	1.4E-02
TPH as motor oil	2.2E+02	1.5E+02	2.2E-04	NV	2.2E-04	NV
Dioxins/Furans						
TEQ Human	6.5E-05	4.0E-05	6.5E-11	8.4E-11	6.5E-11	1.5E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Antimony	1.8E+00	1.8E-06	NV	1.8E-06	NV
Cadmium	7.9E-01	7.9E-07	NV	7.9E-07	NV
Chromium, Hexavalent	4.8E-01	4.8E-07	NV	4.8E-07	NV
Copper	1.3E+02	1.3E-04	NV	1.3E-04	NV
Lead	8.3E+01	8.3E-05	NV	8.3E-05	NV
Mercury (inorganic)	1.3E-01	1.3E-07	NV	1.3E-07	NV
Zinc	2.2E+02	2.2E-04	NV	2.2E-04	NV
Volatile Organic Compounds					
Bromomethane	1.8E-02	1.8E-08	5.2E-05	1.8E-08	9.5E-06
Chloro methane	7.9E-03	7.9E-09	2.8E-05	7.9E-09	5.1E-06
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	1.2E-02	1.2E-08	3.5E-07	1.2E-08	6.3E-08
Acenaphthylene	3.3E-03	3.3E-09	NV	3.3E-09	NV
Anthracene	4.9E-02	4.9E-08	3.9E-07	4.9E-08	7.1E-08
Benzo (a) anthracene	3.8E-01	3.8E-07	3.6E-07	3.8E-07	6.6E-08
Benzo (a) pyrene	2.4E-01	2.4E-07	NV	2.4E-07	NV
Benzo (b) fluoranthene	4.3E-01	4.3E-07	NV	4.3E-07	NV
Benzo (ghi) perylene	9.3E-02	9.3E-08	NV	9.3E-08	NV
Benzo (k) fluoranthene	1.7E-01	1.7E-07	NV	1.7E-07	NV
Chrysene	2.7E-01	2.7E-07	NV	2.7E-07	NV
Dibenzo (a,h) anthracene	1.1E-01	1.1E-07	NV	1.1E-07	NV
Fluoranthene	8.6E-01	8.6E-07	NV	8.6E-07	NV
Fluorene	3.9E-03	3.9E-09	5.5E-08	3.9E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	7.6E-02	7.6E-08	NV	7.6E-08	NV
Naphthalene	3.3E-03	3.3E-09	2.9E-07	3.3E-09	5.3E-08
Phenanthrene	2.4E-01	2.4E-07	NV	2.4E-07	NV
Pyrene	6.7E-01	6.7E-07	1.1E-06	6.7E-07	2.0E-07
B(a)P Equivalent	3.8E-01	3.8E-07	NV	3.8E-07	NV

Table AOC27-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 27 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls					
Total PCBs	1.7E-02	1.7E-08	1.3E-07	1.7E-08	2.4E-08
Total Petroleum Hydrocarbons					
TPH as diesel	3.8E+01	3.8E-05	7.7E-02	3.8E-05	1.4E-02
TPH as motor oil	1.5E+02	1.5E-04	NV	1.5E-04	NV
Dioxins/Furans					
TEQ Human	4.0E-05	4.0E-11	8.4E-11	4.0E-11	1.5E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Antimony	ND	1.8E+00	NA	NV	NA	NV	NA	NV	NA	NV
Cadmium	2.3E+00	7.9E-01	1.7E-09	NV	1.7E-09	NV	1.7E-09	NV	2.7E-06	NV
Chromium, Hexavalent	1.1E+00	4.8E-01	8.2E-10	NV	8.2E-10	NV	8.2E-10	NV	1.3E-06	NV
Copper	2.8E+02	1.3E+02	2.0E-07	NV	2.0E-07	NV	2.0E-07	NV	3.3E-04	NV
Lead	2.3E+02	8.3E+01	1.7E-07	NV	1.7E-07	NV	1.7E-07	NV	2.8E-04	NV
Mercury (inorganic)	1.7E-01	1.3E-01	1.2E-10	NV	1.2E-10	NV	1.2E-10	NV	2.0E-07	NV
Zinc	5.5E+02	2.2E+02	4.0E-07	NV	4.0E-07	NV	4.0E-07	NV	6.5E-04	NV
Volatile Organic Compounds										
Bromomethane	ND	1.8E-02	NA	1.0E-05	NA	1.0E-05	NA	1.0E-05	NA	1.0E-05
Chloro methane	ND	7.9E-03	NA	5.4E-06	NA	5.4E-06	NA	5.4E-06	NA	5.4E-06
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	5.1E-02	1.2E-02	3.8E-11	6.8E-08	3.8E-11	6.8E-08	3.8E-11	6.8E-08	6.0E-08	6.8E-08
Acenaphthylene	ND	3.3E-03	NA	NV	NA	NV	NA	NV	NA	NV
Anthracene	3.8E-01	4.9E-02	2.8E-10	7.6E-08	2.8E-10	7.6E-08	2.8E-10	7.6E-08	4.5E-07	7.6E-08
Benzo (a) anthracene	1.6E+00	3.8E-01	1.2E-09	7.1E-08	1.2E-09	7.1E-08	1.2E-09	7.1E-08	1.9E-06	7.1E-08
Benzo (a) pyrene	9.3E-01	2.4E-01	6.9E-10	NV	6.9E-10	NV	6.9E-10	NV	1.1E-06	NV
Benzo (b) fluoranthene	1.7E+00	4.3E-01	1.2E-09	NV	1.2E-09	NV	1.2E-09	NV	2.0E-06	NV
Benzo (ghi) perylene	8.0E-01	9.3E-02	5.9E-10	NV	5.9E-10	NV	5.9E-10	NV	9.5E-07	NV
Benzo (k) fluoranthene	5.9E-01	1.7E-01	4.3E-10	NV	4.3E-10	NV	4.3E-10	NV	6.9E-07	NV
Chrysene	2.1E+00	2.7E-01	1.6E-09	NV	1.6E-09	NV	1.6E-09	NV	2.5E-06	NV
Dibenzo (a,h) anthracene	5.3E-01	1.1E-01	3.9E-10	NV	3.9E-10	NV	3.9E-10	NV	6.3E-07	NV
Fluoranthene	6.1E+00	8.6E-01	4.5E-09	NV	4.5E-09	NV	4.5E-09	NV	7.2E-06	NV
Fluorene	9.2E-03	3.9E-03	6.8E-12	1.1E-08	6.8E-12	1.1E-08	6.8E-12	1.1E-08	1.1E-08	1.1E-08
Indeno (1,2,3-cd) pyrene	6.2E-01	7.6E-02	4.6E-10	NV	4.6E-10	NV	4.6E-10	NV	7.3E-07	NV
Naphthalene	6.4E-03	3.3E-03	4.7E-12	5.6E-08	4.7E-12	5.6E-08	4.7E-12	5.6E-08	7.6E-09	5.6E-08
Phenanthrene	1.6E+00	2.4E-01	1.2E-09	NV	1.2E-09	NV	1.2E-09	NV	1.9E-06	NV
Pyrene	4.7E+00	6.7E-01	3.4E-09	2.2E-07	3.4E-09	2.2E-07	3.4E-09	2.2E-07	5.5E-06	2.2E-07
B(a)P Equivalent	2.3E+00	3.8E-01	1.7E-09	NV	1.7E-09	NV	1.7E-09	NV	2.8E-06	NV

Table AOC27-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	2.5E-02	1.7E-02	1.8E-11	2.6E-08	1.8E-11	2.6E-08	1.8E-11	2.6E-08	2.9E-08	2.6E-08
Total Petroleum Hydrocarbons										
TPH as diesel	2.2E+01	3.8E+01	1.6E-08	1.5E-02	1.6E-08	1.5E-02	1.6E-08	1.5E-02	2.6E-05	1.5E-02
TPH as motor oil	9.0E+01	1.5E+02	6.6E-08	NV	6.6E-08	NV	6.6E-08	NV	1.1E-04	NV
Dioxins/Furans										
TEQ Human	1.1E-04	4.0E-05	8.2E-14	1.7E-11	8.2E-14	1.7E-11	8.2E-14	1.7E-11	1.3E-10	1.7E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
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Table AOC27-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Antimony	1.8E+00	1.8E+00	1.3E-09	NV	1.3E-09	NV	1.3E-09	NV	2.2E-06	NV
Cadmium	8.7E-01	7.9E-01	6.4E-10	NV	6.4E-10	NV	6.4E-10	NV	1.0E-06	NV
Chromium, Hexavalent	7.5E-01	4.8E-01	5.5E-10	NV	5.5E-10	NV	5.5E-10	NV	8.9E-07	NV
Copper	2.5E+02	1.3E+02	1.8E-07	NV	1.8E-07	NV	1.8E-07	NV	2.9E-04	NV
Lead	1.7E+02	8.3E+01	1.2E-07	NV	1.2E-07	NV	1.2E-07	NV	2.0E-04	NV
Mercury (inorganic)	1.8E-01	1.3E-01	1.3E-10	NV	1.3E-10	NV	1.3E-10	NV	2.1E-07	NV
Zinc	4.0E+02	2.2E+02	3.0E-07	NV	3.0E-07	NV	3.0E-07	NV	4.8E-04	NV
Volatile Organic Compounds										
Bromomethane	2.6E-02	1.8E-02	1.9E-11	1.0E-05	1.9E-11	1.0E-05	1.9E-11	1.0E-05	3.1E-08	1.0E-05
Chloro methane	1.1E-02	7.9E-03	8.1E-12	5.4E-06	8.1E-12	5.4E-06	8.1E-12	5.4E-06	1.3E-08	5.4E-06
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	3.5E-02	1.2E-02	2.6E-11	6.8E-08	2.6E-11	6.8E-08	2.6E-11	6.8E-08	4.1E-08	6.8E-08
Acenaphthylene	3.4E-03	3.3E-03	2.5E-12	NV	2.5E-12	NV	2.5E-12	NV	4.0E-09	NV
Anthracene	1.9E-01	4.9E-02	1.4E-10	7.6E-08	1.4E-10	7.6E-08	1.4E-10	7.6E-08	2.2E-07	7.6E-08
Benzo (a) anthracene	9.0E-01	3.8E-01	6.6E-10	7.1E-08	6.6E-10	7.1E-08	6.6E-10	7.1E-08	1.1E-06	7.1E-08
Benzo (a) pyrene	5.9E-01	2.4E-01	4.4E-10	NV	4.4E-10	NV	4.4E-10	NV	7.0E-07	NV
Benzo (b) fluoranthene	1.3E+00	4.3E-01	9.3E-10	NV	9.3E-10	NV	9.3E-10	NV	1.5E-06	NV
Benzo (ghi) perylene	4.1E-01	9.3E-02	3.0E-10	NV	3.0E-10	NV	3.0E-10	NV	4.9E-07	NV
Benzo (k) fluoranthene	3.8E-01	1.7E-01	2.8E-10	NV	2.8E-10	NV	2.8E-10	NV	4.5E-07	NV
Chrysene	9.4E-01	2.7E-01	6.9E-10	NV	6.9E-10	NV	6.9E-10	NV	1.1E-06	NV
Dibenzo (a,h) anthracene	3.6E-01	1.1E-01	2.6E-10	NV	2.6E-10	NV	2.6E-10	NV	4.2E-07	NV
Fluoranthene	3.7E+00	8.6E-01	2.7E-09	NV	2.7E-09	NV	2.7E-09	NV	4.3E-06	NV
Fluorene	7.0E-03	3.9E-03	5.1E-12	1.1E-08	5.1E-12	1.1E-08	5.1E-12	1.1E-08	8.3E-09	1.1E-08
Indeno (1,2,3-cd) pyrene	3.1E-01	7.6E-02	2.2E-10	NV	2.2E-10	NV	2.2E-10	NV	3.6E-07	NV
Naphthalene	5.1E-03	3.3E-03	3.8E-12	5.6E-08	3.8E-12	5.6E-08	3.8E-12	5.6E-08	6.1E-09	5.6E-08
Phenanthrene	7.5E-01	2.4E-01	5.5E-10	NV	5.5E-10	NV	5.5E-10	NV	8.8E-07	NV
Pyrene	2.8E+00	6.7E-01	2.1E-09	2.2E-07	2.1E-09	2.2E-07	2.1E-09	2.2E-07	3.4E-06	2.2E-07
B(a)P Equivalent	1.6E+00	3.8E-01	1.2E-09	NV	1.2E-09	NV	1.2E-09	NV	1.9E-06	NV

Table AOC27-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Polychlorinated Biphenyls										
Total PCBs	2.1E-02	1.7E-02	1.5E-11	2.6E-08	1.5E-11	2.6E-08	1.5E-11	2.6E-08	2.5E-08	2.6E-08
Total Petroleum Hydrocarbons										
TPH as diesel	4.1E+01	3.8E+01	3.0E-08	1.5E-02	3.0E-08	1.5E-02	3.0E-08	1.5E-02	4.8E-05	1.5E-02
TPH as motor oil	1.9E+02	1.5E+02	1.4E-07	NV	1.4E-07	NV	1.4E-07	NV	2.2E-04	NV
Dioxins/Furans										
TEQ Human	8.4E-05	4.0E-05	6.2E-14	1.7E-11	6.2E-14	1.7E-11	6.2E-14	1.7E-11	9.9E-11	1.7E-11

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009)and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC27-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	ND	1.8E+00	NA	NV
Cadmium	2.3E+00	7.9E-01	1.7E-09	NV
Chromium, Hexavalent	1.1E+00	4.8E-01	8.2E-10	NV
Copper	2.8E+02	1.3E+02	2.0E-07	NV
Lead	2.3E+02	8.3E+01	1.7E-07	NV
Mercury (inorganic)	1.7E-01	1.3E-01	1.2E-10	NV
Zinc	5.5E+02	2.2E+02	4.0E-07	NV
Volatile Organic Compounds				
Bromomethane	ND	1.8E-02	NA	6.7E-06
Chloro methane	ND	7.9E-03	NA	3.6E-06
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	5.1E-02	1.2E-02	3.8E-11	4.5E-08
Acenaphthylene	ND	3.3E-03	NA	NV
Anthracene	3.8E-01	4.9E-02	2.8E-10	5.0E-08
Benzo (a) anthracene	1.6E+00	3.8E-01	1.2E-09	4.7E-08
Benzo (a) pyrene	9.3E-01	2.4E-01	6.9E-10	NV
Benzo (b) fluoranthene	1.7E+00	4.3E-01	1.2E-09	NV
Benzo (ghi) perylene	8.0E-01	9.3E-02	5.9E-10	NV
Benzo (k) fluoranthene	5.9E-01	1.7E-01	4.3E-10	NV
Chrysene	2.1E+00	2.7E-01	1.6E-09	NV
Dibenzo (a,h) anthracene	5.3E-01	1.1E-01	3.9E-10	NV
Fluoranthene	6.1E+00	8.6E-01	4.5E-09	NV
Fluorene	9.2E-03	3.9E-03	6.8E-12	7.1E-09
Indeno (1,2,3-cd) pyrene	6.2E-01	7.6E-02	4.6E-10	NV
Naphthalene	6.4E-03	3.3E-03	4.7E-12	3.7E-08
Phenanthrene	1.6E+00	2.4E-01	1.2E-09	NV
Pyrene	4.7E+00	6.7E-01	3.4E-09	1.4E-07
B(a)P Equivalent	2.3E+00	3.8E-01	1.7E-09	NV

Table AOC27-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.5E-02	1.7E-02	1.8E-11	1.7E-08
Total Petroleum Hydrocarbons				
TPH as diesel	2.2E+01	3.8E+01	1.6E-08	1.0E-02
TPH as motor oil	9.0E+01	1.5E+02	6.6E-08	NV
Dioxins/Furans				
TEQ Human	1.1E-04	4.0E-05	8.2E-14	1.1E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.8E+00	1.8E+00	1.3E-09	NV
Cadmium	8.7E-01	7.9E-01	6.4E-10	NV
Chromium, Hexavalent	7.5E-01	4.8E-01	5.5E-10	NV
Copper	2.5E+02	1.3E+02	1.8E-07	NV
Lead	1.7E+02	8.3E+01	1.2E-07	NV
Mercury (inorganic)	1.8E-01	1.3E-01	1.3E-10	NV
Zinc	4.0E+02	2.2E+02	3.0E-07	NV
Volatile Organic Compounds				
Bromomethane	2.6E-02	1.8E-02	1.9E-11	6.7E-06
Chloro methane	1.1E-02	7.9E-03	8.1E-12	3.6E-06
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	3.5E-02	1.2E-02	2.6E-11	4.5E-08
Acenaphthylene	3.4E-03	3.3E-03	2.5E-12	NV
Anthracene	1.9E-01	4.9E-02	1.4E-10	5.0E-08
Benzo (a) anthracene	9.0E-01	3.8E-01	6.6E-10	4.7E-08
Benzo (a) pyrene	5.9E-01	2.4E-01	4.4E-10	NV
Benzo (b) fluoranthene	1.3E+00	4.3E-01	9.3E-10	NV
Benzo (ghi) perylene	4.1E-01	9.3E-02	3.0E-10	NV
Benzo (k) fluoranthene	3.8E-01	1.7E-01	2.8E-10	NV
Chrysene	9.4E-01	2.7E-01	6.9E-10	NV
Dibenzo (a,h) anthracene	3.6E-01	1.1E-01	2.6E-10	NV
Fluoranthene	3.7E+00	8.6E-01	2.7E-09	NV
Fluorene	7.0E-03	3.9E-03	5.1E-12	7.1E-09
Indeno (1,2,3-cd) pyrene	3.1E-01	7.6E-02	2.2E-10	NV
Naphthalene	5.1E-03	3.3E-03	3.8E-12	3.7E-08
Phenanthrene	7.5E-01	2.4E-01	5.5E-10	NV
Pyrene	2.8E+00	6.7E-01	2.1E-09	1.4E-07
B(a)P Equivalent	1.6E+00	3.8E-01	1.2E-09	NV

Table AOC27-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.1E-02	1.7E-02	1.5E-11	1.7E-08
Total Petroleum Hydrocarbons				
TPH as diesel	4.1E+01	3.8E+01	3.0E-08	1.0E-02
TPH as motor oil	1.9E+02	1.5E+02	1.4E-07	NV
Dioxins/Furans				
TEQ Human	8.4E-05	4.0E-05	6.2E-14	1.1E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	ND	1.8E+00	NA	NV
Cadmium	2.3E+00	9.1E-01	2.3E-06	NV
Chromium, Hexavalent	4.0E-01	3.3E-01	4.0E-07	NV
Copper	1.1E+02	5.1E+01	1.1E-04	NV
Lead	1.3E+02	2.4E+01	1.3E-04	NV
Mercury (inorganic)	1.2E-01	8.3E-02	1.2E-07	NV
Zinc	1.9E+02	1.0E+02	1.9E-04	NV
Volatile Organic Compounds				
Bromomethane	ND	1.8E-02	NA	9.5E-06
Chloro methane	ND	7.9E-03	NA	5.1E-06
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	5.1E-02	1.2E-02	5.1E-08	6.3E-08
Acenaphthylene	ND	3.3E-03	NA	NV
Anthracene	1.4E-01	2.6E-02	1.4E-07	3.8E-08
Benzo (a) anthracene	6.4E-01	9.0E-02	6.4E-07	1.5E-08
Benzo (a) pyrene	3.8E-01	7.4E-02	3.8E-07	NV
Benzo (b) fluoranthene	5.2E-01	1.4E-01	5.2E-07	NV
Benzo (ghi) perylene	2.1E-01	4.1E-02	2.1E-07	NV
Benzo (k) fluoranthene	2.5E-01	5.3E-02	2.5E-07	NV
Chrysene	5.7E-01	8.8E-02	5.7E-07	NV
Dibenzo (a,h) anthracene	5.3E-01	1.1E-01	5.3E-07	NV
Fluoranthene	1.7E+00	2.1E-01	1.7E-06	NV
Fluorene	9.2E-03	3.9E-03	9.2E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	2.4E-01	3.5E-02	2.4E-07	NV
Naphthalene	6.4E-03	3.3E-03	6.4E-09	5.3E-08
Phenanthrene	6.1E-01	7.4E-02	6.1E-07	NV
Pyrene	1.3E+00	1.6E-01	1.3E-06	4.8E-08
B(a)P Equivalent	7.4E-01	1.2E-01	7.4E-07	NV

Table AOC27-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	3.5E-02	2.4E-02	3.5E-08	3.4E-08
Total Petroleum Hydrocarbons				
TPH as diesel	1.7E+01	2.8E+01	1.7E-05	1.0E-02
TPH as motor oil	5.6E+01	1.1E+02	5.6E-05	NV
Dioxins/Furans				
TEQ Human	3.4E-05	1.1E-05	3.4E-11	4.1E-12

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NA = not applicable.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance
Workers: COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.8E+00	1.8E+00	1.8E-06	NV
Cadmium	6.8E-01	9.1E-01	6.8E-07	NV
Chromium, Hexavalent	4.3E-01	3.3E-01	4.3E-07	NV
Copper	8.8E+01	5.1E+01	8.8E-05	NV
Lead	7.3E+01	2.4E+01	7.3E-05	NV
Mercury (inorganic)	1.0E-01	8.3E-02	1.0E-07	NV
Zinc	1.3E+02	1.0E+02	1.3E-04	NV
Volatile Organic Compounds				
Bromomethane	2.6E-02	1.8E-02	2.6E-08	9.5E-06
Chloro methane	1.1E-02	7.9E-03	1.1E-08	5.1E-06
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	3.5E-02	1.2E-02	3.5E-08	6.3E-08
Acenaphthylene	3.4E-03	3.3E-03	3.4E-09	NV
Anthracene	7.8E-02	2.6E-02	7.8E-08	3.8E-08
Benzo (a) anthracene	4.0E-01	9.0E-02	4.0E-07	1.5E-08
Benzo (a) pyrene	2.4E-01	7.4E-02	2.4E-07	NV
Benzo (b) fluoranthene	3.4E-01	1.4E-01	3.4E-07	NV
Benzo (ghi) perylene	1.9E-01	4.1E-02	1.9E-07	NV
Benzo (k) fluoranthene	1.4E-01	5.3E-02	1.4E-07	NV
Chrysene	2.9E-01	8.8E-02	2.9E-07	NV
Dibenzo (a,h) anthracene	3.6E-01	1.1E-01	3.6E-07	NV
Fluoranthene	8.5E-01	2.1E-01	8.5E-07	NV
Fluorene	7.0E-03	3.9E-03	7.0E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	1.4E-01	3.5E-02	1.4E-07	NV
Naphthalene	5.1E-03	3.3E-03	5.1E-09	5.3E-08
Phenanthrene	3.3E-01	7.4E-02	3.3E-07	NV
Pyrene	7.3E-01	1.6E-01	7.3E-07	4.8E-08
B(a)P Equivalent	3.5E-01	1.2E-01	3.5E-07	NV

Table AOC27-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	3.0E-02	2.4E-02	3.0E-08	3.4E-08
Total Petroleum Hydrocarbons				
TPH as diesel	2.8E+01	2.8E+01	2.8E-05	1.0E-02
TPH as motor oil	1.1E+02	1.1E+02	1.1E-04	NV
Dioxins/Furans				
TEQ Human	2.3E-05	1.1E-05	2.3E-11	4.1E-12

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance
Workers: COPCs in AOC 27 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	2.3E+00	1.8E+00	2.3E-06	NV
Cadmium	9.0E-01	9.1E-01	9.0E-07	NV
Chromium, Hexavalent	4.6E-01	3.3E-01	4.6E-07	NV
Copper	6.3E+01	5.1E+01	6.3E-05	NV
Lead	2.9E+01	2.4E+01	2.9E-05	NV
Mercury (inorganic)	9.5E-02	8.3E-02	9.5E-08	NV
Zinc	1.2E+02	1.0E+02	1.2E-04	NV
Volatile Organic Compounds				
Bromomethane	2.4E-02	1.8E-02	2.4E-08	9.5E-06
Chloro methane	1.0E-02	7.9E-03	1.0E-08	5.1E-06
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	1.9E-02	1.2E-02	1.9E-08	6.3E-08
Acenaphthylene	3.8E-03	3.3E-03	3.8E-09	NV
Anthracene	3.8E-02	2.6E-02	3.8E-08	3.8E-08
Benzo (a) anthracene	1.5E-01	9.0E-02	1.5E-07	1.5E-08
Benzo (a) pyrene	1.2E-01	7.4E-02	1.2E-07	NV
Benzo (b) fluoranthene	2.2E-01	1.4E-01	2.2E-07	NV
Benzo (ghi) perylene	7.1E-02	4.1E-02	7.1E-08	NV
Benzo (k) fluoranthene	8.5E-02	5.3E-02	8.5E-08	NV
Chrysene	1.4E-01	8.8E-02	1.4E-07	NV
Dibenzo (a,h) anthracene	1.8E-01	1.1E-01	1.8E-07	NV
Fluoranthene	3.4E-01	2.1E-01	3.4E-07	NV
Fluorene	4.8E-03	3.9E-03	4.8E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	5.3E-02	3.5E-02	5.3E-08	NV
Naphthalene	3.9E-03	3.3E-03	3.9E-09	5.3E-08
Phenanthrene	1.1E-01	7.4E-02	1.1E-07	NV
Pyrene	2.6E-01	1.6E-01	2.6E-07	4.8E-08
B(a)P Equivalent	1.9E-01	1.2E-01	1.9E-07	NV

Table AOC27-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	2.6E-02	2.4E-02	2.6E-08	3.4E-08
Total Petroleum Hydrocarbons				
TPH as diesel	3.6E+01	2.8E+01	3.6E-05	1.0E-02
TPH as motor oil	1.3E+02	1.1E+02	1.3E-04	NV
Dioxins/Furans				
TEQ Human	1.8E-05	1.1E-05	1.8E-11	4.1E-12

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Antimony	1.8E+00	1.8E-06	NV
Cadmium	9.1E-01	9.1E-07	NV
Chromium, Hexavalent	3.3E-01	3.3E-07	NV
Copper	5.1E+01	5.1E-05	NV
Lead	2.4E+01	2.4E-05	NV
Mercury (inorganic)	8.3E-02	8.3E-08	NV
Zinc	1.0E+02	1.0E-04	NV
Volatile Organic Compounds			
Bromomethane	1.8E-02	1.8E-08	9.5E-06
Chloro methane	7.9E-03	7.9E-09	5.1E-06
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	1.2E-02	1.2E-08	6.3E-08
Acenaphthylene	3.3E-03	3.3E-09	NV
Anthracene	2.6E-02	2.6E-08	3.8E-08
Benzo (a) anthracene	9.0E-02	9.0E-08	1.5E-08
Benzo (a) pyrene	7.4E-02	7.4E-08	NV
Benzo (b) fluoranthene	1.4E-01	1.4E-07	NV
Benzo (ghi) perylene	4.1E-02	4.1E-08	NV
Benzo (k) fluoranthene	5.3E-02	5.3E-08	NV
Chrysene	8.8E-02	8.8E-08	NV
Dibenzo (a,h) anthracene	1.1E-01	1.1E-07	NV
Fluoranthene	2.1E-01	2.1E-07	NV
Fluorene	3.9E-03	3.9E-09	1.0E-08
Indeno (1,2,3-cd) pyrene	3.5E-02	3.5E-08	NV
Naphthalene	3.3E-03	3.3E-09	5.3E-08
Phenanthrene	7.4E-02	7.4E-08	NV
Pyrene	1.6E-01	1.6E-07	4.8E-08
B(a)P Equivalent	1.2E-01	1.2E-07	NV

Table AOC27-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in AOC 27 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls			
Total PCBs	2.4E-02	2.4E-08	3.4E-08
Total Petroleum Hydrocarbons			
TPH as diesel	2.8E+01	2.8E-05	1.0E-02
TPH as motor oil	1.1E+02	1.1E-04	NV
Dioxins/Furans			
TEQ Human	1.1E-05	1.1E-11	4.1E-12

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC27-4.3e

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics						
Antimony	ND	1.8E+00	NA	NV	NA	NV
Cadmium	2.3E+00	9.1E-01	1.7E-09	NV	2.7E-06	NV
Chromium, Hexavalent	4.0E-01	3.3E-01	2.9E-10	NV	4.7E-07	NV
Copper	1.1E+02	5.1E+01	8.3E-08	NV	1.3E-04	NV
Lead	1.3E+02	2.4E+01	9.2E-08	NV	1.5E-04	NV
Mercury (inorganic)	1.2E-01	8.3E-02	8.9E-11	NV	1.4E-07	NV
Zinc	1.9E+02	1.0E+02	1.4E-07	NV	2.3E-04	NV
Volatile Organic Compounds						
Bromomethane	ND	1.8E-02	NA	1.0E-05	NA	1.0E-05
Chloro methane	ND	7.9E-03	NA	5.4E-06	NA	5.4E-06
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	5.1E-02	1.2E-02	3.8E-11	6.8E-08	6.0E-08	6.8E-08
Acenaphthylene	ND	3.3E-03	NA	NV	NA	NV
Anthracene	1.4E-01	2.6E-02	1.0E-10	4.0E-08	1.6E-07	4.0E-08
Benzo (a) anthracene	6.4E-01	9.0E-02	4.7E-10	1.7E-08	7.6E-07	1.7E-08
Benzo (a) pyrene	3.8E-01	7.4E-02	2.8E-10	NV	4.5E-07	NV
Benzo (b) fluoranthene	5.2E-01	1.4E-01	3.8E-10	NV	6.1E-07	NV
Benzo (ghi) perylene	2.1E-01	4.1E-02	1.6E-10	NV	2.5E-07	NV
Benzo (k) fluoranthene	2.5E-01	5.3E-02	1.9E-10	NV	3.0E-07	NV
Chrysene	5.7E-01	8.8E-02	4.2E-10	NV	6.7E-07	NV
Dibenzo (a,h) anthracene	5.3E-01	1.1E-01	3.9E-10	NV	6.3E-07	NV
Fluoranthene	1.7E+00	2.1E-01	1.2E-09	NV	2.0E-06	NV
Fluorene	9.2E-03	3.9E-03	6.8E-12	1.1E-08	1.1E-08	1.1E-08
Indeno (1,2,3-cd) pyrene	2.4E-01	3.5E-02	1.8E-10	NV	2.8E-07	NV
Naphthalene	6.4E-03	3.3E-03	4.7E-12	5.6E-08	7.6E-09	5.6E-08
Phenanthrene	6.1E-01	7.4E-02	4.5E-10	NV	7.2E-07	NV
Pyrene	1.3E+00	1.6E-01	9.9E-10	5.1E-08	1.6E-06	5.1E-08
B(a)P Equivalent	7.4E-01	1.2E-01	5.4E-10	NV	8.7E-07	NV
Polychlorinated Biphenyls						
Total PCBs	3.5E-02	2.4E-02	2.6E-11	3.7E-08	4.2E-08	3.7E-08
Total Petroleum Hydrocarbons						
TPH as diesel	1.7E+01	2.8E+01	1.2E-08	1.1E-02	2.0E-05	1.1E-02
TPH as motor oil	5.6E+01	1.1E+02	4.1E-08	NV	6.6E-05	NV

Table AOC27-4.3e

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Dioxins/Furans						
TEQ Human	3.4E-05	1.1E-05	2.5E-14	4.4E-12	4.1E-11	4.4E-12

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for recreational users (hikers) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
- ^e PEF of 8.5×10^5 m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NA = not applicable.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

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Table AOC27-4.3f

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics						
Antimony	1.8E+00	1.8E+00	1.3E-09	NV	2.2E-06	NV
Cadmium	6.8E-01	9.1E-01	5.0E-10	NV	8.0E-07	NV
Chromium, Hexavalent	4.3E-01	3.3E-01	3.2E-10	NV	5.1E-07	NV
Copper	8.8E+01	5.1E+01	6.5E-08	NV	1.0E-04	NV
Lead	7.3E+01	2.4E+01	5.4E-08	NV	8.6E-05	NV
Mercury (inorganic)	1.0E-01	8.3E-02	7.5E-11	NV	1.2E-07	NV
Zinc	1.3E+02	1.0E+02	9.3E-08	NV	1.5E-04	NV
Volatile Organic Compounds						
Bromomethane	2.6E-02	1.8E-02	1.9E-11	1.0E-05	3.1E-08	1.0E-05
Chloro methane	1.1E-02	7.9E-03	8.1E-12	5.4E-06	1.3E-08	5.4E-06
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	3.5E-02	1.2E-02	2.6E-11	6.8E-08	4.1E-08	6.8E-08
Acenaphthylene	3.4E-03	3.3E-03	2.5E-12	NV	4.0E-09	NV
Anthracene	7.8E-02	2.6E-02	5.7E-11	4.0E-08	9.1E-08	4.0E-08
Benzo (a) anthracene	4.0E-01	9.0E-02	2.9E-10	1.7E-08	4.7E-07	1.7E-08
Benzo (a) pyrene	2.4E-01	7.4E-02	1.7E-10	NV	2.8E-07	NV
Benzo (b) fluoranthene	3.4E-01	1.4E-01	2.5E-10	NV	4.0E-07	NV
Benzo (ghi) perylene	1.9E-01	4.1E-02	1.4E-10	NV	2.3E-07	NV
Benzo (k) fluoranthene	1.4E-01	5.3E-02	1.0E-10	NV	1.7E-07	NV
Chrysene	2.9E-01	8.8E-02	2.1E-10	NV	3.4E-07	NV
Dibenzo (a,h) anthracene	3.6E-01	1.1E-01	2.6E-10	NV	4.2E-07	NV
Fluoranthene	8.5E-01	2.1E-01	6.2E-10	NV	1.0E-06	NV
Fluorene	7.0E-03	3.9E-03	5.1E-12	1.1E-08	8.3E-09	1.1E-08
Indeno (1,2,3-cd) pyrene	1.4E-01	3.5E-02	1.0E-10	NV	1.6E-07	NV
Naphthalene	5.1E-03	3.3E-03	3.8E-12	5.6E-08	6.1E-09	5.6E-08
Phenanthrene	3.3E-01	7.4E-02	2.4E-10	NV	3.9E-07	NV
Pyrene	7.3E-01	1.6E-01	5.4E-10	5.1E-08	8.7E-07	5.1E-08
B(a)P Equivalent	3.5E-01	1.2E-01	2.6E-10	NV	4.2E-07	NV
Polychlorinated Biphenyls						
Total PCBs	3.0E-02	2.4E-02	2.2E-11	3.7E-08	3.5E-08	3.7E-08
Total Petroleum Hydrocarbons						
TPH as diesel	2.8E+01	2.8E+01	2.1E-08	1.1E-02	3.3E-05	1.1E-02
TPH as motor oil	1.1E+02	1.1E+02	8.0E-08	NV	1.3E-04	NV

Table AOC27-4.3f

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 27 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Hiker		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Dioxins/Furans						
TEQ Human	2.3E-05	1.1E-05	1.7E-14	4.4E-12	2.8E-11	4.4E-12

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for recreational users (hikers) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
- ^e PEF of 8.5×10^5 m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>

USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC27-4.4

Human Health Risk and Hazard Estimate Summary at AOC 27 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	3E-07	7E-02
	Shallow	2E-07	8E-02
	Subsurface I	2E-07	8E-02
	Subsurface II	1E-07	6E-02
Long-Term Maintenance Worker	Surface	3E-06	9E-02
	Shallow	2E-06	5E-02
	Subsurface I	2E-06	5E-02
	Subsurface II	9E-07	3E-02
Recreational User - Camper	Surface	1E-06	6E-02
	Shallow	8E-07	5E-02
Recreational User - Hiker	Surface	2E-06	1E-01
	Shallow	2E-06	1E-01
Recreational User - Hunter	Surface	2E-07	2E-02
	Shallow	2E-07	1E-02
Recreational User - OHV Rider	Surface	2E-06	3E-02
	Shallow	1E-06	2E-02
Tribal User	Surface	1E-09	2E-04
	Shallow	1E-09	2E-04

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC27-4.5

Human Health Risk and Hazard Estimate Summary at AOC 27 for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Long-Term Maintenance Worker	Surface	9E-07	6E-02
	Shallow	7E-07	3E-02
	Subsurface I	6E-07	3E-02
	Subsurface II	4E-07	3E-02
Recreational User - Hiker	Surface	7E-07	5E-02
	Shallow	4E-07	4E-02
Recreational User - OHV Rider	Surface	5E-07	1E-02
	Shallow	4E-07	9E-03

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC27-5.1
Summary of COPECs Evaluated in the ERA for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Antimony	X
Cadmium	X
Chromium, hexavalent	X
Copper	X
Lead	X
Mercury	X
Zinc	X
Volatile Organic Compounds	
Bromomethane	X
Chloro methane	X
Polycyclic Aromatic Hydrocarbons	
PAH Low molecular weight	X
PAH High molecular weight	X
Polychlorinated Biphenyls	
Total PCBs	X
Dioxins	
TEQ Avian	X
TEQ Mammals	X
2,3,7,8-TCDD	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Note:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, polycyclic aromatic hydrocarbons, and dioxins. All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC 27 for details.

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
ERA = ecological risk assessment
ft bgs = feet below ground surface
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
X = COPEC in that exposure depth interval

Table AOC27-5.2

Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs		
	All AOCs		All AOCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Note:

^a EPCs for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and spatially-weighted 95% UCL, as relevant for this exposure area. See Section 5 of Appendix AOC 27 for details.

Abbreviations:

95% UCL = 95% upper confidence limit

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

X = representative EPC for the pathway/receptor

Table AOC27-5.3

Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for AOC 27

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations				Biota Exposure Point Concentrations ^{a,b}						
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals			
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs			
Inorganics												
Antimony	mg/kg	--	nd	1.83E+00	m	2.25E+00	m	--	6.95E-02	8.44E-02	--	0.00E+00
Cadmium	mg/kg	2.30E+00	m	8.72E-01	m	9.27E-01	m	9.80E-01	5.77E-01	5.97E-01	1.61E+01	4.22E-01
Chromium, hexavalent	mg/kg	1.12E+00		7.52E-01		1.30E+00		4.59E-02	3.08E-02	5.33E-02	3.43E-01	2.52E-01
Copper	mg/kg	2.76E+02		2.46E+02		2.10E+02		1.79E+01	1.71E+01	1.60E+01	1.42E+02	1.73E+01
Lead	mg/kg	2.33E+02		1.68E+02		1.30E+02		5.64E+00	4.70E+00	4.07E+00	6.54E+01	1.20E+01
Mercury	mg/kg	1.68E-01		1.75E-01		1.69E-01		1.40E-01	1.43E-01	1.40E-01	5.07E-01	3.23E-02
Zinc	mg/kg	5.47E+02		4.04E+02		3.32E+02		1.59E+02	1.34E+02	1.20E+02	6.76E+02	1.23E+02
Volatile Organic Compounds												
Bromomethane	mg/kg	--	nd	2.60E-02	m	2.35E-02	m	--	0.00E+00	0.00E+00	--	--
Chloro methane	mg/kg	--	nd	1.10E-02	m	1.01E-02	m	--	0.00E+00	0.00E+00	--	--
Polycyclic Aromatic Hydrocarbons												
PAH Low molecular weight	mg/kg	2.01E+00		9.49E-01		4.47E-01		3.66E-01	2.61E-01	1.85E-01	6.10E+00	0.00E+00
PAH High molecular weight	mg/kg	2.23E+01		1.41E+01		8.56E+00		3.44E+00	2.23E+00	1.39E+00	5.79E+01	0.00E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	2.47E-02		2.08E-02		1.93E-02		2.47E-04	2.08E-04	1.93E-04	2.66E-02	6.65E-04
Dioxins												
TEQ Avian	ng/kg	1.20E+02		8.42E+01		6.69E+01		6.72E-01	4.72E-01	3.75E-01	7.94E+02	1.10E+02
TEQ Mammals	ng/kg	1.11E+02		8.37E+01		6.46E+01		6.22E-01	4.69E-01	3.62E-01	7.24E+02	1.01E+02
2,3,7,8-TCDD	ng/kg	1.90E+01	m	5.94E+00		5.08E+00		--	--	--	--	--

Notes:^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.^b Biota EPCs equal to 0.0 indicate no bioaccumulation from soil.**Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).****Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC27-5.4
Baseline Scenario Area-Weighted Exposure Point Concentrations for Soil and Biota for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations				Biota Exposure Point Concentrations ^{a,b}						
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals			
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs			
Inorganics												
Antimony	mg/kg	--	nd	1.83E+00	m	2.25E+00	m	--	6.95E-02	8.44E-02	--	0.00E+00
Cadmium	mg/kg	2.30E+00	m	6.75E-01		9.04E-01		9.80E-01	5.02E-01	5.89E-01	1.61E+01	4.22E-01
Chromium, hexavalent	mg/kg	3.97E-01		4.33E-01		4.63E-01		1.63E-02	1.78E-02	1.90E-02	1.21E-01	1.18E-01
Copper	mg/kg	1.13E+02		8.83E+01		6.33E+01		1.26E+01	1.14E+01	1.00E+01	5.82E+01	1.53E+01
Lead	mg/kg	1.25E+02		7.32E+01		2.94E+01		3.98E+00	2.95E+00	1.77E+00	3.96E+01	9.13E+00
Mercury	mg/kg	1.21E-01		1.02E-01		9.48E-02		1.17E-01	1.07E-01	1.03E-01	4.54E-01	2.32E-02
Zinc	mg/kg	1.94E+02		1.26E+02		1.24E+02		8.94E+01	7.04E+01	6.98E+01	4.81E+02	1.14E+02
Volatile Organic Compounds												
Bromomethane	mg/kg	--	nd	2.60E-02	m	2.35E-02	m	--	0.00E+00	0.00E+00	--	--
Chloro methane	mg/kg	--	nd	1.10E-02	m	1.01E-02	m	--	0.00E+00	0.00E+00	--	--
Polycyclic Aromatic Hydrocarbons												
PAH Low molecular weight	mg/kg	7.62E-01		4.14E-01		1.61E-01		2.36E-01	1.79E-01	1.16E-01	2.32E+00	0.00E+00
PAH High molecular weight	mg/kg	4.56E+00		3.67E+00		1.42E+00		7.67E-01	6.25E-01	2.54E-01	1.19E+01	0.00E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	3.53E-02		2.96E-02		2.60E-02		3.53E-04	2.96E-04	2.60E-04	4.32E-02	1.08E-03
Dioxins												
TEQ Avian	ng/kg	3.44E+01		2.15E+01		1.80E+01		1.93E-01	1.20E-01	1.01E-01	1.81E+02	2.79E+01
TEQ Mammals	ng/kg	3.39E+01		2.31E+01		1.76E+01		1.90E-01	1.29E-01	9.86E-02	1.78E+02	2.75E+01
2,3,7,8-TCDD	ng/kg	1.90E+01	m	2.83E+00		2.10E+00		--	--	--	--	--

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC27-5.5a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Antimony	5E-01	ND	--	--	--	--	--	--	2E-01	2E-02	--	--	--	--	--	--	--	--
Cadmium	7E-02	2E-02	3E-02	7E-03	2E+00	5E-01	4E+00	4E-01	1E-01	1E-02	7E-02	4E-03	4E+00	3E-01	5E+01	1E+00	1E+00	3E-02
Chromium, hexavalent	1E+00	3E+00	3E-03	3E-04	3E-02	3E-03	8E-03	2E-03	8E-04	2E-04	--	--	--	--	--	--	--	--
Copper	4E+00	3E+00	4E-01	1E-01	8E+00	3E+00	3E+00	2E+00	2E-01	1E-01	8E-01	3E-02	1E+01	6E-01	1E+01	5E-02	8E-01	3E-03
Lead	2E+00	1E-01	7E-01	4E-01	1E+01	5E+00	3E+00	2E+00	2E-01	1E-01	8E+01	1E-01	1E+03	2E+00	1E+01	6E-02	9E-01	4E-03
Mercury	6E-01	2E+00	2E-01	3E-02	2E+00	5E-01	4E-01	3E-02	5E-02	3E-03	2E-01	3E-02	2E+00	5E-01	4E-01	3E-02	5E-02	3E-03
Zinc	3E+00	5E+00	1E-01	5E-02	2E+00	8E-01	2E+00	5E-01	2E-01	5E-02	5E-01	5E-02	8E+00	8E-01	1E+01	3E-01	1E+00	3E-02
Volatile Organic Compounds																		
Bromomethane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	2E-01	7E-02	1E-03	1E-04	5E-02	5E-03	2E-02	4E-03	5E-04	1E-04	--	--	--	--	2E-02	8E-03	7E-04	2E-04
PAH High molecular weight	2E+01	1E+00	2E-02	2E-03	1E+00	1E-01	2E+01	4E+00	5E-01	1E-01	--	--	--	--	9E+00	4E-01	2E-01	1E-02
Polychlorinated Biphenyls																		
Total PCBs	6E-04	2E-02	1E-03	8E-05	6E-02	4E-03	2E-02	4E-03	2E-04	5E-05	1E-03	8E-05	6E-02	4E-03	2E-02	4E-03	2E-04	5E-05
Dioxins																		
2,3,7,8-TCDD	No SL	2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	4E-02	4E-03	1E+01	1E+00	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	1E+02	1E+01	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TRV = toxicity reference value

Table AOC27-5.5b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.1		SUF = 0.8		SUF = 1		SUF = 1		SUF = 0.1		SUF = 0.8		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Antimony	--	--	--	--	--	--	2E-01	2E-02	--	--	--	--	--	--	--	--
Cadmium	3E-03	8E-04	2E+00	4E-01	4E+00	4E-01	1E-01	1E-02	7E-03	5E-04	3E+00	2E-01	5E+01	1E+00	1E+00	3E-02
Chromium, hexavalent	3E-04	3E-05	3E-02	3E-03	8E-03	2E-03	8E-04	2E-04	--	--	--	--	--	--	--	--
Copper	5E-02	2E-02	6E+00	2E+00	3E+00	2E+00	2E-01	1E-01	8E-02	4E-03	1E+01	5E-01	1E+01	5E-02	8E-01	3E-03
Lead	7E-02	4E-02	8E+00	4E+00	3E+00	2E+00	2E-01	1E-01	9E+00	1E-02	9E+02	1E+00	1E+01	6E-02	9E-01	4E-03
Mercury	2E-02	4E-03	2E+00	4E-01	4E-01	3E-02	5E-02	3E-03	2E-02	4E-03	2E+00	4E-01	4E-01	3E-02	5E-02	3E-03
Zinc	1E-02	5E-03	2E+00	6E-01	2E+00	5E-01	2E-01	5E-02	5E-02	5E-03	6E+00	6E-01	1E+01	3E-01	1E+00	3E-02
Volatile Organic Compounds																
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	1E-04	1E-05	4E-02	4E-03	2E-02	4E-03	5E-04	1E-04	--	--	--	--	2E-02	8E-03	7E-04	2E-04
PAH High molecular weight	2E-03	2E-04	9E-01	9E-02	2E+01	4E+00	5E-01	1E-01	--	--	--	--	9E+00	4E-01	2E-01	1E-02
Polychlorinated Biphenyls																
Total PCBs	1E-04	9E-06	5E-02	3E-03	2E-02	4E-03	2E-04	5E-05	1E-04	9E-06	5E-02	3E-03	2E-02	4E-03	2E-04	5E-05
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	4E-03	4E-04	8E+00	8E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	1E+02	1E+01	3E-01	3E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table AOC27-5.6a

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; SUF = 1, Selected TRVs and BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Antimony	5E-01	ND	--	--	--	--	--	--	2E-01	2E-02	--	--	--	--	--	--	--	--
Cadmium	7E-02	2E-02	3E-02	7E-03	2E+00	5E-01	4E+00	4E-01	1E-01	1E-02	7E-02	4E-03	4E+00	3E-01	5E+01	1E+00	1E+00	3E-02
Chromium, hexavalent	5E-01	1E+00	9E-04	9E-05	1E-02	1E-03	3E-03	7E-04	3E-04	6E-05	--	--	--	--	--	--	--	--
Copper	2E+00	1E+00	2E-01	8E-02	3E+00	1E+00	1E+00	8E-01	1E-01	8E-02	4E-01	2E-02	5E+00	2E-01	5E+00	2E-02	5E-01	2E-03
Lead	1E+00	7E-02	4E-01	2E-01	6E+00	3E+00	2E+00	1E+00	1E-01	6E-02	5E+01	7E-02	7E+02	1E+00	9E+00	4E-02	6E-01	2E-03
Mercury	4E-01	1E+00	1E-01	3E-02	2E+00	5E-01	4E-01	2E-02	4E-02	2E-03	1E-01	3E-02	2E+00	5E-01	4E-01	2E-02	4E-02	2E-03
Zinc	1E+00	2E+00	6E-02	2E-02	1E+00	5E-01	1E+00	3E-01	1E-01	3E-02	2E-01	2E-02	5E+00	5E-01	1E+01	2E-01	8E-01	2E-02
Volatile Organic Compounds																		
Bromomethane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	8E-02	3E-02	5E-04	5E-05	2E-02	2E-03	7E-03	1E-03	3E-04	6E-05	--	--	--	--	9E-03	3E-03	4E-04	1E-04
PAH High molecular weight	4E+00	3E-01	5E-03	5E-04	2E-01	2E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	7E-02	5E-02	2E-03
Polychlorinated Biphenyls																		
Total PCBs	9E-04	4E-02	2E-03	1E-04	9E-02	7E-03	2E-02	7E-03	3E-04	8E-05	2E-03	1E-04	9E-02	7E-03	2E-02	7E-03	3E-04	8E-05
Dioxins																		
2,3,7,8-TCDD	No SL	2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	1E-02	1E-03	2E+00	2E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	4E+01	4E+00	8E-02	8E-03	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SL = screening level
SUF = site use factor
TRV = toxicity reference value

Table AOC27-5.6b

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.1		SUF = 0.8		SUF = 1		SUF = 1		SUF = 0.1		SUF = 0.8		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Antimony	--	--	--	--	--	--	2E-01	2E-02	--	--	--	--	--	--	--	--
Cadmium	3E-03	8E-04	2E+00	4E-01	4E+00	4E-01	1E-01	1E-02	7E-03	5E-04	3E+00	2E-01	5E+01	1E+00	1E+00	3E-02
Chromium, hexavalent	1E-04	1E-05	9E-03	9E-04	3E-03	7E-04	3E-04	6E-05	--	--	--	--	--	--	--	--
Copper	2E-02	8E-03	2E+00	8E-01	1E+00	8E-01	1E-01	8E-02	4E-02	2E-03	4E+00	2E-01	5E+00	2E-02	5E-01	2E-03
Lead	4E-02	2E-02	5E+00	2E+00	2E+00	1E+00	1E-01	6E-02	5E+00	8E-03	5E+02	8E-01	9E+00	4E-02	6E-01	2E-03
Mercury	1E-02	3E-03	2E+00	4E-01	4E-01	2E-02	4E-02	2E-03	1E-02	3E-03	2E+00	4E-01	4E-01	2E-02	4E-02	2E-03
Zinc	7E-03	3E-03	1E+00	4E-01	1E+00	3E-01	1E-01	3E-02	3E-02	3E-03	4E+00	4E-01	1E+01	2E-01	8E-01	2E-02
Volatile Organic Compounds																
Bromomethane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	6E-05	6E-06	2E-02	2E-03	7E-03	1E-03	3E-04	6E-05	--	--	--	--	9E-03	3E-03	4E-04	1E-04
PAH High molecular weight	5E-04	5E-05	2E-01	2E-02	4E+00	8E-01	1E-01	2E-02	--	--	--	--	2E+00	7E-02	5E-02	2E-03
Polychlorinated Biphenyls																
Total PCBs	2E-04	1E-05	7E-02	5E-03	2E-02	7E-03	3E-04	8E-05	2E-04	1E-05	7E-02	5E-03	2E-02	7E-03	3E-04	8E-05
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	1E-03	1E-04	2E+00	2E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	4E+01	4E+00	8E-02	8E-03	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table AOC27-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs						Baseline HQs based on Selected TRVs																				
	Plants			Soil Invertebrates			Gambel's Quail					Cactus Wren					Desert Shrew					Merriam's Kangaroo Rat					
	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	
							SUF = 0.1		SUF = 0.1			SUF = 0.8		SUF = 0.8			SUF = 1		SUF = 1			SUF = 1		SUF = 1			
							NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		
Inorganics																											
Antimony	5E-01	5E-01	HQ ≤ 1	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2E-01	2E-02	2E-01	2E-02	HQ ≤ 1	
Cadmium	7E-02	7E-02	HQ ≤ 1	2E-02	2E-02	HQ ≤ 1	3E-03	8E-04	3E-03	8E-04	HQ ≤ 1	2E+00	4E-01	2E+00	4E-01	HQ ≤ 1	4E+00	4E-01	4E+00	4E-01	HQ ≤ 1	1E-01	1E-02	1E-01	1E-02	HQ ≤ 1	
Chromium, hexavalent	1E+00	5E-01	HQ ≤ 1	3E+00	1E+00	HQ ≤ 1	3E-04	3E-05	1E-04	1E-05	HQ ≤ 1	3E-02	3E-03	9E-03	9E-04	HQ ≤ 1	8E-03	2E-03	3E-03	7E-04	HQ ≤ 1	8E-04	2E-04	3E-04	6E-05	HQ ≤ 1	
Copper	4E+00	2E+00	Unlikely	3E+00	1E+00	HQ ≤ 1	5E-02	2E-02	2E-02	8E-03	HQ ≤ 1	6E+00	2E+00	2E+00	8E-01	HQ ≤ 1	3E+00	2E+00	1E+00	8E-01	HQ ≤ 1	2E-01	1E-01	1E-01	8E-02	HQ ≤ 1	
Lead	2E+00	1E+00	HQ ≤ 1	1E-01	7E-02	HQ ≤ 1	7E-02	4E-02	4E-02	2E-02	HQ ≤ 1	8E+00	4E+00	5E+00	2E+00	Unlikely	3E+00	2E+00	2E+00	1E+00	HQ ≤ 1	2E-01	1E-01	1E-01	6E-02	HQ ≤ 1	
Mercury	6E-01	4E-01	HQ ≤ 1	2E+00	1E+00	HQ ≤ 1	2E-02	4E-03	1E-02	3E-03	HQ ≤ 1	2E+00	4E-01	2E+00	4E-01	HQ ≤ 1	4E-01	3E-02	4E-01	2E-02	HQ ≤ 1	5E-02	3E-03	4E-02	2E-03	HQ ≤ 1	
Zinc	3E+00	1E+00	HQ ≤ 1	5E+00	2E+00	Unlikely	1E-02	5E-03	7E-03	3E-03	HQ ≤ 1	2E+00	6E-01	1E+00	4E-01	HQ ≤ 1	2E+00	5E-01	1E+00	3E-01	HQ ≤ 1	2E-01	5E-02	1E-01	3E-02	HQ ≤ 1	
Volatile Organic Compounds																											
Bromomethane	No SL	No SL	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloro methane	No SL	No SL	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																											
PAH Low molecular weight	2E-01	8E-02	HQ ≤ 1	7E-02	3E-02	HQ ≤ 1	1E-04	1E-05	6E-05	6E-06	HQ ≤ 1	4E-02	4E-03	2E-02	2E-03	HQ ≤ 1	2E-02	4E-03	7E-03	1E-03	HQ ≤ 1	5E-04	1E-04	3E-04	6E-05	HQ ≤ 1	
PAH High molecular weight	2E+01	4E+00	Unlikely	1E+00	3E-01	HQ ≤ 1	2E-03	2E-04	5E-04	5E-05	HQ ≤ 1	9E-01	9E-02	2E-01	2E-02	HQ ≤ 1	2E+01	4E+00	4E+00	8E-01	HQ ≤ 1	5E-01	1E-01	1E-01	2E-02	HQ ≤ 1	
Polychlorinated Biphenyls																											
Total PCBs	6E-04	9E-04	HQ ≤ 1	2E-02	4E-02	HQ ≤ 1	1E-04	9E-06	2E-04	1E-05	HQ ≤ 1	5E-02	3E-03	7E-02	5E-03	HQ ≤ 1	2E-02	4E-03	2E-02	7E-03	HQ ≤ 1	2E-04	5E-05	3E-04	8E-05	HQ ≤ 1	
Dioxins																											
2,3,7,8-TCDD	No SL	No SL	--	2E-03	2E-03	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	--	--	--	--	--	--	4E-03	4E-04	1E-03	1E-04	HQ ≤ 1	8E+00	8E-01	2E+00	2E-01	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1E+02	1E+01	4E+01	4E+00	Unlikely	3E-01	3E-02	8E-02	8E-03	HQ ≤ 1	

Notes:
^a WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using area-weighted EPCs, and 2.) supporting LOE

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:
-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
HQ = hazard quotient
LOE = line of evidence
LOAEL = lowest observed adverse effect level
ND = not detected
NOAEL = no-observed adverse effect level
no SL = no screening level available
TEQ = toxic equivalent
WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table AOC27-6.2
Risk Conclusions and Lines of Evidence Summary for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Area-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC 27	Plants	Copper	2E+00	--	--	No	4 / 16	2	2E-01		--	Robust	--	No	Unlikely		No
	Plants	Lead	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Plants	Zinc	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Plants	HMW PAH	4E+00	--	--	No	10 / 16	4	3E+01		--	Low	High	No	Unlikely		No
	Soil Invertebrates	Chromium, Hexavalent	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Copper	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Mercury	1E+00	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Soil Invertebrates	Zinc	2E+00	--	--	No	5 / 16	2	5E-01		--	Robust	--	No	Unlikely		No
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	Cadmium	--	4E+00	4E-01	Yes	3 / 16	0	2E+00	2E-01	NE	NE	High	No	Unlikely	Not expected	No
	Desert Shrew	Copper	--	1E+00	8E-01	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	Lead	--	2E+00	1E+00	No	6 / 16	2	1E-01	7E-02	NE	Low	High	No	Unlikely	Not expected	No
	Desert Shrew	Zinc	--	1E+00	3E-01	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	HMW PAH	--	4E+00	8E-01	No	10 / 16	4	4E-03	9E-04	NE	Moderate	High	No	Unlikely	Not expected	No
	Desert Shrew	TEQ Mammals	--	4E+01	4E+00	No	7 / 9	2	5E-01	5E-02	High	Moderate	High	No	Unlikely	Unlikely	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Cactus Wren	Cadmium	--	2E+00	4E-01	Yes	3 / 16	0	1E+00	3E-01	NE	Robust	High	No	Unlikely	Not expected	No
	Cactus Wren	Copper	--	2E+00	8E-01	No	4 / 16	2	3E-01	1E-01	NE	Moderate	High	No	Unlikely	Not expected	No
	Cactus Wren	Lead	--	5E+00	2E+00	No	6 / 16	2	4E-01	2E-01	NE	Moderate	High	No	Unlikely	Unlikely	No
	Cactus Wren	Mercury	--	2E+00	4E-01	Yes	BG NA	NE (4 detected)	NC	NC	NE	Moderate	High	No	Unlikely	Not expected	No
Cactus Wren	Zinc	--	1E+00	4E-01	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
Cactus Wren	TEQ Avian	--	2E+00	2E-01	No	7 / 9	2	3E-02	3E-03	High	Moderate	High	No	Unlikely	Not expected	No	

- Notes:**
- a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
- b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
- c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
- d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
- e Applicable to wildlife, unless noted.
- f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
- g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

- Abbreviations:**
- "--" = not applicable

AOC = area of concern

BAF = bioaccumulation factor

BCW = Bat Cave Wash

BG NA = background value not available

BTV = background threshold value

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

FOD = frequency of detection

HQ = hazard quotient

LOAEL = lowest observed adverse effect limit
- LOE = line of evidence

MDC = maximum depth-weighted concentration

NC = not calculated

NE = line of evidence not evaluated

NOAEL = no observed adverse effect limit

SL = screening level

SWMU 1 = solid waste management unit 1

T&E = threatened and endangered

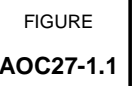
TCS-4= Topock Compressor Station Well #4

TEQ = toxic equivalent

TRV = toxicity reference value

FIGURE





ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the AOC
27 HHERA



Attachment AOC27-A
Dataset and Exposure Point Concentration Calculations for the AOC 27 HHERA

Attachment AOC27-A1

Table AOC 27-A1 Dataset for AOC 27 HHERA

Attachment AOC27-A2 (provided separately as excel files)

Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-005
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-005_BaPTCDDupdate
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-03
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-03_BaPTCDDupdate
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-06
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-06_BaPTCDDupdate
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-10
Table AOC27-A2	Depth-Weighting Files: InputSamplesFor_AOC27_Baseline_0-10_BaPTCDDupdate

Table AOC27-A2	ProUCL Input: AOC27_0-005_ForProUCL
Table AOC27-A2	ProUCL Input: AOC27_0-005_ForProUCL_BaPTCDDupdate
Table AOC27-A2	ProUCL Input: AOC27_0-03_ForProUCL
Table AOC27-A2	ProUCL Input: AOC27_0-03_ForProUCL_BaPTCDDupdate
Table AOC27-A2	ProUCL Input: AOC27_0-06_ForProUCL
Table AOC27-A2	ProUCL Input: AOC27_0-06_ForProUCL_BaPTCDDupdate
Table AOC27-A2	ProUCL Input: AOC27_0-10_ForProUCL
Table AOC27-A2	ProUCL Input: AOC27_0-10_ForProUCL_BaPTCDDupdate

Table AOC27-A2	ProUCL Output: AOC27 0-005_UCLs
Table AOC27-A2	ProUCL Output: AOC27 0-03_UCLs
Table AOC27-A2	ProUCL Output: AOC27 0-06_UCLs
Table AOC27-A2	ProUCL Output: AOC27 0-10_UCLs
Table AOC27-A2	ProUCL Output: AOC27_UCLs_BaPTCDDupdate

Attachment AOC27-A3 (Tables provided separately as excel files)

AOC27-A3 Tables	AOC27_Input Samples Area-Weighted AOC27_Output Area-Weighted UCL-BCA
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AOC27-A3 Figures	Figures List Provided at Start of: AOC27 Figures_ThiesseAreaWeighting
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Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	24soil-01	24soil-02	AOC27-1	AOC27-1	AOC27-1	AOC27-1	AOC27-18	AOC27-18	AOC27-18	AOC27-18	AOC27-18E	AOC27-2	AOC27-2	AOC27-2	AOC27-2	AOC27-20
	SAMPLE	24soil-01	24soil-02	AOC27-1-28545	AOC27-1-28546	AOC27-1-28547	AOC27-1-28548	AOC27-18-28528	AOC27-18-28529	AOC27-18-28530	AOC27-18-28532	AOC27-18-28531	AOC27-2-28541	AOC27-2-28542	AOC27-2-28543	AOC27-2-28544	AOC27-20-28508
	DATE	1/31/2008	1/31/2008	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/1/2016
SAMPLE TOP DEPTH (FT)		2.5	2.5	0	2	5	9	0	2	5	9	4	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		3	3	1	3	6	10	1	3	6	10	5	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	10	0.5	3	6	10	5	0.5	3	6	10	0.5
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	1.4 U	--	--	280	290	240	--	330	16	15	--	--	470
1,2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	0.43 U	--	--	1.3 U	170 U	100 U	--	96 U	0.54 U	0.076 U	--	--	67
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	0.093 U	--	--	1.7 U	1.7 U	14	--	1.2 U	0.29 U	0.26 U	--	--	4.1 J
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	0.059 U	--	--	1.4 J	1.9 U	1.3 U	--	1.7 U	0.13 U	0.33 U	--	--	2.8 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	0.1 U	--	--	1.5 U	4.3 U	2.7 U	--	5.5 U	0.64 U	0.31 U	--	--	6.4 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	0.095 U	--	--	7.8 J	11 J	1.3 U	--	5.4 J	0.56 J	0.44 U	--	--	16
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	0.058 U	--	--	2.1 J	5.8 U	13 U	--	14 U	1.3 U	0.89 U	--	--	5.5 J
1,2,3,7,8-PeCDD	ng/kg	--	--	--	0.073 U	--	--	0.53 U	1 U	0.63 U	--	0.83 U	0.27 U	0.17 U	--	--	1.4 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	0.06 U	--	--	0.47 U	0.95 U	1.1 U	--	1.5 U	0.31 U	0.53 U	--	--	0.41 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	0.09 U	--	--	4.9 J	2.7 U	2.1 U	--	1.1 U	0.41 U	0.35 U	--	--	7.3 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	0.15 U	--	--	0.68 U	0.76 U	1.5 U	--	2 U	0.15 U	0.39 U	--	--	3.2 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	0.062 U	--	--	65 U	1.9 J	1.3 U	--	66 U	4.4 U	5.6 U	--	--	160 U
2,3,4,7,8-PeCDF	ng/kg	--	--	--	0.063 U	--	--	0.88 U	1 U	1.2 U	--	1.6 U	0.33 U	0.56 U	--	--	0.92 U
2,3,7,8-TCDD	ng/kg	--	--	--	0.053 U	--	--	0.14 U	0.37 U	0.26 U	--	0.2 U	0.066 U	0.066 U	--	--	0.54 U
2,3,7,8-TCDF	ng/kg	--	--	--	0.15 U	--	--	0.68 U	0.37 U	0.41 U	--	0.9 U	0.31 U	0.34 U	--	--	0.44 U
OCDD	ng/kg	--	--	--	11 J	--	--	3300	3300	2600	--	3800	160	130	--	--	4200
OCDF	ng/kg	--	--	--	0.32 U	--	--	110	190	96	--	110	6.2 J	7.2 J	--	--	170
TEQ Avian	ng/kg	--	--	--	0.2	--	--	6	3.8	4	--	7.4	0.87	1	--	--	13
TEQ Human	ng/kg	--	--	--	0.12	--	--	9.3	7.6	6.8	--	11	0.84	0.83	--	--	19
TEQ Mammals	ng/kg	--	--	--	0.12	--	--	9.3	7.6	6.8	--	11	0.84	0.83	--	--	19
General																	
pH	PHUNITS	8.8	9.1	9.1	9	8.5	8	8.4	8.5	8.6	8.6	8.7	9.7	9.3	8.6	8.1	9.2
Metals																	
Antimony	mg/kg	0.4 U	0.4 U	2.1 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	3.1	2.9	3.1	4	2	1.2	2.6	3.1	2.5	2.5	4.2	5.3	3.5	2.1	1.9	
Barium	mg/kg	130	89	130	160	90	98	110	91	100	81	110	100	150	160	96	84
Beryllium	mg/kg	0.1 U	0.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	0.71	0.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.8	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.4 U	0.4 U	0.35	0.2 U	0.2 U	0.2 U	0.3	0.36	0.21 U	1.2	0.2 U	0.2	0.28	0.2 U	0.2 U	0.2 U
Chromium, total	mg/kg	15	15	17	11	17	13	15	22	11	22	11	13	16	11	14	17
Cobalt	mg/kg	3.5	3.4	5.8	6.3	6.7	7.2	4.1	5.4	4.1	3.2	3.9	3.2	3.9	5.2	6.6	7.2
Copper	mg/kg	7.2	9.1	11	12	11	8.6	8.3	9.7	7.4	6.8	6.6	5.6	8.1	8.5	9.3	9.2
Lead	mg/kg	6.4	8.7	28	5.4	2.9	1.9	5.7	8.4	6.9	7.1	10	3.8	5.7	4.9	3.3	8.4
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	0.63	0.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	6.8	7.2	9	8.8	11	8.7	7.3	12	7.7	5.4	6.7	5.2	5.7	7.9	9.1	10
Selenium	mg/kg	6.2	1.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	0.25 U	0.25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	1 U	1 U	2.1 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Vanadium	mg/kg	17	18	27	28	31	32	22	24	19	17	18	19	23	24	32	27
Zinc	mg/kg	16	17	37	31	31	29	26	31	27	47	250	24	24	30	32	38
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	24soil-01	24soil-02	AOC27-1	AOC27-1	AOC27-1	AOC27-1	AOC27-18	AOC27-18	AOC27-18	AOC27-18	AOC27-18E	AOC27-2	AOC27-2	AOC27-2	AOC27-2	AOC27-20
	SAMPLE	24soil-01	24soil-02	AOC27-1-28545	AOC27-1-28546	AOC27-1-28547	AOC27-1-28548	AOC27-18-28528	AOC27-18-28529	AOC27-18-28530	AOC27-18-28532	AOC27-18-28531	AOC27-2-28541	AOC27-2-28542	AOC27-2-28543	AOC27-2-28544	AOC27-20-28508
	DATE	1/31/2008	1/31/2008	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/1/2016
SAMPLE TOP DEPTH (FT)		2.5	2.5	0	2	5	9	0	2	5	9	4	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		3	3	1	3	6	10	1	3	6	10	5	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	10	0.5	3	6	10	5	0.5	3	6	10	0.5
SAMPLE TYPE																	
ANALYTE	UNITS																
4,4-DDD	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
4,4-DDE	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
4,4-DDT	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Aldrin	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-Chlordane	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
beta-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
delta-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dieldrin	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Endo sulfan I	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Endo sulfan II	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Endosulfan sulfate	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Endrin	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Endrin aldehyde	ug/kg	--	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
gamma-Chlordane	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Heptachlor	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Heptachlor Epoxide	ug/kg	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methoxy chlor	ug/kg	--	--	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Toxaphene	ug/kg	--	--	52 UJ	51 UJ	51 UJ	50 UJ	51 U	51 U	52 U	52 U	51 U	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	--	35 U	34 U	33 U	33 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	34 U
Aroclor 1232	ug/kg	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	--	17 U	17 U	17 U	17 U	30 J	17 U	17 U	17 U	35 J	17 U	17 U	17 U	17 U	17 U
Aroclor 1260	ug/kg	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	--	--	8.5 U	8.5 U	8.5 U	8.5 U	30	8.5 U	8.5 U	8.5 U	35	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Anthracene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	380	380	33	5.9 U	5.9 U	5.8 U	6.8	6 U	6 U	6.4	6.1	5.9 U	38	5.9 U	5.9 U	10
Benzo (a) anthracene	ug/kg	330 U	330 U	12	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	11	5.1 U	5.1 U	6.4
Benzo (a) pyrene	ug/kg	330 U	330 U	19	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 UJ	5.1 UJ	5.1 U	26	5.1 U	5.1 U	5.4
Benzo (b) fluoranthene	ug/kg	330 U	330 U	82	5.1 U	5.1 U	5 U	12 J	5.2 U	5.2 U	6.9 J	5.1 J	5.1 U	65	5.1 U	5.1 U	14
Benzo (ghi) perylene	ug/kg	330 U	330 U	14	5.1 U	5.1 U	5 U	5.1 UJ	5.2 UJ	5.2 UJ	5.2 UJ	5.1 UJ	5.1 U	15	5.1 U	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	330 U	330 U	39	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	32	5.1 U	5.1 U	5.1 U
Chrysene	ug/kg	330 U	330 U	52 J	5.1 U	5.1 U	5 U	6.8	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	30 J	5.1 U	5.1 U	8.1
Dibenzo (a,h) anthracene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 UJ	5.2 UJ	5.2 UJ	5.2 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Fluoranthene	ug/kg	330 U	370	38	5.1 U	5.1 U	5 U	5.4	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	12
Fluorene	ug/kg	330 U	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	330 U	330 U	16	5.1 U	5.1 U	5 U	5.1 UJ	5.2 UJ	5.2 UJ	5.2 UJ	5.1 UJ	5.1 U	13	5.1 U	5.1 U	5.1 U
Naphthalene	ug/kg	330 U	330 U	5.3 U	5.1 U	3.7 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	370	305	0	0	0	30.3	0	0	6.9	5.1	0	197	0	0	57.9
PAH Low molecular weight	ug/kg	450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenanthrene	ug/kg	450	330 U	5.3 U	5.1 U	5.1 U	5 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Pyrene	ug/kg	330 U	330 U	33	5.1 U	5.1 U	5 U	6.1	5.2 U	5.2 U	5.2 U	5.1 U	5.1 U	5.4	5.1 U	5.1 U	12

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	24soil-01	24soil-02	AOC27-1	AOC27-1	AOC27-1	AOC27-1	AOC27-18	AOC27-18	AOC27-18	AOC27-18	AOC27-18E	AOC27-2	AOC27-2	AOC27-2	AOC27-2	AOC27-20
	SAMPLE	24soil-01	24soil-02	AOC27-1-28545	AOC27-1-28546	AOC27-1-28547	AOC27-1-28548	AOC27-18-28528	AOC27-18-28529	AOC27-18-28530	AOC27-18-28532	AOC27-18-28531	AOC27-2-28541	AOC27-2-28542	AOC27-2-28543	AOC27-2-28544	AOC27-20-28508
	DATE	1/31/2008	1/31/2008	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/1/2016
SAMPLE TOP DEPTH (FT)		2.5	2.5	0	2	5	9	0	2	5	9	4	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		3	3	1	3	6	10	1	3	6	10	5	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	10	0.5	3	6	10	5	0.5	3	6	10	0.5
SAMPLE TYPE																	
ANALYTE	UNITS																
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	--	--	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	330 U	330 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 U
2,4-Dinitrotoluene	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	690 U	670 U	670 U	670 U	680 U	680 U	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U
4-Bromophenyl phenyl ether	ug/kg	--	--	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	--	--	690 U	670 U	670 U	670 U	680 U	680 U	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U
4-Chloroaniline	ug/kg	330 U	330 U	690 U	670 U	670 U	670 U	680 U	680 U	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	--	--	690 U	670 U	670 U	670 U	680 U	680 U	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	--	--	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Butylbenzylphthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Dibenzofuran	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	1600 U	1600 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	13	160	18	10 U	10 U	10 U	12	160	30	27	49	10 U	10 U	10 U	10 U	10 U
TPH as gasoline	mg/kg	--	--	--	1.7 U	1.4 U	1.3 U	--	1.1 U	1.2 U	1.3 U	1.2 U	--	1.1 U	1.2 U	1.1 U	--
TPH as motor oil	mg/kg	--	--	99	10 U	10 U	10 U	93	520	130	120	190	10 U	10 U	10 U	10 U	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1-Dichloroethene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	24soil-01	24soil-02	AOC27-1	AOC27-1	AOC27-1	AOC27-1	AOC27-18	AOC27-18	AOC27-18	AOC27-18	AOC27-18E	AOC27-2	AOC27-2	AOC27-2	AOC27-2	AOC27-20
	SAMPLE	24soil-01	24soil-02	AOC27-1-28545	AOC27-1-28546	AOC27-1-28547	AOC27-1-28548	AOC27-18-28528	AOC27-18-28529	AOC27-18-28530	AOC27-18-28532	AOC27-18-28531	AOC27-2-28541	AOC27-2-28542	AOC27-2-28543	AOC27-2-28544	AOC27-20-28508
	DATE	1/31/2008	1/31/2008	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/1/2016
SAMPLE TOP DEPTH (FT)		2.5	2.5	0	2	5	9	0	2	5	9	4	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		3	3	1	3	6	10	1	3	6	10	5	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	10	0.5	3	6	10	5	0.5	3	6	10	0.5
SAMPLE TYPE																	
ANALYTE	UNITS																
1,1-Dichloropropene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1,1-Trichloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1,2-Trichloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2-Dibromoethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2-Dichlorobenzene	ug/kg	330 U	330 U	350 U	6.3 U	3.7 U	6.3 U	340 U	6.2 U	8.1 U	6 U	5.6 U	340 U	5.2 U	5.8 U	5.2 U	340 U
1,2-Dichloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2-Dichloropropane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2,3-Trichloropropane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,2,4-Trichlorobenzene	ug/kg	330 U	330 U	350 U	6.3 U	3.7 U	6.3 U	340 U	6.2 U	8.1 U	6 U	5.6 U	340 U	5.2 U	5.8 U	5.2 U	340 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,3-Dichlorobenzene	ug/kg	330 U	330 U	350 U	6.3 U	3.7 U	6.3 U	340 U	6.2 U	8.1 U	6 U	5.6 U	340 U	5.2 U	5.8 U	5.2 U	340 U
1,3-Dichloropropane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
1,4-Dichlorobenzene	ug/kg	330 U	330 U	350 U	6.3 U	3.7 U	6.3 U	340 U	6.2 U	8.1 U	6 U	5.6 U	340 U	5.2 U	5.8 U	5.2 U	340 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Acetone	ug/kg	63 U	--	--	63 U	37 U	63 U	--	62 UJ	81 UJ	60 UJ	56 U	--	52 U	58 U	56 U	--
Acrolein	ug/kg	--	--	--	130 U	74 U	130 U	--	120 UJ	160 UJ	120 UJ	110 UJ	--	100 U	120 U	100 U	--
Acrylonitrile	ug/kg	--	--	--	63 U	37 U	63 U	--	62 U	81 U	60 U	56 U	--	52 U	58 U	52 U	--
Benzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Bromobenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Bromochloromethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Bromodichloromethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Bromoform	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Bromomethane	ug/kg	--	--	--	26	11	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Carbon disulfide	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Carbon tetrachloride	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Chloro methane	ug/kg	--	--	--	11	5.3	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Chlorobenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Chloroethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Chloroform	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Dibromomethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Dichlorodifluoromethane	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Ethyl- benzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Hexachlorobutadiene	ug/kg	330 U	330 U	690 U	6.3 U	3.7 U	6.3 U	680 U	6.2 U	8.1 U	6 U	5.6 U	670 U	5.2 U	5.8 U	5.2 U	670 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	24soil-01	24soil-02	AOC27-1	AOC27-1	AOC27-1	AOC27-1	AOC27-18	AOC27-18	AOC27-18	AOC27-18	AOC27-18E	AOC27-2	AOC27-2	AOC27-2	AOC27-2	AOC27-20
	SAMPLE	24soil-01	24soil-02	AOC27-1-28545	AOC27-1-28546	AOC27-1-28547	AOC27-1-28548	AOC27-18-28528	AOC27-18-28529	AOC27-18-28530	AOC27-18-28532	AOC27-18-28531	AOC27-2-28541	AOC27-2-28542	AOC27-2-28543	AOC27-2-28544	AOC27-20-28508
	DATE	1/31/2008	1/31/2008	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/1/2016
SAMPLE TOP DEPTH (FT)		2.5	2.5	0	2	5	9	0	2	5	9	4	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		3	3	1	3	6	10	1	3	6	10	5	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	10	0.5	3	6	10	5	0.5	3	6	10	0.5
SAMPLE TYPE																	
ANALYTE	UNITS																
Isophorone	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	63 U	37 U	63 U	--	62 U	81 U	60 U	56 U	--	52 U	58 U	52 U	--
Methyl isobutyl ketone	ug/kg	--	--	--	63 U	37 U	63 U	--	62 U	81 U	60 U	56 U	--	52 U	58 U	52 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 UJ	--	5.2 U	5.8 U	5.2 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
N-Butylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
N-Propylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Nitrobenzene	ug/kg	330 U	330 U	350 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
sec-Butylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Styrene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
tert-Butylbenzene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Tetrachloroethene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Toluene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Trichloroethene	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Vinyl chloride	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 UJ	8.1 UJ	6 UJ	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Xylene, m,p-	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Xylene, o-	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--
Xylenes, total	ug/kg	--	--	--	6.3 U	3.7 U	6.3 U	--	6.2 U	8.1 U	6 U	5.6 U	--	5.2 U	5.8 U	5.2 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-20	AOC27-20	AOC27-20	AOC27-20	AOC27-24	AOC27-24	AOC27-24	AOC27-24	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-27	AOC27-27	AOC27-36	AOC27-36
	SAMPLE	AOC27-20-28509	AOC27-20-28510	AOC27-20-28511	AOC27-20-28512	AOC27-24-28549	AOC27-24-28550	AOC27-24-28551	AOC27-24-28552	AOC27-24SW-28553	AOC27-24SW-28554	AOC27-24SW-28555	AOC27-24SW-28556	AOC27-27-28517	AOC27-27-28518	AOC27-36-28524	AOC27-36-28525
	DATE	3/1/2016	3/1/2016	3/1/2016	3/1/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/2/2016	3/2/2016	3/17/2016	3/17/2016
SAMPLE TOP DEPTH (FT)		2	2	5	9	0	2	5	9	0	2	5	9	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	3	6	10	1	3	6	10	1	3	6	10	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	0.5	3
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	130	--	200	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	15	--	31	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	2.2 J	--	1.8 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	1.1 U	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	3.3 U	--	3.8 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	5.5 J	--	8.8 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	1.8 J	--	1.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.4 U	--	1.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.35 U	--	0.59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	5.2 U	--	3.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.41 U	--	2.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	48 U	--	75 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.35 U	--	0.59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.16 U	--	0.95 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.17 U	--	0.54 J	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	1000	--	1700	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	36	--	84	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	4	--	8	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	5.8	--	10	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	5.8	--	10	--	--	--	--	--	--	--	--	--	--	--	--	--
General																	
pH	PHUNITS	8.5	--	9.5	8.5	9.2	8.7	8.4	8.4	8.1	8.2	8.1	8.3	8.6	7.9	8.2	8.2
Metals																	
Antimony	mg/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 UJ	2.1 U
Arsenic	mg/kg	3.2	--	2.4	3.5	3.9	2.6	2.6	2	3.2	4.4	1.8	1.2	3.3	2.6	4.6	4.4
Barium	mg/kg	70 J	--	65	32	180	150	120	130	150	170	100	97	100	100	150 J	210
Beryllium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.21 U	--	0.29	0.21 U	0.36	0.2 U	0.2 U	0.2 U	0.2 U	0.34	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	0.21 U
Chromium, total	mg/kg	19	--	20	20	29	19	14	20	15	17	20	12	22	16	14	14
Cobalt	mg/kg	8.8	--	7.2	9.5	6.2	6.6	6.5	7.5	6.9	5.4	7.6	7	6.4	7.6	5.4	3.9
Copper	mg/kg	--	9.7	27	11	12	9.4	11	14	13	8.9	11	9.3	11	8.2	11	7
Lead	mg/kg	4.6	--	15	2.7	6.2	3.6	4.1	3	4.3	7	2.9	1.9	5.5	3.8	6	4.3
Mercury	mg/kg	0.1 U	--	0.13	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.12	0.1	0.1 U	0.11 U
Molybdenum	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	14	--	14	14	9.2	9.8	9.2	13	10	8.1	12	8.4	11	12	11	7
Selenium	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Silver	mg/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	--	32	27	38	31	33	30	34	31	25	29	32	34	36	25	21
Zinc	mg/kg	42	--	74	41	37	33	30	34	32	29	33	29	38	38	59 J	24
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-20	AOC27-20	AOC27-20	AOC27-20	AOC27-24	AOC27-24	AOC27-24	AOC27-24	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-27	AOC27-27	AOC27-36	AOC27-36
	SAMPLE	AOC27-20-28509	AOC27-20-28510	AOC27-20-28511	AOC27-20-28512	AOC27-24-28549	AOC27-24-28550	AOC27-24-28551	AOC27-24-28552	AOC27-24SW-28553	AOC27-24SW-28554	AOC27-24SW-28555	AOC27-24SW-28556	AOC27-27-28517	AOC27-27-28518	AOC27-36-28524	AOC27-36-28525
	DATE	3/1/2016	3/1/2016	3/1/2016	3/1/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/2/2016	3/2/2016	3/17/2016	3/17/2016
SAMPLE TOP DEPTH (FT)		2	2	5	9	0	2	5	9	0	2	5	9	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	3	6	10	1	3	6	10	1	3	6	10	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	0.5	3
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
4,4-DDD	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U
4,4-DDE	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U
4,4-DDT	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2.1 UJ	2 U	2.1 U
Aldrin	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-BHC	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
alpha-Chlordane	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
beta-BHC	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
delta-BHC	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dieldrin	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U
Endo sulfan I	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Endo sulfan II	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U
Endosulfan sulfate	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2.1 UJ	2 U	2.1 U
Endrin	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2.1 UJ	2 U	2.1 U
Endrin aldehyde	ug/kg	2.1 U	--	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2 U	2.1 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
gamma-Chlordane	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Heptachlor	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U
Heptachlor Epoxide	ug/kg	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methoxy chlor	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 UJ	5.2 UJ	5.1 U	5.2 U
Toxaphene	ug/kg	52 UJ	--	52 UJ	52 UJ	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ	51 UJ	52 UJ	51 U	52 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	34 U	--	35 U	34 U	33 U	34 U	33 U	34 U	33 U	34 U	34 U	33 U	34 U	34 U	34 U	34 U
Aroclor 1232	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	32	17 U	49 J	20
Aroclor 1260	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	8.5 U	--	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	32	8.5 U	49	20
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
2-Methyl naphthalene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Acenaphthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Acenaphthylene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
B(a)P Equivalent	ug/kg	6 U	--	6.5	6 U	6.5	7.3	6.2	32	5.9 U	7.4	6.2	5.9 U	11	6 U	6.5	6.3
Benzo (a) anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 UJ	5.2 UJ
Benzo (a) pyrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	25	5.1 U	5.1 U	5.1 U	5.1 U	6.1	5.2 U	5.1 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.2 U	--	7.3	5.2 U	8.5 J	17 J	5.4	28	5.1 U	18 J	5.4 J	5.1 U	14	5.2 U	8.2	5.2
Benzo (ghi) perylene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	16	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.2 U	--	5.2 U	5.2 U	8.5 J	5.1 U	5.1 U	16	5.1 U	5.1 U	7.8 J	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Chrysene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	8.5	5.1 U	5.1 U	5.1 U	5.1 U	10	5.2 U	5.1	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Fluoranthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1	5.1 U	6.4	5.1 U	5.1 U	16	5.2 U	5.1 U	5.2 U
Fluorene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	13	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Naphthalene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
PAH High molecular weight	ug/kg	0	--	12.5	0	17	17	5.4	122	0	30.5	13.2	0	60.1	0	13.3	5.2
PAH Low molecular weight	ug/kg	0	--	0	0	0	0	0	0	0	0	0	0	5.4	0	0	0
Phenanthrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.4	5.2 U	5.1 U	5.2 U
Pyrene	ug/kg	5.2 U	--	5.2	5.2 U	5.1 U	5.1 U	5.1 U	5.1	5.1 U	6.1	5.1 U	5.1 U	14	5.2 U	5.1 U	5.2 U

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-20	AOC27-20	AOC27-20	AOC27-20	AOC27-24	AOC27-24	AOC27-24	AOC27-24	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-27	AOC27-27	AOC27-36	AOC27-36
	SAMPLE	AOC27-20-28509	AOC27-20-28510	AOC27-20-28511	AOC27-20-28512	AOC27-24-28549	AOC27-24-28550	AOC27-24-28551	AOC27-24-28552	AOC27-24SW-28553	AOC27-24SW-28554	AOC27-24SW-28555	AOC27-24SW-28556	AOC27-27-28517	AOC27-27-28518	AOC27-36-28524	AOC27-36-28525
	DATE	3/1/2016	3/1/2016	3/1/2016	3/1/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/2/2016	3/2/2016	3/17/2016	3/17/2016
SAMPLE TOP DEPTH (FT)		2	2	5	9	0	2	5	9	0	2	5	9	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	3	6	10	1	3	6	10	1	3	6	10	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	0.5	3
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 UJ
2,4-Dinitrotoluene	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	680 U	--	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	680 U	690 U
4-Bromophenyl phenyl ether	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	680 U	--	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	680 U	680 U	690 U
4-Chloroaniline	ug/kg	680 U	--	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	680 U	680 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	680 U	--	690 U	680 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	670 U	680 U	680 U	690 U
bis (2-chloroethoxy) methane	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Butylbenzylphthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Dibenzofuran	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TPH as gasoline	mg/kg	1.5 U	--	1.2 U	1.4 U	--	1.3 U	1 U	1.2 U	--	1.3 U	1.1 U	1.1 U	--	1.4 UJ	--	1.3 U
TPH as motor oil	mg/kg	10 U	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
1,1-Dichloroethene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-20	AOC27-20	AOC27-20	AOC27-20	AOC27-24	AOC27-24	AOC27-24	AOC27-24	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-27	AOC27-27	AOC27-36	AOC27-36
	SAMPLE	AOC27-20-28509	AOC27-20-28510	AOC27-20-28511	AOC27-20-28512	AOC27-24-28549	AOC27-24-28550	AOC27-24-28551	AOC27-24-28552	AOC27-24SW-28553	AOC27-24SW-28554	AOC27-24SW-28555	AOC27-24SW-28556	AOC27-27-28517	AOC27-27-28518	AOC27-36-28524	AOC27-36-28525
	DATE	3/1/2016	3/1/2016	3/1/2016	3/1/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/2/2016	3/2/2016	3/17/2016	3/17/2016
SAMPLE TOP DEPTH (FT)		2	2	5	9	0	2	5	9	0	2	5	9	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	3	6	10	1	3	6	10	1	3	6	10	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	0.5	3
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
1,1-Dichloropropene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,1,1-Trichloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,1,1,2-Tetrachloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,1,2-Trichloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,1,2,2-Tetrachloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2-Dibromo-3-chloropropane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2-Dibromoethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2-Dichlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	330 U	7.8 U	5.5 U	6 U	340 U	7.4 U	5.7 U	290 U	340 U	8.3 U	340 U	6 U
1,2-Dichloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2-Dichloropropane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2,3-Trichlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2,3-Trichloropropane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,2,4-Trichlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	330 U	7.8 U	5.5 U	6 U	340 U	7.4 U	5.7 U	290 U	340 U	8.3 U	340 U	6 U
1,2,4-Trimethylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,3-Dichlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	330 U	7.8 U	5.5 U	6 U	340 U	7.4 U	5.7 U	290 U	340 U	8.3 U	340 U	6 U
1,3-Dichloropropane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,3,5-Trimethylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
1,4-Dichlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	330 U	7.8 U	5.5 U	6 U	340 U	7.4 U	5.7 U	290 U	340 U	8.3 U	340 U	6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
2,4,5-Trichlorophenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Acetone	ug/kg	68 U	--	56 U	71 U	--	78 U	55 U	60 U	--	74 U	57 UJ	2900 UJ	--	83 UJ	--	60 UJ
Acrolein	ug/kg	140 U	--	110 U	140 U	--	160 U	110 U	120 U	--	150 U	110 U	5800 U	--	170 U	--	120 UJ
Acrylonitrile	ug/kg	68 U	--	56 U	71 U	--	78 U	55 U	60 U	--	74 U	57 U	2900 U	--	83 U	--	60 U
Benzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
bis (2-chloroethyl) ether	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Bromobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Bromochloromethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Bromodichloromethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Bromoform	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Bromomethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Carbon disulfide	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Carbon tetrachloride	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Chloro methane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Chlorobenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Chloroethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Chloroform	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
cis-1,2-Dichloroethene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
cis-1,3-Dichloropropene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Dibromomethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Dichlorodifluoromethane	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Ethyl- benzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Hexachlorobutadiene	ug/kg	6.8 U	--	5.6 U	7.1 U	670 U	7.8 U	5.5 U	6 U	670 U	7.4 U	5.7 U	290 U	670 U	8.3 U	680 U	6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-20	AOC27-20	AOC27-20	AOC27-20	AOC27-24	AOC27-24	AOC27-24	AOC27-24	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-24SW	AOC27-27	AOC27-27	AOC27-36	AOC27-36
	SAMPLE	AOC27-20-28509	AOC27-20-28510	AOC27-20-28511	AOC27-20-28512	AOC27-24-28549	AOC27-24-28550	AOC27-24-28551	AOC27-24-28552	AOC27-24SW-28553	AOC27-24SW-28554	AOC27-24SW-28555	AOC27-24SW-28556	AOC27-27-28517	AOC27-27-28518	AOC27-36-28524	AOC27-36-28525
	DATE	3/1/2016	3/1/2016	3/1/2016	3/1/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/18/2016	3/2/2016	3/2/2016	3/17/2016	3/17/2016
SAMPLE TOP DEPTH (FT)		2	2	5	9	0	2	5	9	0	2	5	9	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	3	6	10	1	3	6	10	1	3	6	10	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	0.5	3
SAMPLE TYPE			Field Duplicate														
ANALYTE	UNITS																
Isophorone	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	68 U	--	56 U	71 U	--	78 U	55 U	60 U	--	74 U	57 U	2900 U	--	83 U	--	60 U
Methyl isobutyl ketone	ug/kg	68 U	--	56 U	71 U	--	78 U	55 U	60 U	--	74 U	57 U	2900 U	--	83 U	--	60 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
N-Butylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
N-Propylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Nitrobenzene	ug/kg	340 U	--	340 U	340 U	330 U	330 U	330 U	340 U	340 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
sec-Butylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Styrene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
tert-Butylbenzene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Tetrachloroethene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Toluene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
trans-1,2-Dichloroethene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
trans-1,3-Dichloropropene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Trichloroethene	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Vinyl chloride	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 UJ
Xylene, m,p-	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Xylene, o-	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U
Xylenes, total	ug/kg	6.8 U	--	5.6 U	7.1 U	--	7.8 U	5.5 U	6 U	--	7.4 U	5.7 U	290 U	--	8.3 U	--	6 U

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-36	AOC27-36	AOC27-4	AOC27-4	AOC27-4	AOC27-4	AOC27-5	AOC27-5	AOC27-5	AOC27-5	AOC27-50	AOC27-50	AOC27-50	AOC27-50	AOC27-51	AOC27-51
	SAMPLE	AOC27-36-28526	AOC27-36-28527	AOC27-4-28537	AOC27-4-28538	AOC27-4-28539	AOC27-4-28540	AOC27-5-28533	AOC27-5-28534	AOC27-5-28535	AOC27-5-28536	AOC27-50-28513	AOC27-50-28514	AOC27-50-28515	AOC27-50-28516	AOC27-51-28557	AOC27-51-28558
	DATE	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/2/2016	3/2/2016	3/2/2016	3/2/2016	2/17/2017	2/17/2017
SAMPLE TOP DEPTH (FT)		5	9.6	0	0	2	5	0	2	5	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	1	1	3	6	1	3	6	10	1	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	6	10	0.5	3	6	10	0.5	3
SAMPLE TYPE					Field Duplicate												
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	1100	--	77	6.2 U	--	740	2.4 U	--	96	420	9 J	--	71	6.2 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	45	0.39 U	0.38 U	--	0.88 U	0.076 U	--	19	79 U	1.5 U	--	15	1.2 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	6 J	0.73 J	0.36 U	--	3.7 U	0.2 U	--	3.7 J	15 U	0.31 U	--	2.5 J	0.29 J
1,2,3,4,7,8-HxCDF	ng/kg	--	--	8.9 J	--	0.79 U	0.28 U	--	3.9 U	0.072 U	--	3.2 J	12 J	0.2 U	--	1.6 J	0.072 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	7.1 J	--	1.5 U	0.66 U	--	21	0.09 U	--	1.2 U	6.6 J	0.95 U	--	0.91 U	0.13 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	20	--	2.1 J	0.21 U	--	11 U	0.095 U	--	9.1 J	52	0.27 U	--	6.4 J	0.87 J
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	0.81 U	0.77 U	0.25 U	--	9.7 U	0.095 U	--	3.6 J	13 U	0.13 U	--	1.7 J	0.15 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	1.2 J	0.46 U	0.19 U	--	1.5 U	0.099 U	--	5.8 J	32	0.17 U	--	4 J	0.51 U
1,2,3,7,8-PeCDF	ng/kg	--	--	0.4 U	--	0.35 U	0.092 U	--	0.48 U	0.18 U	--	1.9 U	5.7 U	0.14 U	--	0.89 U	0.14 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	7.8 J	--	1.3 J	0.21 U	--	5.7 U	0.09 U	--	7.4 J	34	0.38 U	--	5.6 J	0.68 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	0.31 U	--	0.92 U	0.32 U	--	0.52 U	0.084 U	--	0.9 U	3 U	0.55 J	--	0.27 U	0.083 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	0.3 U	--	15 U	0.83 U	--	98 U	0.62 U	--	4.3 J	13 U	0.34 U	--	12 U	0.8 U
2,3,4,7,8-PeCDF	ng/kg	--	--	0.43 U	--	0.17 U	0.093 U	--	0.57 U	0.19 U	--	3.1 J	12 J	0.14 U	--	1.5 J	0.14 U
2,3,7,8-TCDD	ng/kg	--	--	0.16 U	--	0.34 U	0.1 U	--	0.24 U	0.054 U	--	1.5 U	9.1 U	0.091 U	--	1.3 J	0.099 U
2,3,7,8-TCDF	ng/kg	--	--	0.73 J	--	0.33 U	0.11 U	--	0.29 U	0.099 U	--	1.2 J	4.6 U	0.31 U	--	0.78 J	0.067 U
OCDD	ng/kg	--	--	11000	--	790	88 U	--	10000	35	--	380	1100	33 U	--	420	29 U
OCDF	ng/kg	--	--	260	--	31	0.29 U	--	200	0.73 U	--	12 J	40	0.89 U	--	34	1 U
TEQ Avian	ng/kg	--	--	--	14	1.9	0.37 U	--	9.3	0.29	--	13	59	0.5	--	9.6	0.58
TEQ Human	ng/kg	--	--	--	26	2.8	0.34 U	--	18	0.2	--	12	57	0.41	--	9.2	0.65
TEQ Mammals	ng/kg	--	--	--	26	2.8	0.34 U	--	18	0.2	--	12	57	0.41	--	9.2	0.65
General																	
pH	PHUNITS	8.2	8.5	8.4	--	8.1	9.2	9.3	8.5	8.4	8.2	9.4	8.2	8.4	8.2	--	--
Metals																	
Antimony	mg/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2 U
Arsenic	mg/kg	2.8	5.2	--	3.2	4	1.1	3.4	4.1	1.3	1.6	2.1	4.4	2.1	2.1	2.3	1 U
Barium	mg/kg	100	81	--	150 J	180	76	110	120	82	93	180	190	62	36	130	68
Beryllium	mg/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1.5	1 U	1 U	1 U	1.1	1 U	1 U	2.3	1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.22 U	--	0.28	0.2 U	0.2 U	0.31	0.48	0.2 U	0.2 U	0.3	1.3	0.21 U	0.21 U	0.21 U	0.2 U
Chromium, total	mg/kg	16	13	16	--	13	14	15	21	15	13	25	50 J	18	18	20	10
Cobalt	mg/kg	6.1	5.6	--	4.8	5.7	7.1	3.7	4.7	6.9	6.3	8.3	7.6	8	7.7	7.7	5
Copper	mg/kg	8.8	11	--	8.9	9.5	8.1	7.6	14	9.2	8.6	25	100 J	7.9	9.1	36	7.4
Lead	mg/kg	3.7	6.5	7.3	--	5.9	2	7	38	2.4	2.5	73	190 J	2.1	2.1	19	1.4
Mercury	mg/kg	0.11 U	0.11 U	0.1 U	--	0.1 U	0.099 U	0.1 U	0.1 U	0.099 U	0.1 U	0.13	0.47	0.13	0.12	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4.7 J	1 U	1 U	1 U	1 U
Nickel	mg/kg	9.8	11	7.2	--	8.1	9.1	7.2	8.8	10	8.8	13	16	14	13	15	6.9
Selenium	mg/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 UJ	1 UJ
Silver	mg/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.7 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 UJ	2.1 U	2.1 U	2.1 UJ	2 UJ
Vanadium	mg/kg	29	27	--	25	25	36	19	24	34	30	38	26 J	29	31	22	18
Zinc	mg/kg	29	34	31	--	27	28	48	500	32	33	250	330 J	39	38	1200	28
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8100	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21000	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.21 U	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	28000	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6200	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2900	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	460	--
Pesticides																	

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-36	AOC27-36	AOC27-4	AOC27-4	AOC27-4	AOC27-4	AOC27-5	AOC27-5	AOC27-5	AOC27-5	AOC27-50	AOC27-50	AOC27-50	AOC27-50	AOC27-51	AOC27-51
	SAMPLE	AOC27-36-28526	AOC27-36-28527	AOC27-4-28537	AOC27-4-28538	AOC27-4-28539	AOC27-4-28540	AOC27-5-28533	AOC27-5-28534	AOC27-5-28535	AOC27-5-28536	AOC27-50-28513	AOC27-50-28514	AOC27-50-28515	AOC27-50-28516	AOC27-51-28557	AOC27-51-28558
	DATE	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/2/2016	3/2/2016	3/2/2016	3/2/2016	2/17/2017	2/17/2017
SAMPLE TOP DEPTH (FT)		5	9.6	0	0	2	5	0	2	5	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	1	1	3	6	1	3	6	10	1	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	6	10	0.5	3	6	10	0.5	3
SAMPLE TYPE					Field Duplicate												
ANALYTE	UNITS																
4,4-DDD	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
4,4-DDE	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
4,4-DDT	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 UJ	2.1 UJ	2.1 UJ	2.1 U	--
Aldrin	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
alpha-BHC	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
alpha-Chlordane	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
beta-BHC	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
delta-BHC	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Dieldrin	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Endo sulfan I	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Endo sulfan II	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Endosulfan sulfate	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 UJ	2.1 UJ	2.1 UJ	2.1 U	--
Endrin	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ	--
Endrin aldehyde	ug/kg	2.2 U	2.2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--
gamma-BHC	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
gamma-Chlordane	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Heptachlor	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	--
Heptachlor Epoxide	ug/kg	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Methoxy chlor	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 UJ	5.2 UJ	5.2 UJ	5.2 U	--
Toxaphene	ug/kg	54 U	55 U	51 U	--	51 UJ	50 UJ	51 U	51 U	50 U	51 U	51 UJ	51 UJ	52 UJ	52 UJ	52 U	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	18 U	18 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	36 U	36 U	34 U	--	33 U	33 U	34 U	34 U	33 U	33 U	34 U	34 U	34 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	18 U	18 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	18 U	18 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	18 U	18 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	18 U	18 U	--	21	17 U	17 U	17	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1260	ug/kg	18 U	18 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	9 U	9 U	--	21	8.5 U	8.5 U	17	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U	8.5 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
2-Methyl naphthalene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Acenaphthene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	8.3	5.1 U
Acenaphthylene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1	5 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Anthracene	ug/kg	5.4 U	5.5 U	--	6.8	5.1 U	5 U	14	22	5 U	5 U	39	9.2 J	5.2 U	5.2 U	55	5.1 U
B(a)P Equivalent	ug/kg	6.2 U	6.4 U	--	24	6.7	5.8 U	27	85	5.8 U	6.4	400	1300	6 U	6 U	370	5.9 U
Benzo (a) anthracene	ug/kg	5.4 UJ	5.5 UJ	--	11	5.1 U	5 U	6.1 J	26 J	5 UJ	5 UJ	440	1300	5.2 U	5.2 U	490 J	5.1 U
Benzo (a) pyrene	ug/kg	5.4 U	5.5 U	--	12	5.1 U	5 U	16 J	58 J	5 U	5 U	270	930 J	5.2 U	5.2 U	250 J	5.1 U
Benzo (b) fluoranthene	ug/kg	5.4 U	5.5 U	--	66	10	5 U	65 J	190 J	5 U	8.7	540	2100 J	5.2 U	5.2 U	560	5.1 U
Benzo (ghi) perylene	ug/kg	5.4 U	5.5 U	--	12	5.1	5 U	14 J	22 J	5 U	5 U	79	130	5.2 U	5.2 U	140 J	5.1 U
Benzo (k) fluoranthene	ug/kg	5.4 U	5.5 U	--	22	8.4	5 U	20 J	68 J	5 U	5 U	160	830 J	5.2 U	5.2 U	130 J	5.1 U
Chrysene	ug/kg	5.4 U	5.5 U	--	36 J	8.1 J	5 U	30 J	89 J	5 U	8.1	480	1200	5.2 U	5.2 U	410 J	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.4 U	5.5 U	5.1 UJ	--	5.1 U	5 U	5.1 UJ	5.1 UJ	5 U	5 U	20	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Fluoranthene	ug/kg	5.4 U	5.5 U	--	25	9.1	5 U	9.9	20	5 U	15	1100	2800	5.2 U	5.2 U	920	5.1 U
Fluorene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.4 U	5.5 U	--	12	5.1 U	5 U	8.5 J	16 J	5 U	5 U	81	95	5.2 U	5.2 U	140 J	5.1 U
Naphthalene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1 U	5 U	5.3	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
PAH High molecular weight	ug/kg	0	0	--	220	51.7	0	179	510	0	44.8	4040	11700	0	0	3780	0
PAH Low molecular weight	ug/kg	0	0	--	6.8	0	0	14	32.2	0	5.3	459	779	0	0	543	0
Phenanthrene	ug/kg	5.4 U	5.5 U	5.1 U	--	5.1 U	5 U	5.1 U	5.1	5 U	16	420	770	5.2 U	5.2 U	480 J	5.1 U
Pyrene	ug/kg	5.4 U	5.5 U	--	24	11	5 U	9.5	21	5 U	13	870	2300	5.2 U	5.2 U	740	5.1 U

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-36	AOC27-36	AOC27-4	AOC27-4	AOC27-4	AOC27-4	AOC27-5	AOC27-5	AOC27-5	AOC27-5	AOC27-50	AOC27-50	AOC27-50	AOC27-50	AOC27-51	AOC27-51
	SAMPLE	AOC27-36-28526	AOC27-36-28527	AOC27-4-28537	AOC27-4-28538	AOC27-4-28539	AOC27-4-28540	AOC27-5-28533	AOC27-5-28534	AOC27-5-28535	AOC27-5-28536	AOC27-50-28513	AOC27-50-28514	AOC27-50-28515	AOC27-50-28516	AOC27-51-28557	AOC27-51-28558
	DATE	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/2/2016	3/2/2016	3/2/2016	3/2/2016	2/17/2017	2/17/2017
SAMPLE TOP DEPTH (FT)		5	9.6	0	0	2	5	0	2	5	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	1	1	3	6	1	3	6	10	1	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	6	10	0.5	3	6	10	0.5	3
SAMPLE TYPE					Field Duplicate												
ANALYTE	UNITS																
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
2-Chloro naphthalene	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2-Chlorophenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2-Methylphenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
2-Nitrophenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
2,4-Dichlorophenol	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
2,4-Dimethylphenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2,4-Dinitrophenol	ug/kg	1800 UJ	1800 UJ	1700 UJ	--	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 UJ	1700 U	1700 U	1700 U	1700 U	1700 U	--
2,4-Dinitrotoluene	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
2,6-Dinitrotoluene	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
3-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
3,3-Dichlorobenzidene	ug/kg	710 U	730 U	670 U	--	670 U	660 U	670 U	670 U	670 U	670 U	680 U	680 U	680 U	680 U	680 U	--
4-Bromophenyl phenyl ether	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
4-Chloro-3-methylphenol	ug/kg	710 U	730 U	670 U	--	670 U	660 U	670 U	670 U	670 U	670 U	680 U	680 U	680 U	680 U	680 U	--
4-Chloroaniline	ug/kg	710 U	730 U	670 U	--	670 U	660 U	670 U	670 U	670 U	670 U	680 U	680 U	680 U	680 U	680 U	--
4-Chlorophenyl phenyl ether	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
4-Methylphenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
4-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
4-Nitrophenol	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	720 U	--
Benzoic acid	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
Benzyl alcohol	ug/kg	710 U	730 U	670 U	--	670 U	660 U	670 U	670 U	670 U	670 U	680 U	680 U	680 U	680 U	680 U	--
bis (2-chloroethoxy) methane	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
bis (2-ethylhexyl) phthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Butylbenzylphthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340 U	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340 U	--
Di-n-butyl phthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Di-n-octyl phthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Dibenzofuran	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Diethyl phthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Dimethyl phthalate	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Hexachlorobenzene	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Hexachloroethane	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
n-Nitroso-di-n-propylamine	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
N-nitrosodiphenylamine	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Pentachlorophenol	ug/kg	1800 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--
Phenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	340 U	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	11 U	11 U	10 U	--	10 U	10 U	10 U	18	10 U	10 U	10 U	120	10 U	10 U	12	10 U
TPH as gasoline	mg/kg	1.4 U	1.6 U	--	--	0.76 U	1.2 U	--	1.2 U	1.1 U	2 U	--	1.2 U	1.4 U	1.3 U	1.6 U	1.4 U
TPH as motor oil	mg/kg	11 U	11 U	--	48	11	12	54	91	10 U	10 U	16	780	10 U	10 U	37	15
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1-Dichloroethene	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-36	AOC27-36	AOC27-4	AOC27-4	AOC27-4	AOC27-4	AOC27-5	AOC27-5	AOC27-5	AOC27-5	AOC27-50	AOC27-50	AOC27-50	AOC27-50	AOC27-51	AOC27-51
	SAMPLE	AOC27-36-28526	AOC27-36-28527	AOC27-4-28537	AOC27-4-28538	AOC27-4-28539	AOC27-4-28540	AOC27-5-28533	AOC27-5-28534	AOC27-5-28535	AOC27-5-28536	AOC27-50-28513	AOC27-50-28514	AOC27-50-28515	AOC27-50-28516	AOC27-51-28557	AOC27-51-28558
	DATE	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/2/2016	3/2/2016	3/2/2016	3/2/2016	2/17/2017	2/17/2017
SAMPLE TOP DEPTH (FT)		5	9.6	0	0	2	5	0	2	5	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	1	1	3	6	1	3	6	10	1	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	6	10	0.5	3	6	10	0.5	3
SAMPLE TYPE					Field Duplicate												
ANALYTE	UNITS																
1,1-Dichloropropene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1,1-Trichloroethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1,1,2-Tetrachloroethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1,2-Trichloroethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,1,2,2-Tetrachloroethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2-Dibromo-3-chloropropane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2-Dibromoethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2-Dichlorobenzene	ug/kg	6.4 U	6.5 U	340 U	--	6.8 U	6.1 U	330 U	5.6 U	6.4 U	5.1 U	340 U	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2-Dichloroethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2-Dichloropropane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2,3-Trichlorobenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2,3-Trichloropropane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2,4-Trichlorobenzene	ug/kg	6.4 U	6.5 U	340 U	--	6.8 U	6.1 U	330 U	5.6 U	6.4 U	5.1 U	340 U	6.5 U	7.3 U	5.8 U	6.5 U	--
1,2,4-Trimethylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,3-Dichlorobenzene	ug/kg	6.4 U	6.5 U	340 U	--	6.8 U	6.1 U	330 U	5.6 U	6.4 U	5.1 U	340 U	6.5 U	7.3 U	5.8 U	6.5 U	--
1,3-Dichloropropane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,3,5-Trimethylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
1,4-Dichlorobenzene	ug/kg	6.4 U	6.5 U	340 U	--	6.8 U	6.1 U	330 U	5.6 U	6.4 U	5.1 U	340 U	6.5 U	7.3 U	5.8 U	6.5 U	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340 U	--
2-Chlorotoluene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	65 U	--
2,2-Dichloropropane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
2,4,5-Trichlorophenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	350 U	340 U
2,4,6-Trichlorophenol	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	350 U	340 U
4-Isopropyltoluene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Acetone	ug/kg	64 U	65 UJ	--	--	68 U	61 U	--	56 UJ	64 U	51 UJ	--	65 UJ	73 UJ	58 UJ	65 U	--
Acrolein	ug/kg	130 UJ	130 UJ	--	--	140 U	120 U	--	110 UJ	130 UJ	100 UJ	--	130 U	150 U	120 U	130 U	--
Acrylonitrile	ug/kg	64 U	65 U	--	--	68 U	61 U	--	56 U	64 U	51 U	--	65 U	73 U	58 U	65 U	--
Benzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
bis (2-chloroethyl) ether	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	340 U	350 U	340 U
Bromobenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Bromochloromethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Bromodichloromethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Bromoform	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Bromomethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Carbon disulfide	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Carbon tetrachloride	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Chloro methane	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Chlorobenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Chloroethane	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Chloroform	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
cis-1,2-Dichloroethene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
cis-1,3-Dichloropropene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--
Dibromochloromethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Dibromomethane	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Dichlorodifluoromethane	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Ethyl- benzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Hexachlorobutadiene	ug/kg	6.4 U	6.5 U	670 U	--	6.8 U	6.1 U	670 U	5.6 U	6.4 U	5.1 U	680 U	6.5 U	7.3 U	5.8 U	6.5 U	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	680 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-36	AOC27-36	AOC27-4	AOC27-4	AOC27-4	AOC27-4	AOC27-5	AOC27-5	AOC27-5	AOC27-5	AOC27-50	AOC27-50	AOC27-50	AOC27-50	AOC27-51	AOC27-51
	SAMPLE	AOC27-36-28526	AOC27-36-28527	AOC27-4-28537	AOC27-4-28538	AOC27-4-28539	AOC27-4-28540	AOC27-5-28533	AOC27-5-28534	AOC27-5-28535	AOC27-5-28536	AOC27-50-28513	AOC27-50-28514	AOC27-50-28515	AOC27-50-28516	AOC27-51-28557	AOC27-51-28558
	DATE	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/17/2016	3/2/2016	3/2/2016	3/2/2016	3/2/2016	2/17/2017	2/17/2017
SAMPLE TOP DEPTH (FT)		5	9.6	0	0	2	5	0	2	5	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	1	1	3	6	1	3	6	10	1	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	6	10	0.5	3	6	10	0.5	3
SAMPLE TYPE					Field Duplicate												
ANALYTE	UNITS																
Isophorone	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	350 U	340 U	--
Isopropylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5 UJ	--
Methyl ethyl ketone	ug/kg	64 U	65 U	--	--	68 U	61 U	--	56 U	64 U	51 U	--	65 U	73 U	58 U	65 U	--
Methyl isobutyl ketone	ug/kg	64 U	65 U	--	--	68 U	61 U	--	56 U	64 U	51 U	--	65 U	73 U	58 U	65 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	6.4 UJ	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 UJ	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--
Methylene chloride	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
N-Butylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
N-Propylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Nitrobenzene	ug/kg	360 U	360 U	340 U	--	330 U	330 U	330 U	340 U	330 U	330 U	340 U	340 U	340 U	350 U	340 U	--
p-Chlorotoluene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
sec-Butylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Styrene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
tert-Butylbenzene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Tetrachloroethene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Toluene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
trans-1,2-Dichloroethene	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
trans-1,3-Dichloropropene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Trichloroethene	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Vinyl chloride	ug/kg	6.4 U	6.5 UJ	--	--	6.8 U	6.1 U	--	5.6 UJ	6.4 U	5.1 UJ	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Xylene, m,p-	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Xylene, o-	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--
Xylenes, total	ug/kg	6.4 U	6.5 U	--	--	6.8 U	6.1 U	--	5.6 U	6.4 U	5.1 U	--	6.5 U	7.3 U	5.8 U	6.5 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-51	AOC27-6	AOC27-6	AOC27-6	AOC27-7	AOC27-7	AOC27-7	AOC27-8	AOC27-8	AOC27-9	AOC27-9	AOC27-9	AOC27-9	AOC27-9	PA-13
	SAMPLE	AOC27-51-28559	AOC27-6-28500	AOC27-6-28501	AOC27-6-28502	AOC27-7-28503	AOC27-7-28504	AOC27-7-28505	AOC27-8-28506	AOC27-8-28507	AOC27-9-28519	AOC27-9-28520	AOC27-9-28521	AOC27-9-28522	AOC27-9-28523	PA-13-01
	DATE	2/17/2017	2/29/2016	2/29/2016	2/29/2016	2/29/2016	2/29/2016	3/1/2016	3/1/2016	3/1/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	1	5	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	1	3	6	2	6	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	2	6	0.5	0.5	3	6	10	0.5
SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	2.2 J	610	180	47	1500	1500	45	330	31	110	--	60	20	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.27 U	99	24	10 J	240	380	0.48 U	67	4.7 J	23	--	0.64 U	3.3 J	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.057 U	32	7.3 J	1.9 J	38	62	2 J	11 J	1.4 J	1.3 J	--	0.41 U	0.7 U	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.094 U	14	3.6 J	0.77 U	27	68	1.1 J	7 J	0.72 J	0.84 U	--	0.73 U	0.27 U	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.051 U	6.4 J	1.6 J	0.19 U	17	36	0.57 U	3.9 U	1.2 U	1.8 U	--	0.76 U	0.94 U	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.057 U	77	17	5.2 J	100	160	4.1 J	27	1.8 U	3.7 J	--	0.35 U	1.1 U	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.09 U	12 J	2.8 U	0.92 U	26	25 U	0.88 J	6.6 U	0.52 U	1.3 J	--	0.64 U	0.32 U	--	--
1,2,3,7,8-PeCDD	ng/kg	0.074 U	70	17	4.3 J	45	110	2.4 J	14	1.4 J	0.37 U	--	0.57 U	0.32 U	--	--
1,2,3,7,8-PeCDF	ng/kg	0.11 U	7.6 J	2 J	0.29 U	16	39	0.59 U	3.9 J	0.43 U	0.69 U	--	0.82 U	0.36 U	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.056 U	67	16	4.7 U	63 U	120	3.1 U	21	1.3 U	2.2 U	--	0.36 U	0.79 U	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.11 U	3.1 J	0.94 U	0.57 U	5.7 U	14 U	0.2 U	1 U	1.2 U	0.36 U	--	0.83 U	0.34 U	--	--
2,3,4,6,7,8-HxCDF	ng/kg	0.41 U	14	18 U	5.9 U	26	81	1 U	30 U	5.1 U	36 U	--	9.7 U	3.6 U	--	--
2,3,4,7,8-PeCDF	ng/kg	0.11 U	11 J	3.2 J	0.68 U	26	65	0.85 J	6.7 J	0.51 J	0.69 U	--	0.52 U	0.33 U	--	--
2,3,7,8-TCDD	ng/kg	0.038 U	19	5.7	0.87 U	6.4	29	0.25 U	4 J	0.17 U	1.2 U	--	0.21 U	0.2 U	--	--
2,3,7,8-TCDF	ng/kg	0.026 U	5.4	1.5 J	0.35 U	17	26 U	0.15 U	3.9 J	0.43 U	1.4 J	--	1.9 U	0.91 J	--	--
OCDD	ng/kg	27 U	2300	860	330 B	6500	4000	190 U	1500	170 U	960	--	540 B	150 U	--	--
OCDF	ng/kg	0.85 U	84	190	12 U	140	29	5.4 U	53	6.8 U	120	--	23 J	6.4 U	--	--
TEQ Avian	ng/kg	0.17	120	32	6.2	110	260	4.1	36	2.9	5.2	--	2.4	1.7	--	--
TEQ Human	ng/kg	0.15	120	32	6.9	110	230	4.3	33	2.8	5.3	--	2	1	--	--
TEQ Mammals	ng/kg	0.15	120	32	6.9	110	230	4.3	33	2.8	5.3	--	2	1	--	--
General																
pH	PHUNITS	--	8.2	9.8	9.1	10	10	8.8	10	9	--	8.9	8.2	8.4	8.2	--
Metals																
Antimony	mg/kg	2 U	2.1 U	2.1 U	2.1 U	2 U	3.5	2 U	2 U	2 U	2 UJ	--	2 U	2 U	2 U	2.1 U
Arsenic	mg/kg	1.4	5.2	3.4	2.7	5.7	20	2.6	2	2.5	--	2.9	2.1	2.1	1.2	4.8
Barium	mg/kg	97	200	120	70	190	180	28	130	39	140	--	120	120	88	200
Beryllium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1.2	1.5	1 U	1 U	1.7	4.5	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.2 U	0.87 J	4.8	0.21 U	2.7	4	0.5	0.49	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.26
Chromium, total	mg/kg	13	43	24	39	150	290	16	20	17	--	14	14	15	11	15
Cobalt	mg/kg	6.3	6.7	6.9	8.6	11	16	7.7	7	7.3	5.9	--	5.7	6.7	5.8	6.3
Copper	mg/kg	8.3	500	76	18	580	1000	9.8	29	15	8.2	--	8.3	11	7.8	12
Lead	mg/kg	1 U	630	37	51	170	570	2.6	24	6.1	--	5.9	3.7	2.7	1.6	5.8
Mercury	mg/kg	0.1 U	0.51	0.26	0.14	0.32	0.95	0.1 U	0.17	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	8.3	1 U	1 U	11	26	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Nickel	mg/kg	8.2	22	16	26	35	97	12	11	12	--	9.7	9.3	11	7.9	11
Selenium	mg/kg	1 UJ	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 UJ	--	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 UJ	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2.1 U
Vanadium	mg/kg	24	23	26	33	27	17	29	28	30	25	--	25	33	28	27
Zinc	mg/kg	30	700	130	92	420	1300	38	93	45	--	38 J	35	36	28	45
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-51	AOC27-6	AOC27-6	AOC27-6	AOC27-7	AOC27-7	AOC27-7	AOC27-8	AOC27-8	AOC27-9	AOC27-9	AOC27-9	AOC27-9	AOC27-9	PA-13
	SAMPLE	AOC27-51-28559	AOC27-6-28500	AOC27-6-28501	AOC27-6-28502	AOC27-7-28503	AOC27-7-28504	AOC27-7-28505	AOC27-8-28506	AOC27-8-28507	AOC27-9-28519	AOC27-9-28520	AOC27-9-28521	AOC27-9-28522	AOC27-9-28523	PA-13-01
	DATE	2/17/2017	2/29/2016	2/29/2016	2/29/2016	2/29/2016	2/29/2016	3/1/2016	3/1/2016	3/1/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	1	5	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	1	3	6	2	6	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	2	6	0.5	0.5	3	6	10	0.5
SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS															
4,4-DDD	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
4,4-DDE	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
4,4-DDT	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Aldrin	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
alpha-BHC	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
alpha-Chlordane	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
beta-BHC	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
delta-BHC	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Dieldrin	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Endo sulfan I	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Endo sulfan II	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Endosulfan sulfate	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Endrin	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Endrin aldehyde	ug/kg	--	2.1 U	2.1 U	2.1 U	2 U	2.3 U	2.1 U	2 U	2 U	--	2 U	2 U	2 U	2 U	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
gamma-Chlordane	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Heptachlor	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Heptachlor Epoxide	ug/kg	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Methoxy chlor	ug/kg	--	5.3 U	5.2 U	5.2 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	--
Toxaphene	ug/kg	--	53 UJ	52 UJ	52 UJ	51 UJ	57 UJ	51 UJ	51 UJ	51 UJ	51 UJ	--	51 UJ	51 UJ	51 UJ	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	35 U	34 U	34 U	34 U	38 U	34 U	34 U	34 U	34 U	--	34 U	34 U	34 U	34 U
Aroclor 1232	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	19	--	17 U	17 U	17 U	22
Aroclor 1260	ug/kg	17 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	8.5 U	9 U	8.5 U	8.5 U	8.5 U	9.5 U	8.5 U	8.5 U	8.5 U	19	--	8.5 U	8.5 U	8.5 U	47.5
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.3 U	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
2-Methyl naphthalene	ug/kg	5.1 U	5.3 U	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
Acenaphthene	ug/kg	5.1 U	51 J	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
Acenaphthylene	ug/kg	5.1 U	5.3 U	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
Anthracene	ug/kg	5.1 U	710 J	6.9	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
B(a)P Equivalent	ug/kg	5.9 U	3300	1200	20	470	96	5.9 U	42	5.9 U	--	6.4	5.9 U	5.9 U	5.9 U	67
Benzo (a) anthracene	ug/kg	5.1 U	3400 J	560	9.3	430	94 J	5.1 U	28	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Benzo (a) pyrene	ug/kg	5.1 U	2000 J	930 J	13	340 J	57 U	5.1 U	30	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Benzo (b) fluoranthene	ug/kg	5.1 U	3400 J	1800 J	24	740 J	260 J	5.1 U	47	5.1 U	--	7.5	5.1 U	5.1 U	5.1 U	90
Benzo (ghi) perylene	ug/kg	5.1 U	1500 J	22	6.9	25 J	57 U	5.1 U	16	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Benzo (k) fluoranthene	ug/kg	5.1 U	1300 J	660 J	7.2	410 J	94	5.1 U	17	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Chrysene	ug/kg	5.1 U	3000 J	580	10	400	100 J	5.1 U	31	5.1 U	--	6.1	5.1 U	5.1 U	5.1 U	52
Dibenzo (a,h) anthracene	ug/kg	5.1 U	530 J	6.9	5.1 U	5.1 U	57 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Fluoranthene	ug/kg	5.1 U	8600 J	660	12	540	100 J	5.1 U	33	5.1 U	--	6.5	5.1 U	5.1 U	5.1 U	56 J
Fluorene	ug/kg	5.1 U	9.2 J	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	1200 J	19	5.5	24 J	57 U	5.1 U	13	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	52 U
Naphthalene	ug/kg	5.1 U	6.4 J	5.2 U	5.1 U	5.1 U	5.7 U	5.1 U	5.1 U	4.9 U	5.1 U	--	5.1 U	5.1 U	5.1 U	5.2 U
PAH High molecular weight	ug/kg	0	31500	5830	98.9	3390	736	0	250	0	--	27.2	0	0	0	241
PAH Low molecular weight	ug/kg	0	3880	40.9	0	25	60	0	9.2	0	0	--	0	0	0	23
Phenanthrene	ug/kg	5.1 U	3100 J	34	5.1 U	25	60 J	5.1 U	9.2	5.1 U	5.1 U	--	5.1 U	5.1 U	5.1 U	23 J
Pyrene	ug/kg	5.1 U	6600 J	590	11	480	88 J	5.1 U	35	5.1 U	--	7.1	5.1 U	5.1 U	5.1 U	43 J

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-51	AOC27-6	AOC27-6	AOC27-6	AOC27-7	AOC27-7	AOC27-7	AOC27-8	AOC27-8	AOC27-9	AOC27-9	AOC27-9	AOC27-9	AOC27-9	PA-13
	SAMPLE	AOC27-51-28559	AOC27-6-28500	AOC27-6-28501	AOC27-6-28502	AOC27-7-28503	AOC27-7-28504	AOC27-7-28505	AOC27-8-28506	AOC27-8-28507	AOC27-9-28519	AOC27-9-28520	AOC27-9-28521	AOC27-9-28522	AOC27-9-28523	PA-13-01
	DATE	2/17/2017	2/29/2016	2/29/2016	2/29/2016	2/29/2016	2/29/2016	3/1/2016	3/1/2016	3/1/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	1	5	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	1	3	6	2	6	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	2	6	0.5	0.5	3	6	10	0.5
SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS															
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	700 U	680 U	680 U	670 U	750 U	680 U	680 U	670 U	--	670 U	680 U	670 U	670 U	6800 U
4-Bromophenyl phenyl ether	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	--	700 U	680 U	680 U	670 U	750 U	680 U	680 U	670 U	--	670 U	680 U	670 U	670 U	680 U
4-Chloroaniline	ug/kg	--	700 U	680 U	680 U	670 U	750 U	680 U	680 U	670 U	--	670 U	680 U	670 U	670 U	680 U
4-Chlorophenyl phenyl ether	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 UJ
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	--	700 U	680 U	680 U	670 U	750 U	680 U	680 U	670 U	--	670 U	680 U	670 U	670 U	680 U
bis (2-chloroethoxy) methane	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	3400 U
Butylbenzylphthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	3400 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	3400 U
Dibenzofuran	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	--	1800 U	1700 U	1700 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	79	11	10 U	35	96	10 U	10 U	10 U	10 U	--	10 U	10 U	10 U	10 U
TPH as gasoline	mg/kg	1.2 U	--	1.5 U	1.4 U	--	2.2 U	1.3 U	1.1 U	1.1 U	--	--	1 U	1.7 U	0.99 U	--
TPH as motor oil	mg/kg	12	200	40	17	270	790	33	56	12	10 U	--	10 U	10 U	10 U	34
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1-Dichloroethene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-51	AOC27-6	AOC27-6	AOC27-6	AOC27-7	AOC27-7	AOC27-7	AOC27-8	AOC27-8	AOC27-9	AOC27-9	AOC27-9	AOC27-9	AOC27-9	PA-13
	SAMPLE	AOC27-51-28559	AOC27-6-28500	AOC27-6-28501	AOC27-6-28502	AOC27-7-28503	AOC27-7-28504	AOC27-7-28505	AOC27-8-28506	AOC27-8-28507	AOC27-9-28519	AOC27-9-28520	AOC27-9-28521	AOC27-9-28522	AOC27-9-28523	PA-13-01
	DATE	2/17/2017	2/29/2016	2/29/2016	2/29/2016	2/29/2016	2/29/2016	3/1/2016	3/1/2016	3/1/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	1	5	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	1	3	6	2	6	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	2	6	0.5	0.5	3	6	10	0.5
SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS															
1,1-Dichloropropene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1,1-Trichloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1,2-Trichloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2-Dibromoethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2-Dichlorobenzene	ug/kg	--	350 U	8.5 U	7.1 U	340 U	12 U	6.6 U	6.3 U	4.9 U	340 U	--	5.4 U	6.7 U	6.3 U	340 U
1,2-Dichloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2-Dichloropropane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2,3-Trichlorobenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2,3-Trichloropropane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,2,4-Trichlorobenzene	ug/kg	--	350 U	8.5 U	7.1 U	340 U	12 U	6.6 U	6.3 U	4.9 U	340 U	--	5.4 U	6.7 U	6.3 U	340 U
1,2,4-Trimethylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,3-Dichlorobenzene	ug/kg	--	350 U	8.5 U	7.1 U	340 U	12 U	6.6 U	6.3 U	4.9 U	340 U	--	5.4 U	6.7 U	6.3 U	340 U
1,3-Dichloropropane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,3,5-Trimethylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
1,4-Dichlorobenzene	ug/kg	--	350 U	8.5 U	7.1 U	340 U	12 U	6.6 U	6.3 U	4.9 U	340 U	--	5.4 U	6.7 U	6.3 U	340 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
2,4,5-Trichlorophenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Acetone	ug/kg	--	--	85 U	71 U	--	120 U	66 U	63 UJ	49 U	--	--	54 UJ	67 UJ	63 UJ	--
Acrolein	ug/kg	--	--	170 U	140 U	--	250 U	130 U	130 U	97 U	--	--	110 U	130 U	130 U	--
Acrylonitrile	ug/kg	--	--	85 U	71 U	--	120 U	66 U	63 U	49 U	--	--	54 U	67 U	63 U	--
Benzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
bis (2-chloroethyl) ether	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Bromobenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Bromochloromethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Bromodichloromethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Bromoform	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Bromomethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	23	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Carbon disulfide	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Carbon tetrachloride	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Chloro methane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	9.2	4.9 U	--	--	5.5	6.7 U	6.3 U	--
Chlorobenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Chloroethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Chloroform	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Dibromomethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Dichlorodifluoromethane	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Ethyl- benzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Hexachlorobutadiene	ug/kg	--	700 U	8.5 U	7.1 U	670 U	12 U	6.6 U	6.3 U	4.9 U	--	670 U	5.4 U	6.7 U	6.3 U	680 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table AOC27-A1
Dataset for AOC 27 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC27-51	AOC27-6	AOC27-6	AOC27-6	AOC27-7	AOC27-7	AOC27-7	AOC27-8	AOC27-8	AOC27-9	AOC27-9	AOC27-9	AOC27-9	AOC27-9	PA-13
	SAMPLE	AOC27-51-28559	AOC27-6-28500	AOC27-6-28501	AOC27-6-28502	AOC27-7-28503	AOC27-7-28504	AOC27-7-28505	AOC27-8-28506	AOC27-8-28507	AOC27-9-28519	AOC27-9-28520	AOC27-9-28521	AOC27-9-28522	AOC27-9-28523	PA-13-01
	DATE	2/17/2017	2/29/2016	2/29/2016	2/29/2016	2/29/2016	2/29/2016	3/1/2016	3/1/2016	3/1/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	3/8/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	1	5	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	1	3	6	2	6	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	2	6	0.5	0.5	3	6	10	0.5
SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS															
Isophorone	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	85 U	71 U	--	120 U	66 U	63 U	49 U	--	--	54 U	67 U	63 U	--
Methyl isobutyl ketone	ug/kg	--	--	85 U	71 U	--	120 U	66 U	63 U	49 U	--	--	54 U	67 U	63 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
N-Butylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
N-Propylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Nitrobenzene	ug/kg	--	350 U	340 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	--	340 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
sec-Butylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Styrene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
tert-Butylbenzene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Tetrachloroethene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Toluene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
trans-1,2-Dichloroethene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Trichloroethene	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Vinyl chloride	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Xylene, m,p-	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Xylene, o-	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--
Xylenes, total	ug/kg	--	--	8.5 U	7.1 U	--	12 U	6.6 U	6.3 U	4.9 U	--	--	5.4 U	6.7 U	6.3 U	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

AOC27-A3 Appendix Figure List

Exposure Unit: AOC 27

Reference Figure: AOC27-1.1

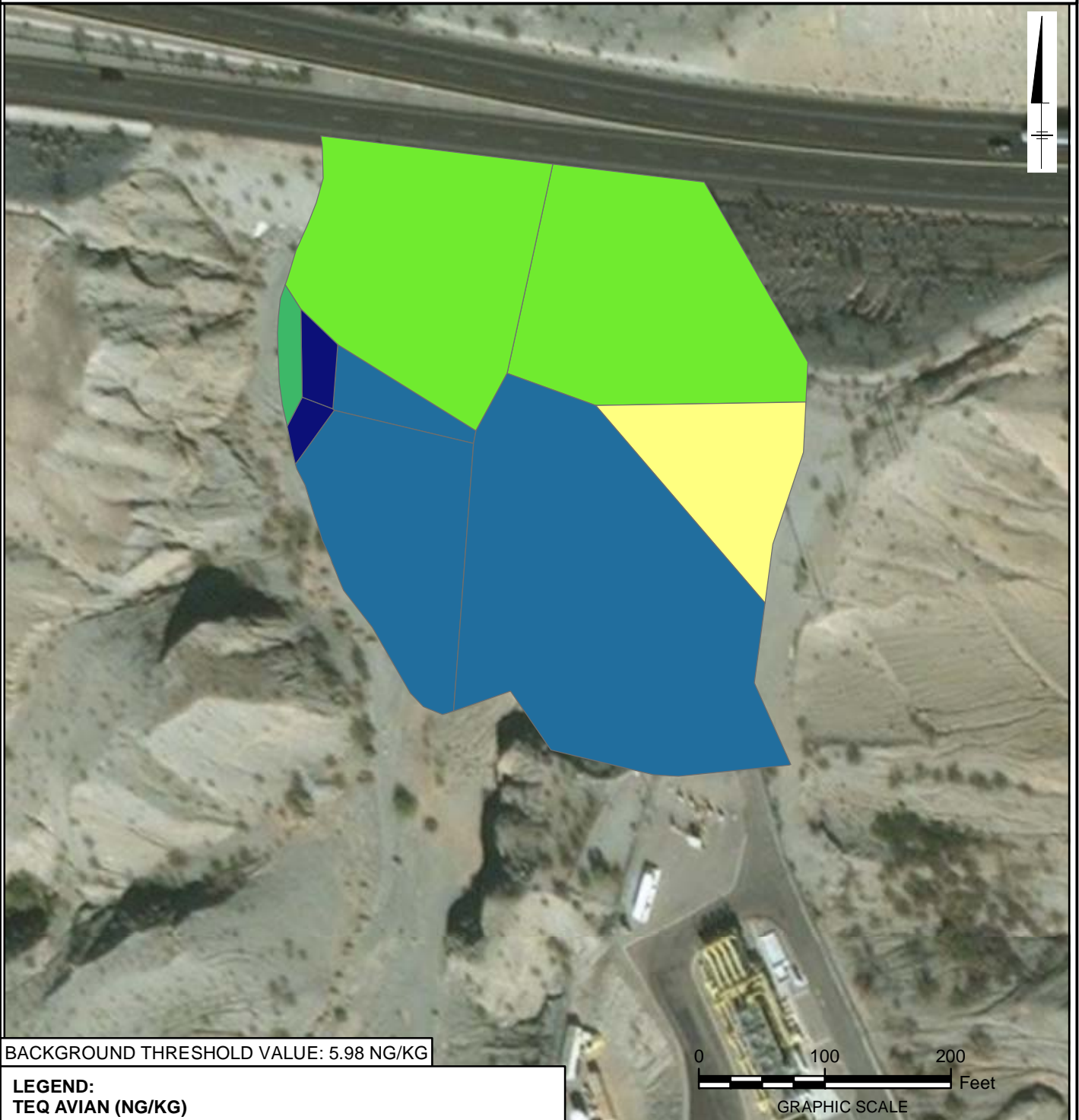
Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC27-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC27-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC27-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC27-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC27-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC27-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC27-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC27-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC27-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC27-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC27-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	MERCURY
AOC27-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC27-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC27-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC27-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC27-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC27-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC27-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC27-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC27-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC27-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC27-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC27-A3.23	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC27-A3.24	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC27-A3.25	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC27-A3.26	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC27-A3.27	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC27-A3.28	0 - 0.5 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC27-A3.29	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC27-A3.30	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC27-A3.31	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC27-A3.32	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC27-A3.33	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC27-A3.34	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC27-A3.35	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC27-A3.36	0 - 3 FEET BELOW GROUND SURFACE	METAL	CADMIUM
AOC27-A3.37	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC27-A3.38	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC27-A3.39	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC27-A3.40	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC27-A3.41	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC27-A3.42	0 - 3 FEET BELOW GROUND SURFACE	METAL	MERCURY
AOC27-A3.43	0 - 3 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC27-A3.44	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC27-A3.45	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC27-A3.46	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC27-A3.47	0 - 3 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC27-A3.48	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC27-A3.49	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC27-A3.50	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC27-A3.51	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC27-A3.52	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC27-A3.53	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC27-A3.54	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC27-A3.55	0 - 3 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC27-A3.56	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC27-A3.57	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC27-A3.58	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC27-A3.59	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC27-A3.60	0 - 3 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC27-A3.61	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC27-A3.62	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC27-A3.63	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC27-A3.64	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC27-A3.65	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC27-A3.66	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC27-A3.67	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC27-A3.68	0 - 6 FEET BELOW GROUND SURFACE	METAL	CADMIUM

Exposure Unit: AOC 27

Reference Figure: AOC27-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
AOC27-A3.69	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC27-A3.70	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC27-A3.71	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC27-A3.72	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC27-A3.73	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC27-A3.74	0 - 6 FEET BELOW GROUND SURFACE	METAL	MERCURY
AOC27-A3.75	0 - 6 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC27-A3.76	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC27-A3.77	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC27-A3.78	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC27-A3.79	0 - 6 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC27-A3.80	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC27-A3.81	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC27-A3.82	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC27-A3.83	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC27-A3.84	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC27-A3.85	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC27-A3.86	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC27-A3.87	0 - 6 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC27-A3.88	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC27-A3.89	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC27-A3.90	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC27-A3.91	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC27-A3.92	0 - 6 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC27-A3.93	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC27-A3.94	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC27-A3.95	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
AOC27-A3.96	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
AOC27-A3.97	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
AOC27-A3.98	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
AOC27-A3.99	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
AOC27-A3.100	0 - 10 FEET BELOW GROUND SURFACE	METAL	CADMIUM
AOC27-A3.101	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
AOC27-A3.102	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
AOC27-A3.103	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
AOC27-A3.104	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
AOC27-A3.105	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
AOC27-A3.106	0 - 10 FEET BELOW GROUND SURFACE	METAL	MERCURY
AOC27-A3.107	0 - 10 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
AOC27-A3.108	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
AOC27-A3.109	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
AOC27-A3.110	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
AOC27-A3.111	0 - 10 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
AOC27-A3.112	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
AOC27-A3.113	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
AOC27-A3.114	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
AOC27-A3.115	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
AOC27-A3.116	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
AOC27-A3.117	0 - 10 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
AOC27-A3.118	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
AOC27-A3.119	0 - 10 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
AOC27-A3.120	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
AOC27-A3.121	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
AOC27-A3.122	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
AOC27-A3.123	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PYRENE
AOC27-A3.124	0 - 10 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
AOC27-A3.125	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
AOC27-A3.126	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
AOC27-A3.127	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC27-A3.128	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
AOC27-A3.129	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC27-A3.130	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
AOC27-A3.131	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
AOC27-A3.132	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
AOC27-A3.133	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.87
- $\geq 0.88 - 6.00$
- $\geq 6.01 - 9.60$
- $\geq 9.61 - 14.00$
- $\geq 14.01 - 120.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

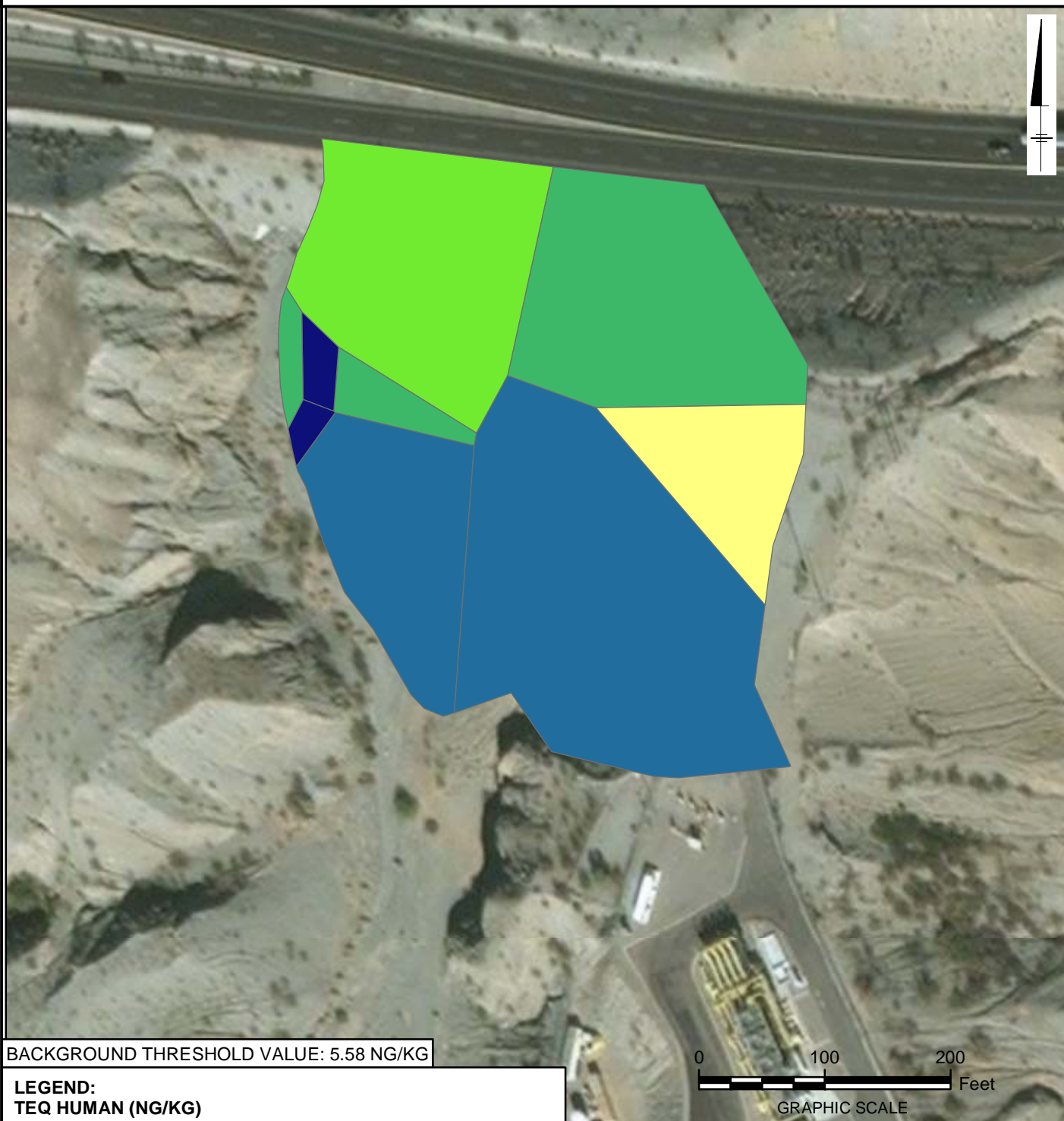
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FIGURE
AOC27-A3.1

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.84 - 0.84
- $\geq 0.84 - 5.30$
- $\geq 5.30 - 12.00$
- $\geq 12.00 - 26.00$
- $\geq 26.00 - 120.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

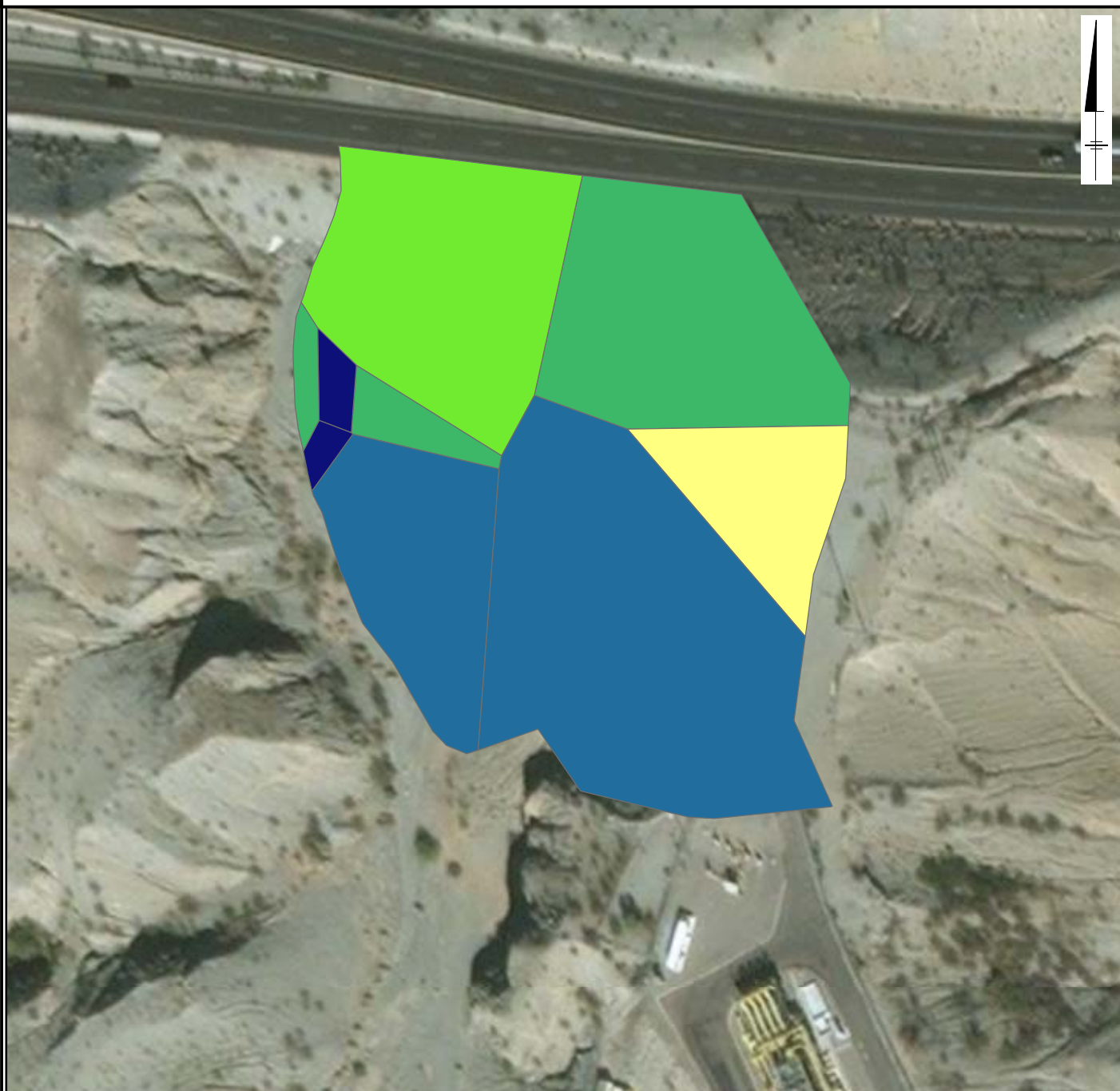
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FIGURE
AOC27-A3.2

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TEQ MAMMALS

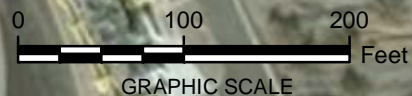


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.84 - 0.84
- $\geq 0.84 - 5.30$
- $\geq 5.30 - 12.00$
- $\geq 12.00 - 26.00$
- $\geq 26.00 - 120.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
AOC27-A3.3

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC



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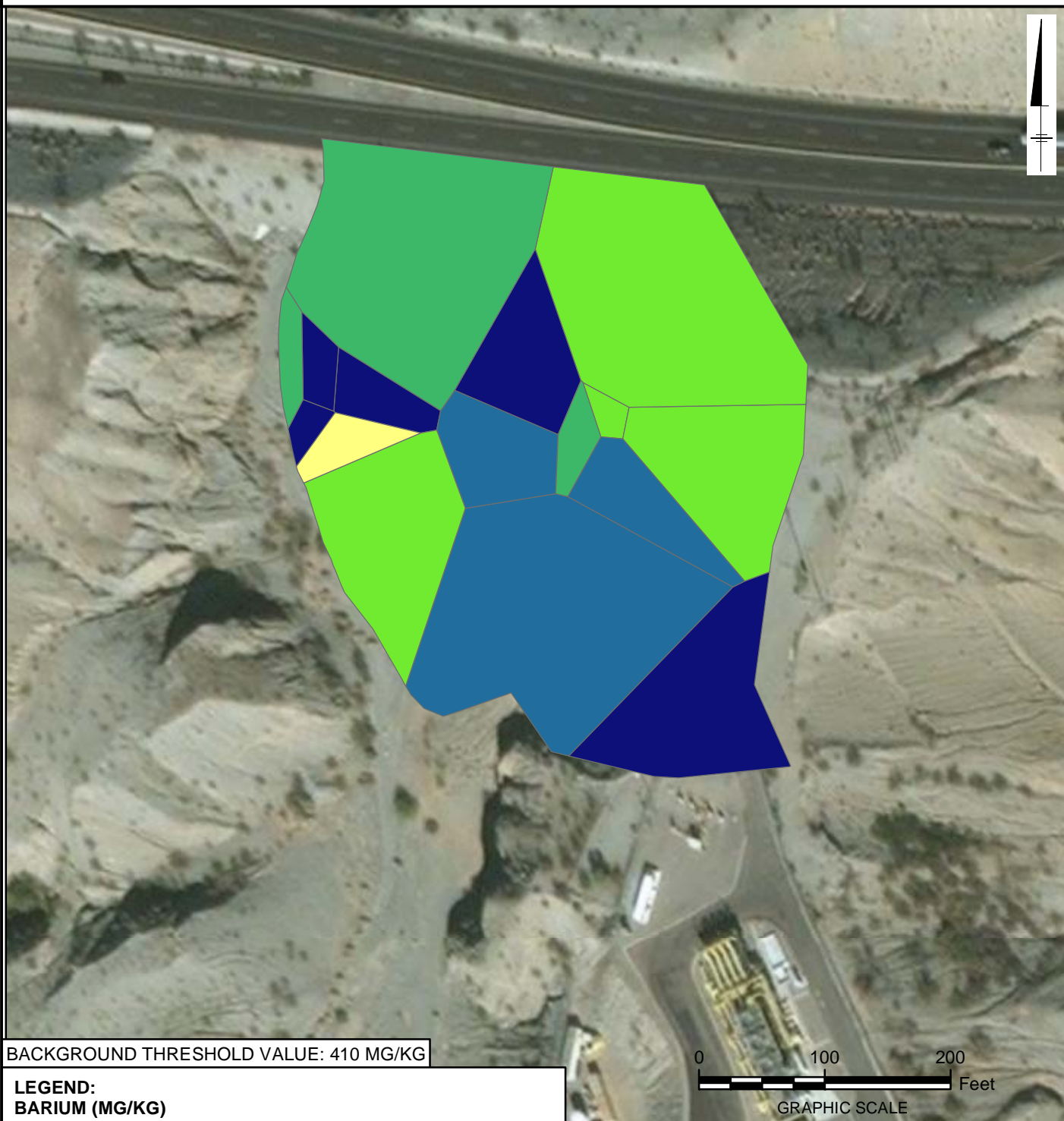
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FIGURE
AOC27-A3.4

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	84.00 - 84.00
	≥84.00 - 110.00
	≥110.00 - 140.00
	≥140.00 - 150.00
	≥150.00 - 200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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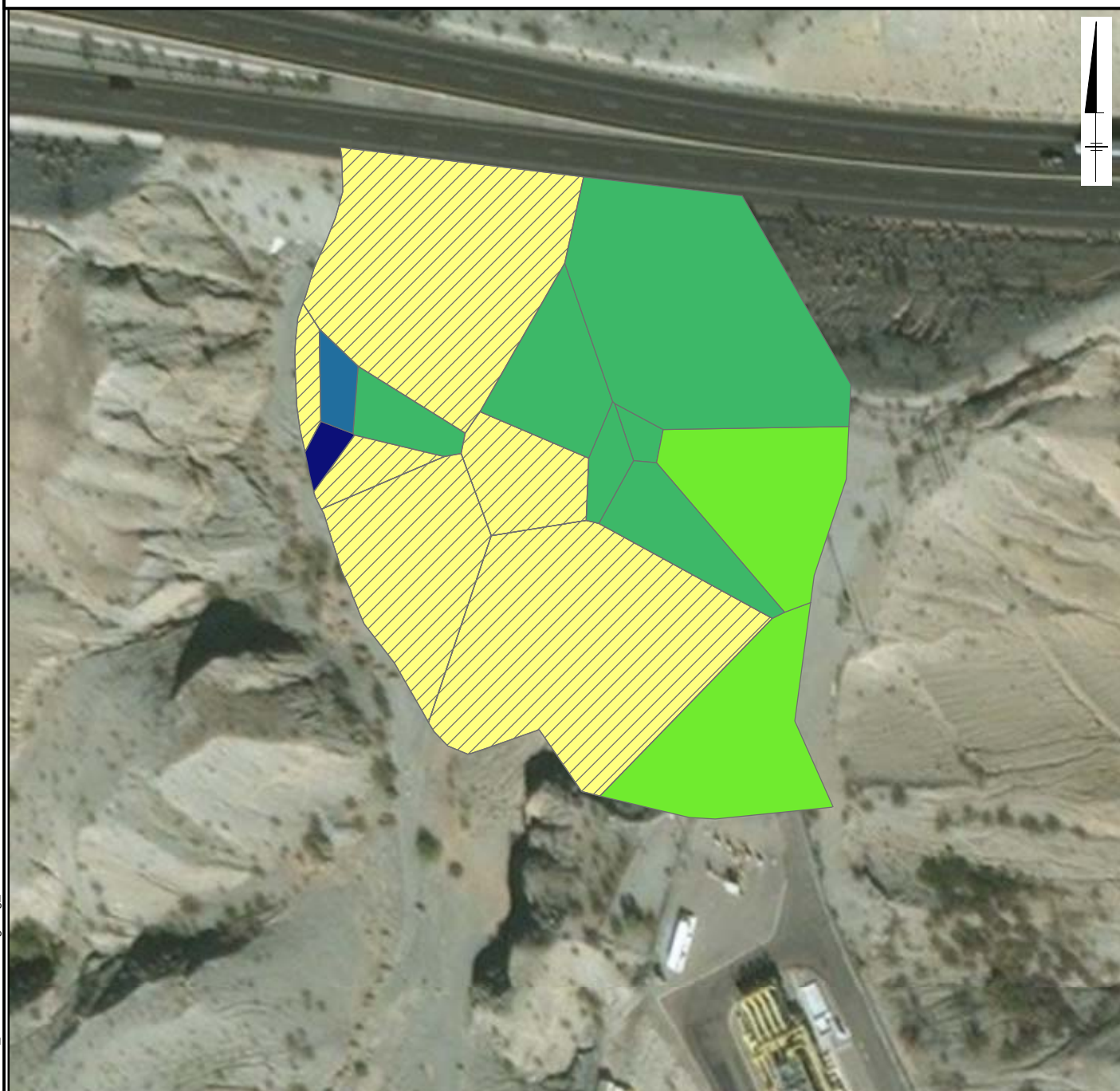


**FIGURE
AOC27-A3.5**

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.11
	≥0.11 - 0.26
	≥0.26 - 0.36
	≥0.36 - 0.87
	≥0.87 - 2.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 100 200
Feet
GRAPHIC SCALE

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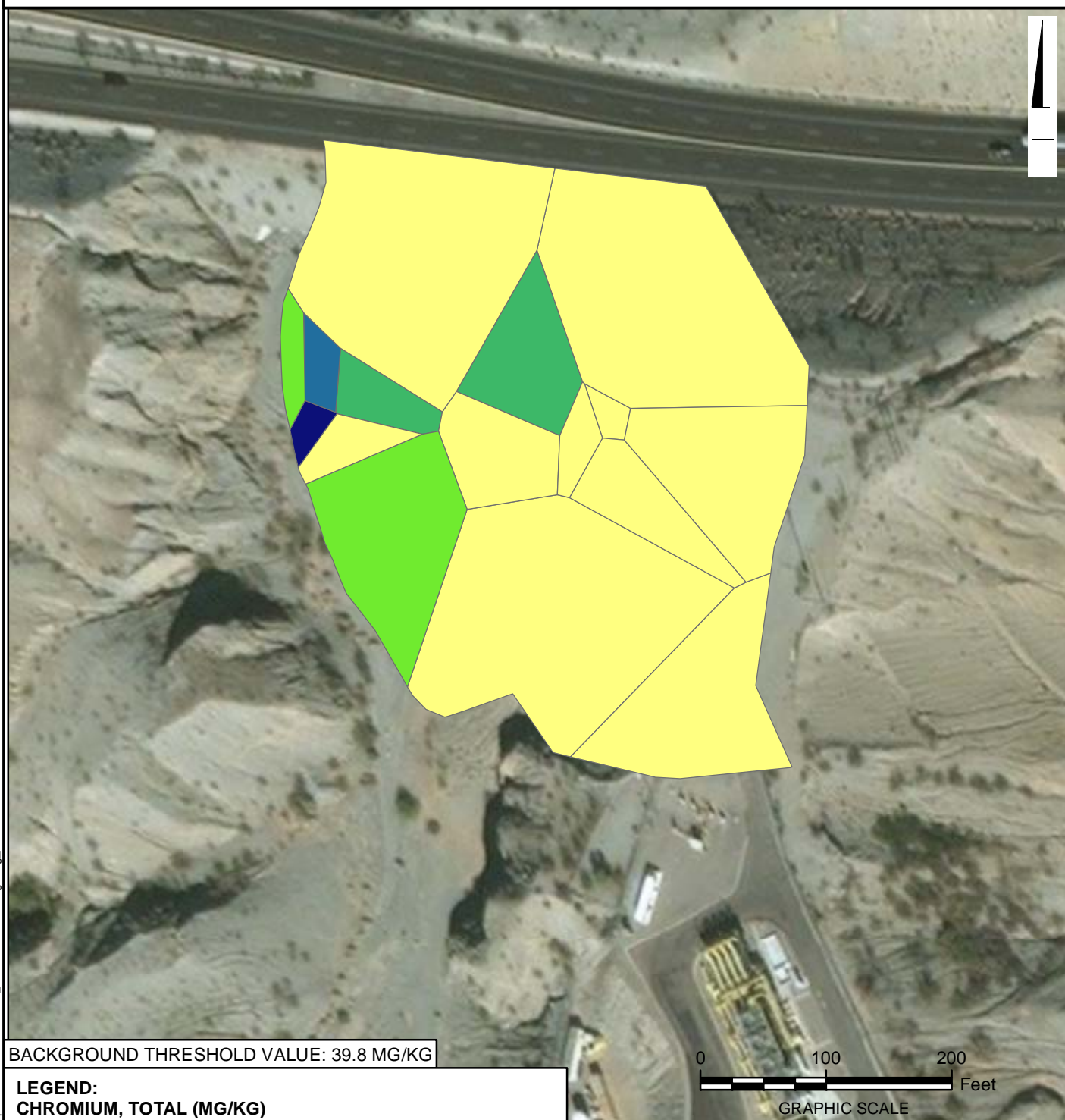
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FIGURE
AOC27-A3.6

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	13.00 - 17.00
	≥17.00 - 22.00
	≥22.00 - 29.00
	≥29.00 - 43.00
	≥43.00 - 150.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

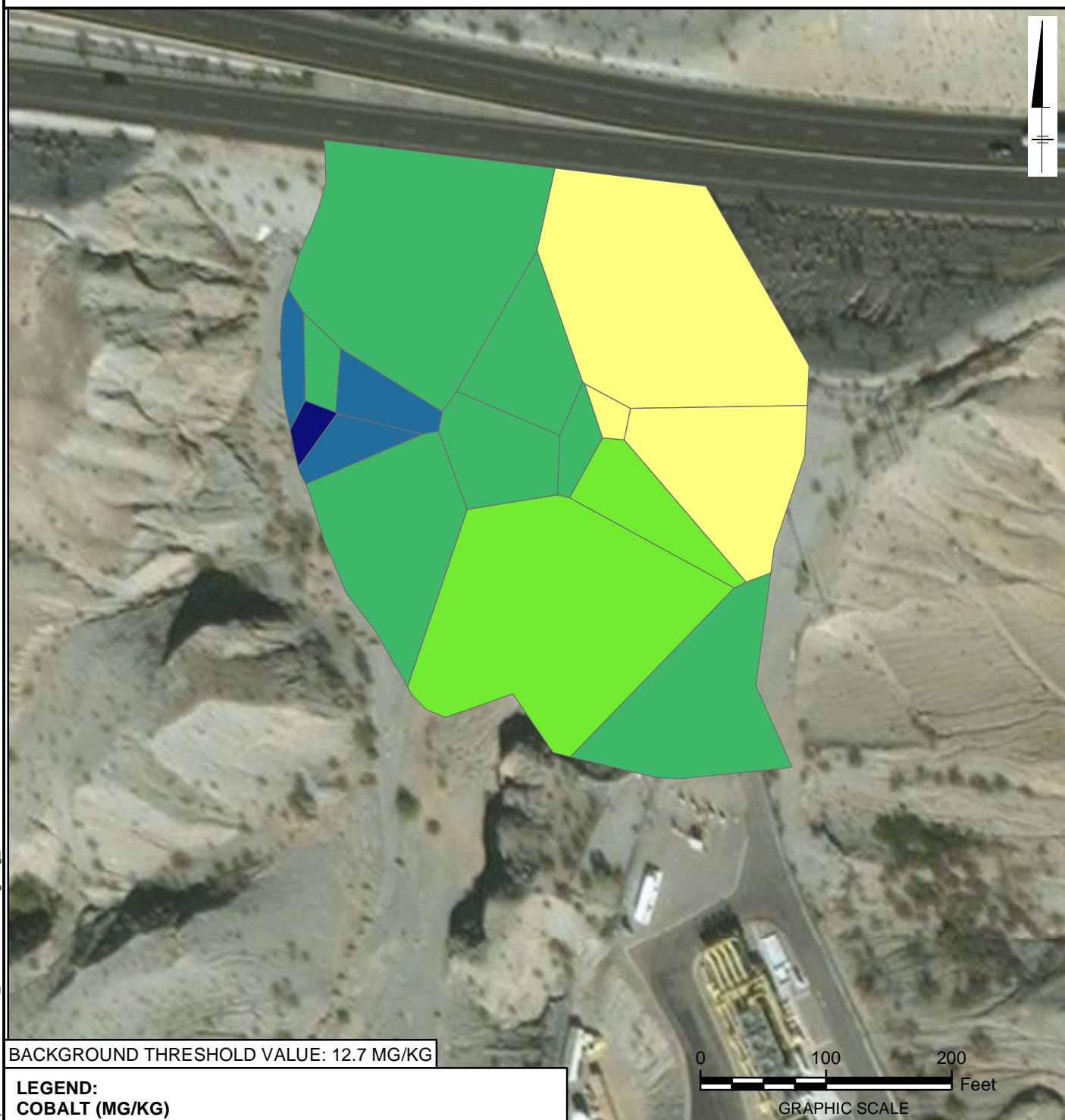
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FIGURE
AOC27-A3.7

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	3.20 - 4.10
	≥4.10 - 5.40
	≥5.40 - 6.90
	≥6.90 - 8.30
	≥8.30 - 11.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

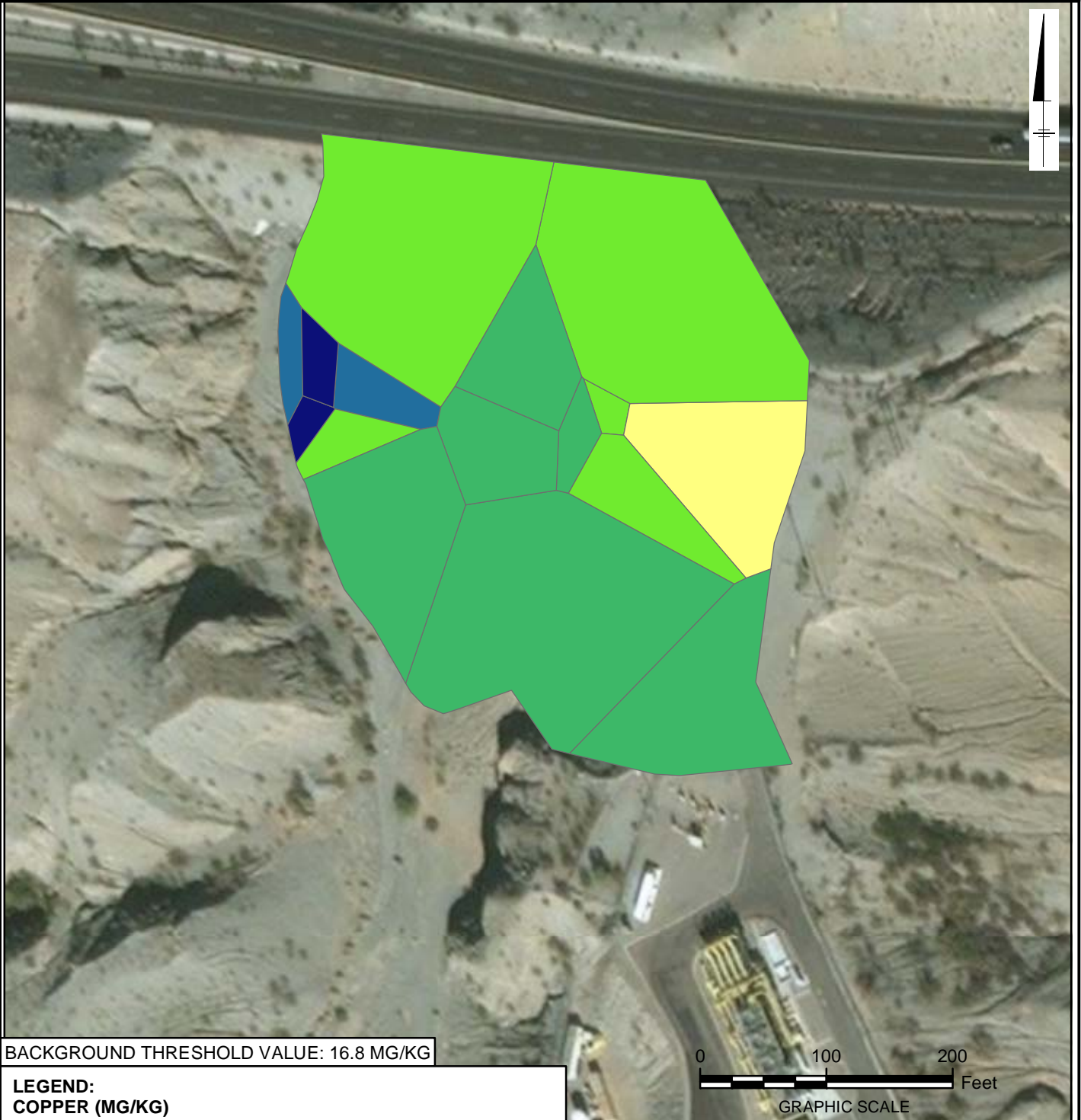
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FIGURE
AOC27-A3.8

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND:
COPPER (MG/KG)

	NOT DETECTED
	5.60 - 5.60
	≥5.60 - 9.20
	≥9.20 - 13.00
	≥13.00 - 36.00
	≥36.00 - 580.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

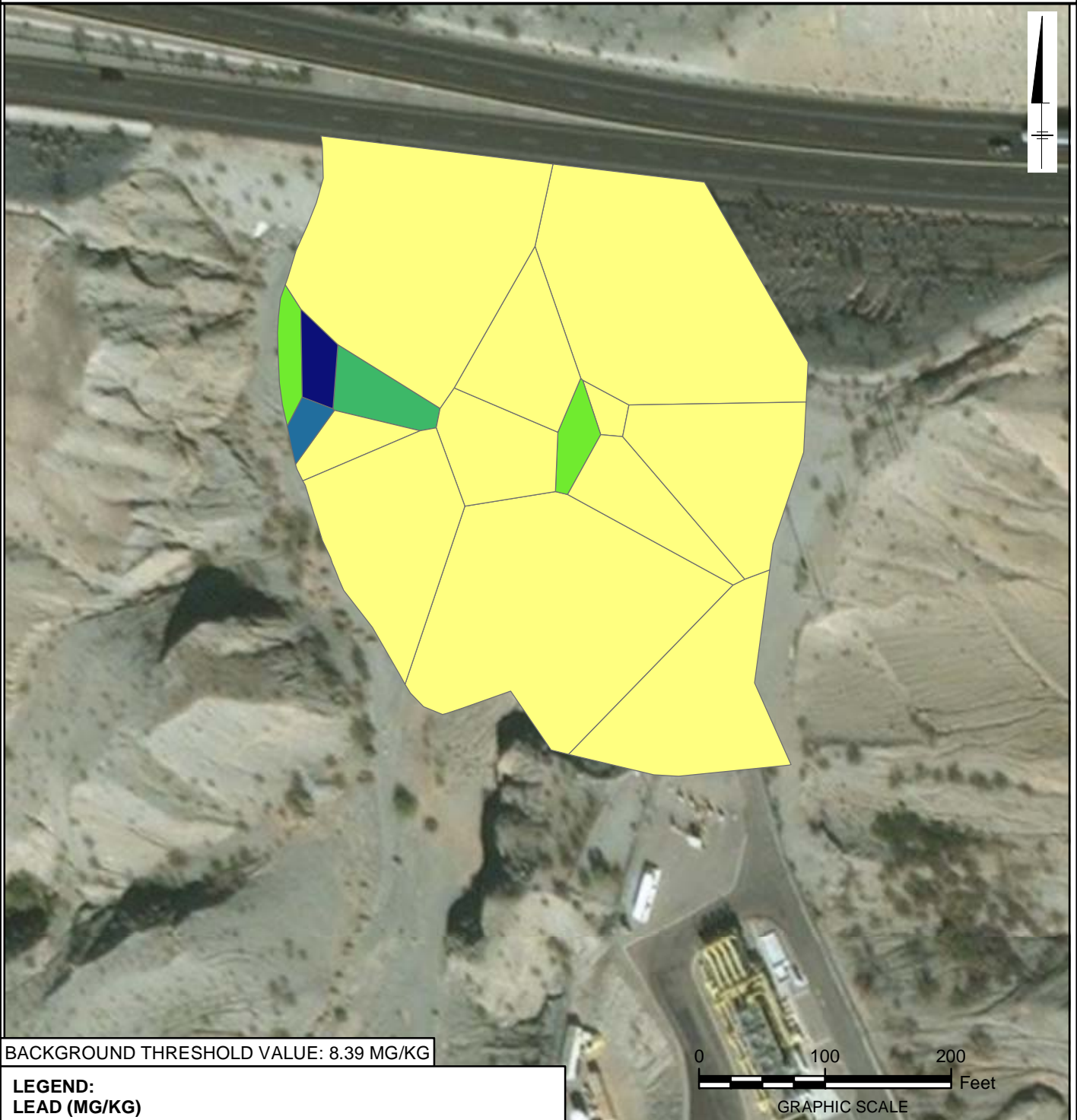
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**FIGURE
AOC27-A3.9**

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:
LEAD (MG/KG)

	NOT DETECTED
	3.80 - 8.40
	≥8.40 - 28.00
	≥28.00 - 73.00
	≥73.00 - 170.00
	≥170.00 - 630.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

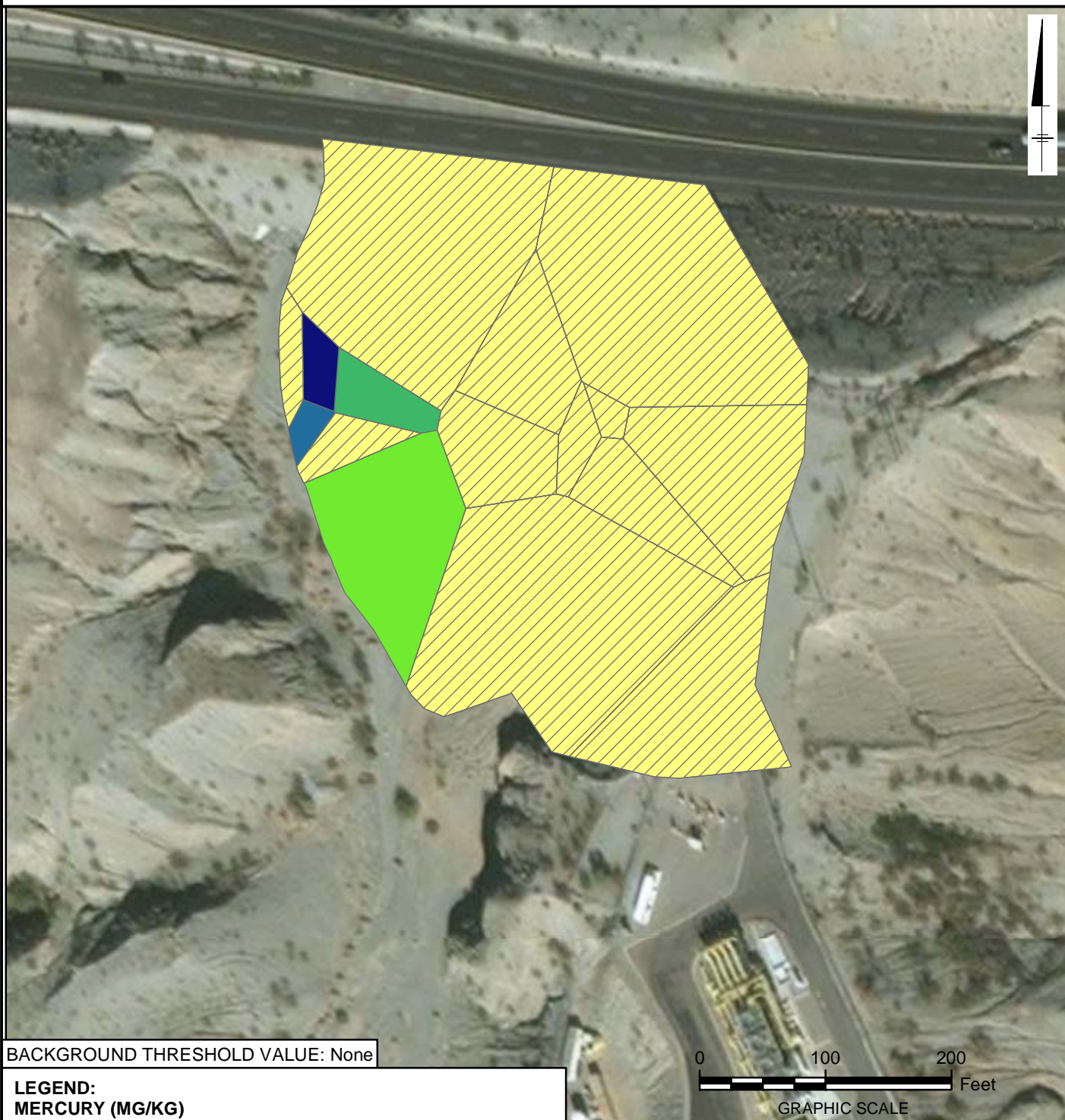
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**FIGURE
AOC27-A3.10**

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE MERCURY



BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

- NOT DETECTED
- 0.05 - 0.05
- $\geq 0.05 - 0.12$
- $\geq 0.12 - 0.13$
- $\geq 0.13 - 0.32$
- $\geq 0.32 - 0.51$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

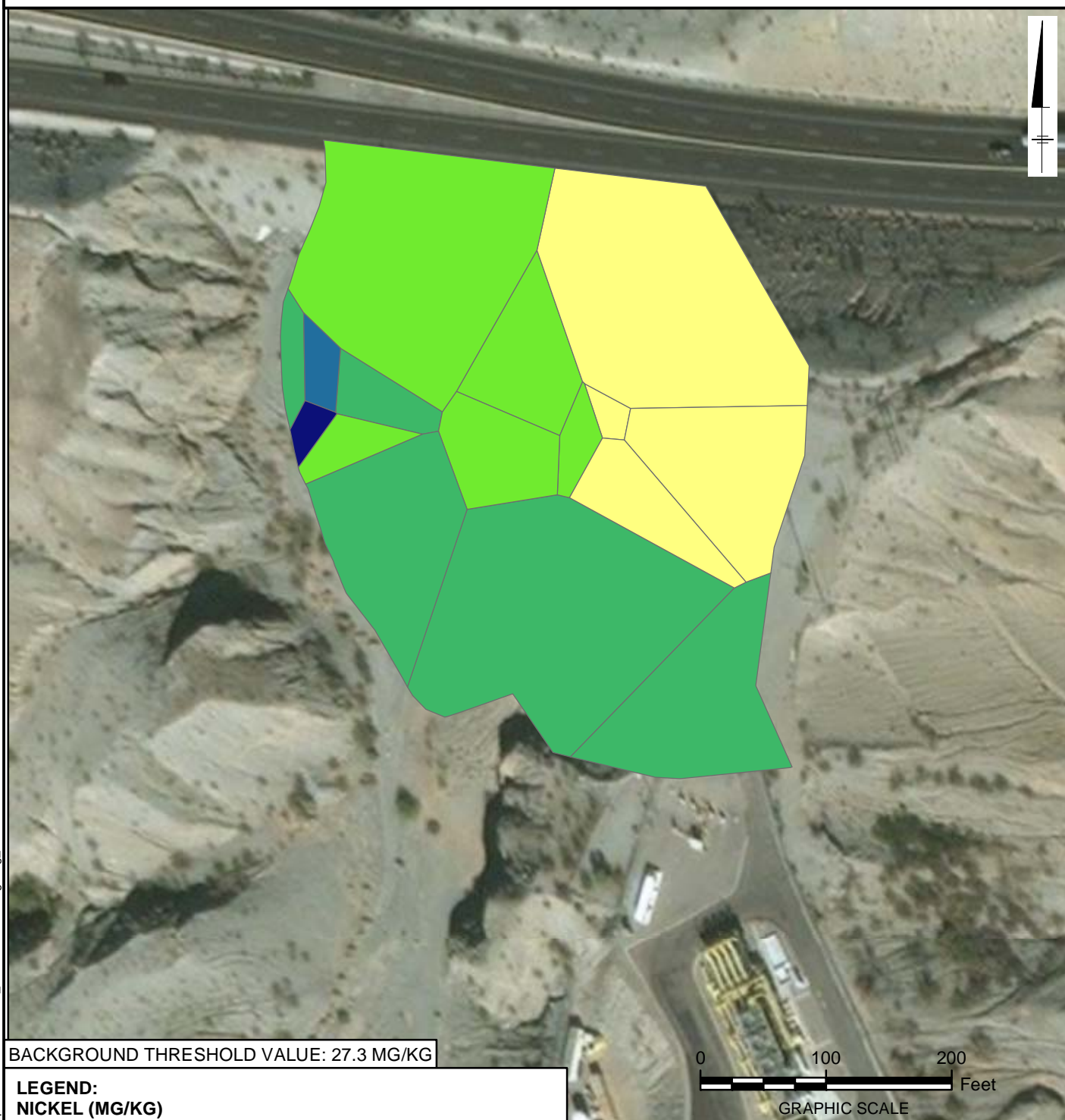
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FIGURE
AOC27-A3.11

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL



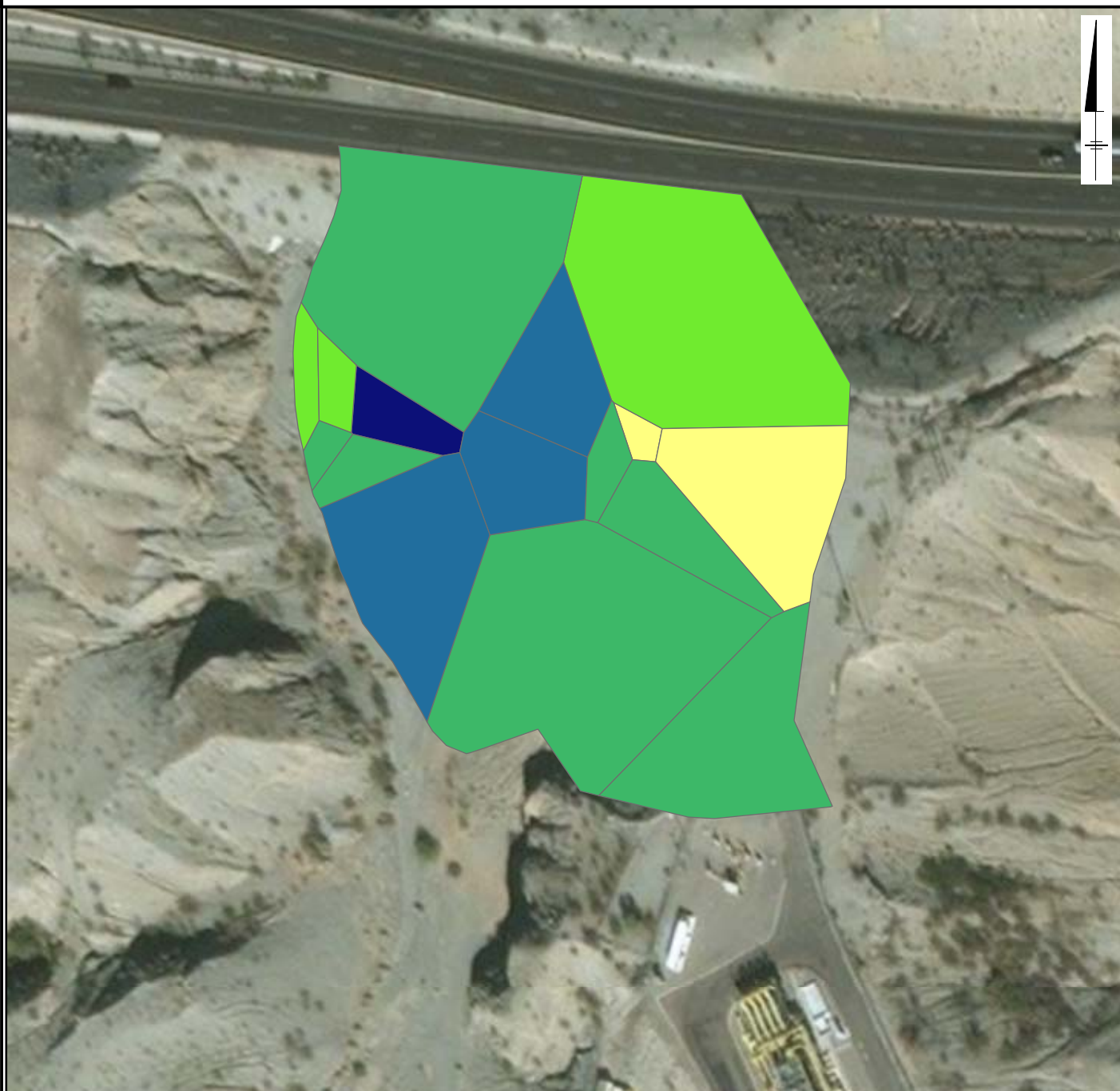
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FIGURE
AOC27-A3.12

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

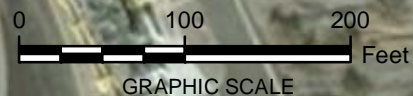


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

- NOT DETECTED
- 19.00 - 19.00
- ≥ 19.00 - 23.00
- ≥ 23.00 - 27.00
- ≥ 27.00 - 34.00
- ≥ 34.00 - 38.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



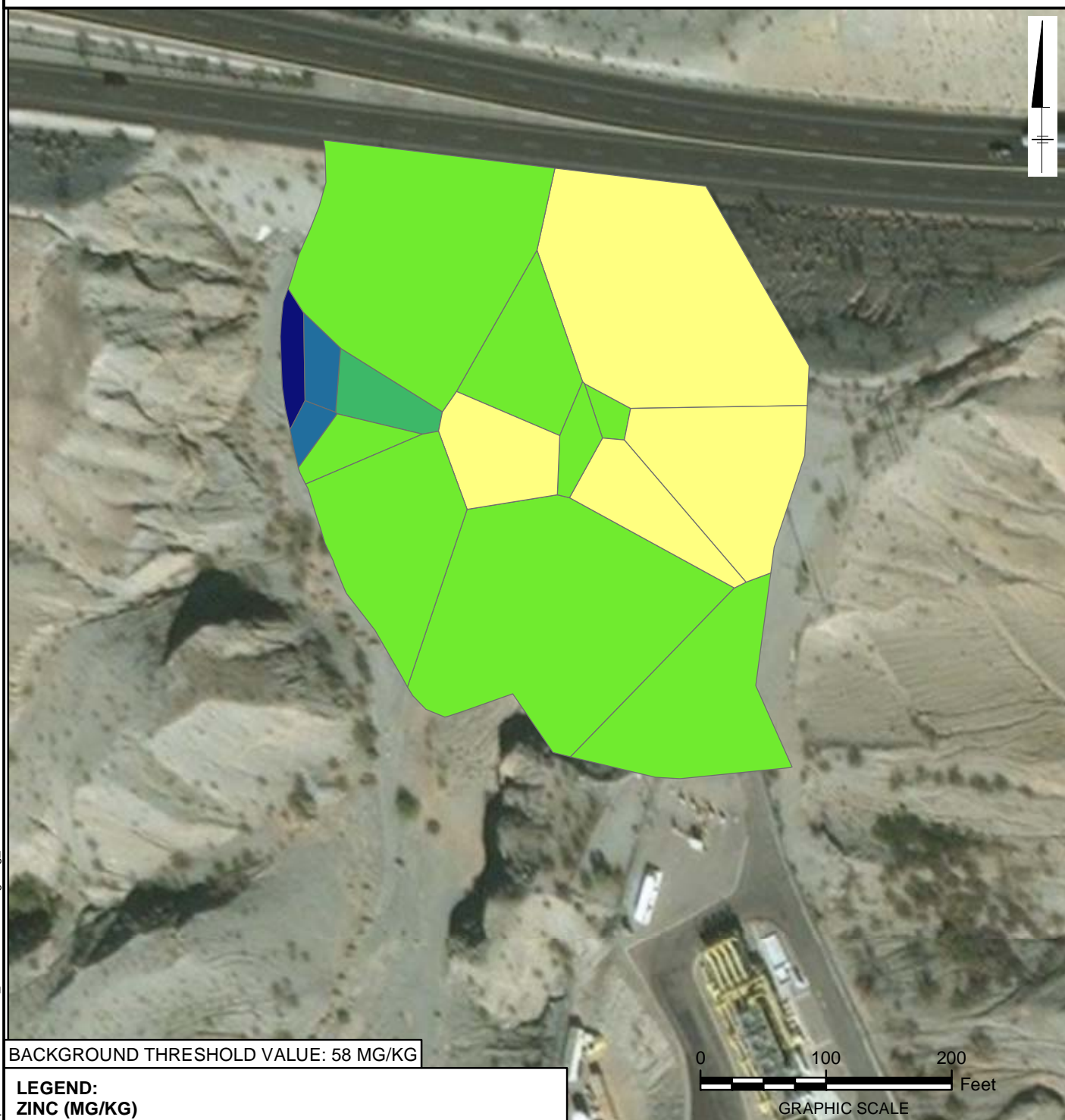
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FIGURE
AOC27-A3.13

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	24.00 - 32.00
	≥32.00 - 59.00
	≥59.00 - 250.00
	≥250.00 - 700.00
	≥700.00 - 1200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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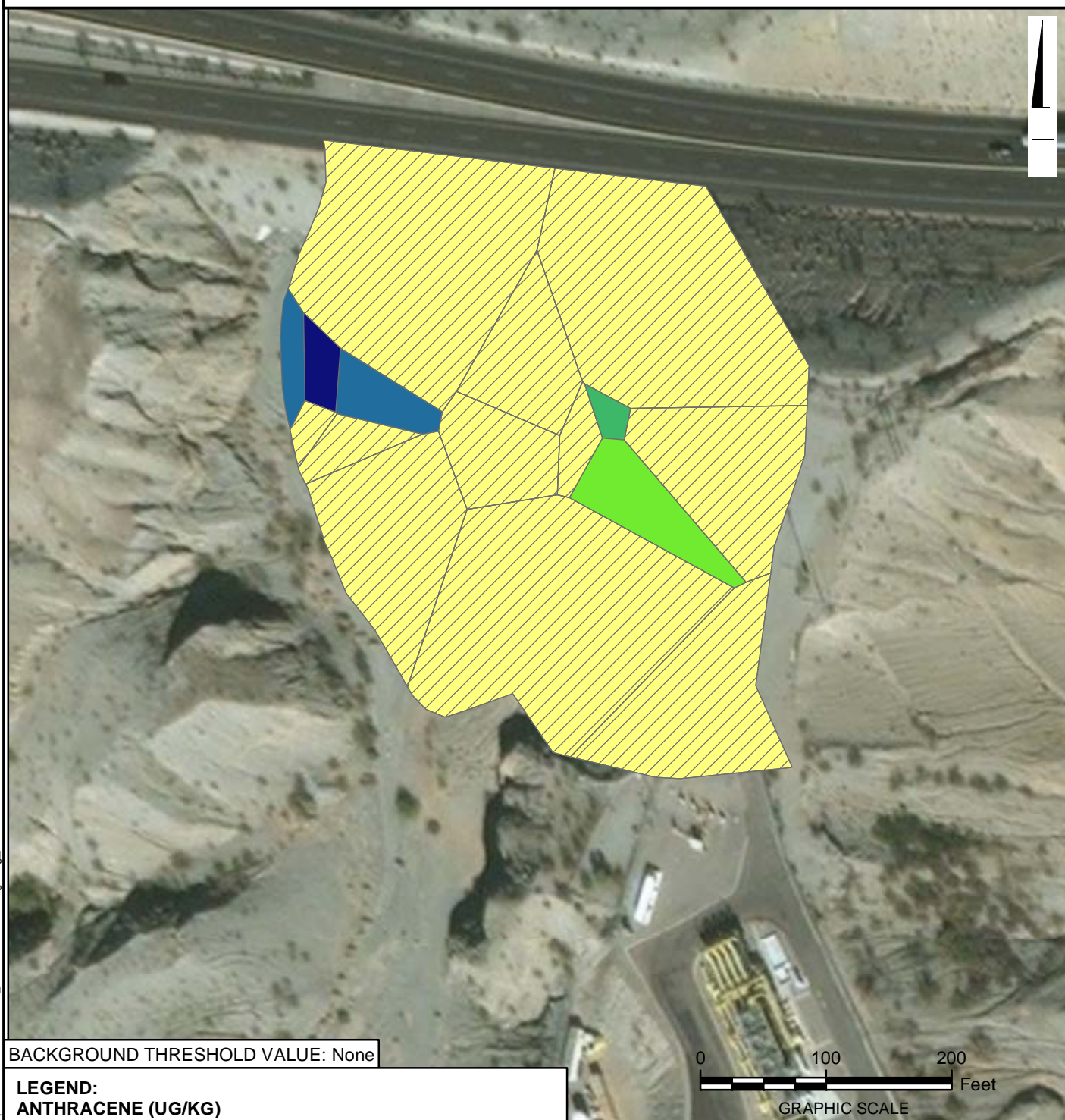
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FIGURE
AOC27-A3.14

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.65
- $\geq 2.65 - 6.80$
- $\geq 6.80 - 14.00$
- $\geq 14.00 - 55.00$
- $\geq 55.00 - 710.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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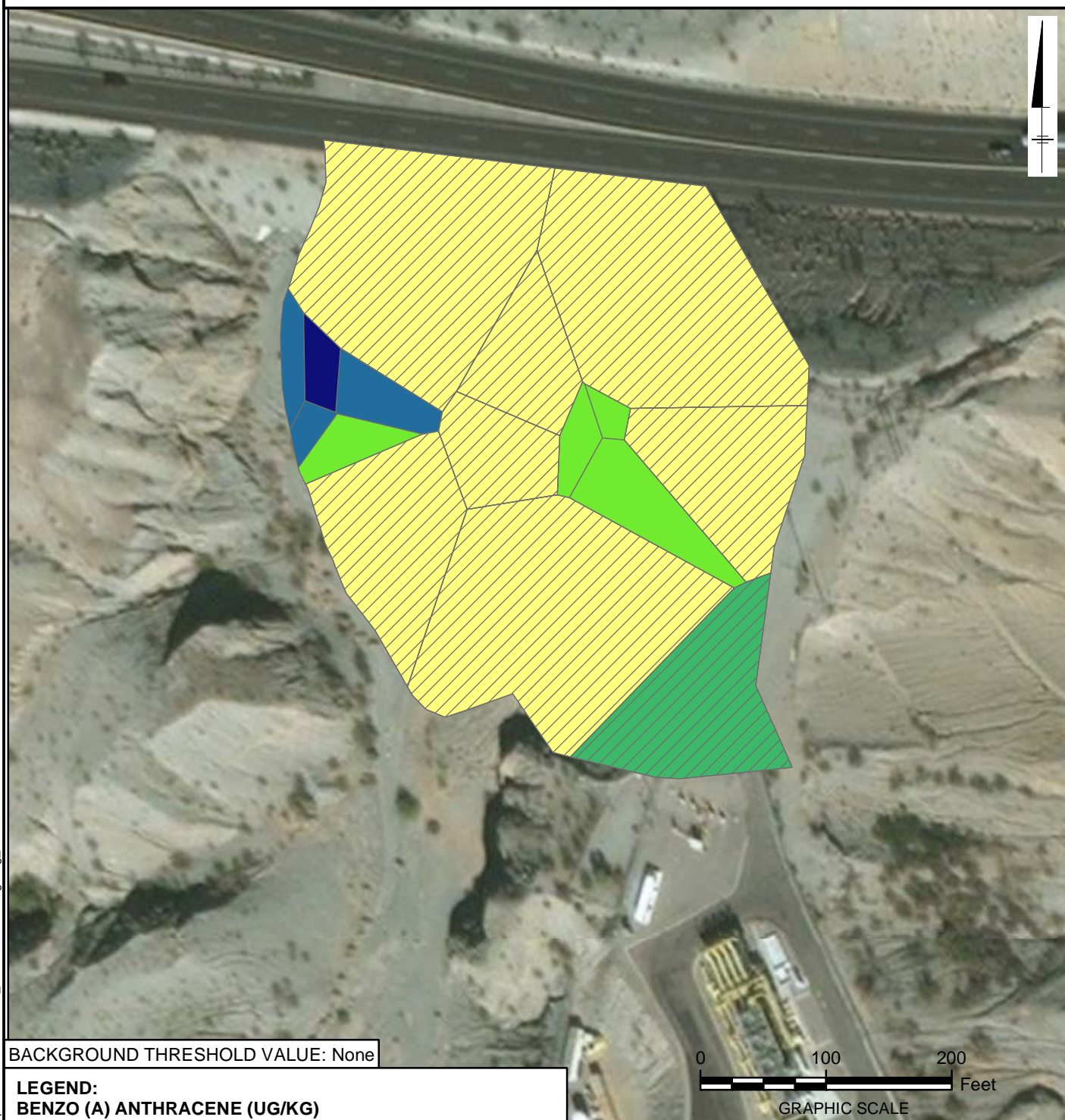


FIGURE
AOC27-A3.15

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.55
- $\geq 2.55 - 12.00$
- $\geq 12.00 - 26.00$
- $\geq 26.00 - 490.00$
- $\geq 490.00 - 3400.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

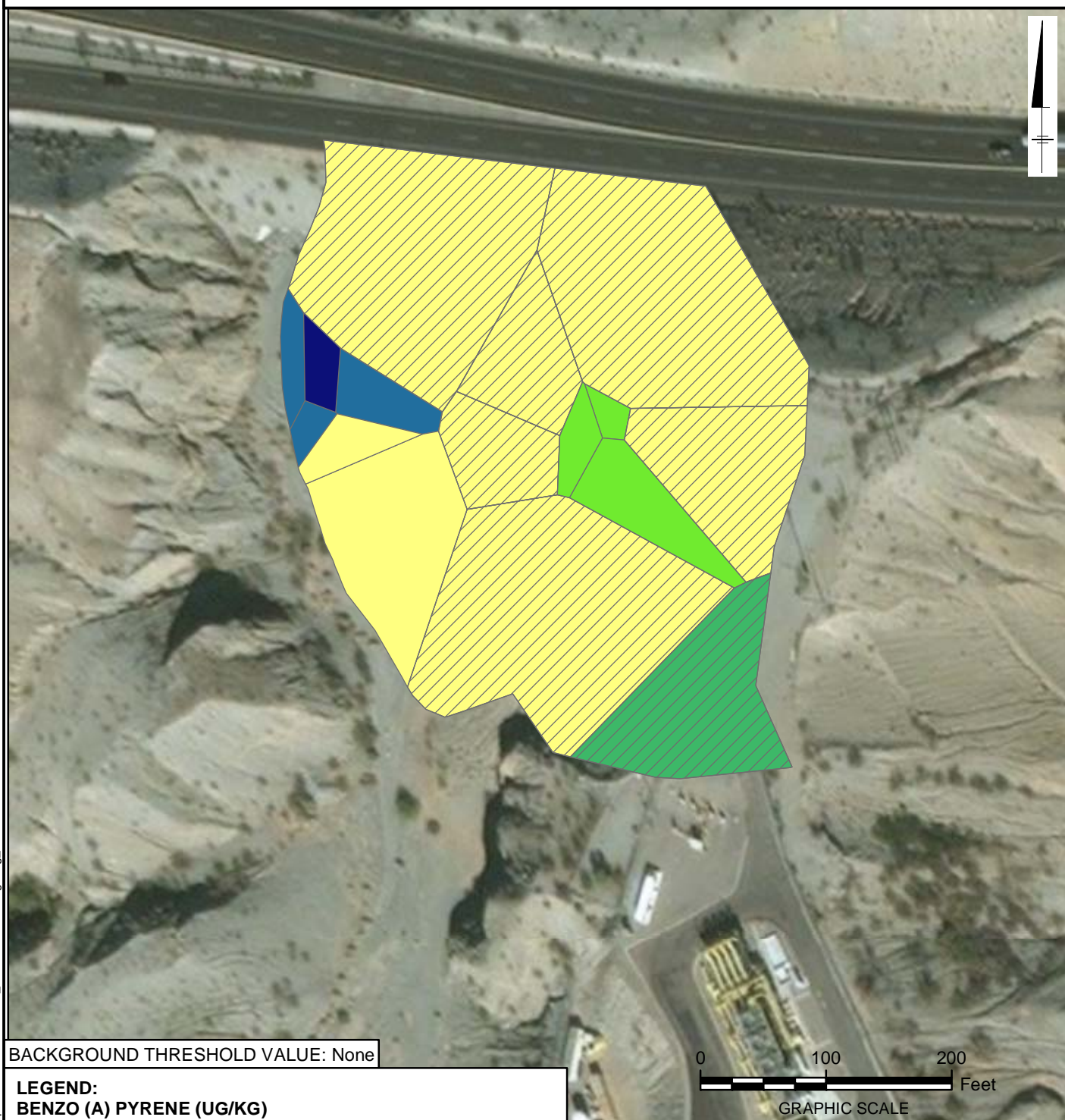
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FIGURE
AOC27-A3.16

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

- NOT DETECTED
- 2.55 - 6.10
- ≥ 6.10 - 19.00
- ≥ 19.00 - 26.00
- ≥ 26.00 - 340.00
- ≥ 340.00 - 2000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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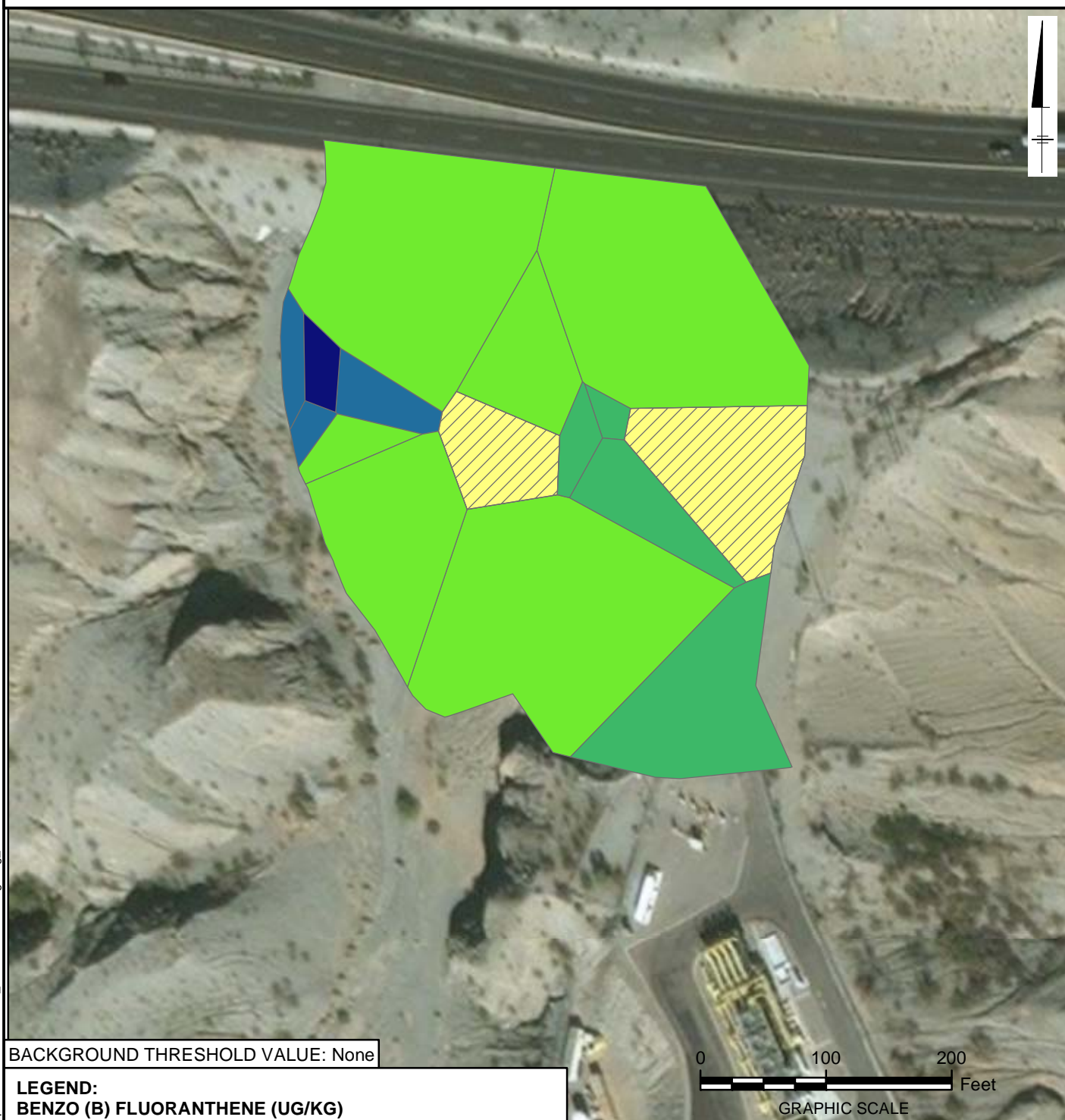


FIGURE
AOC27-A3.17

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE



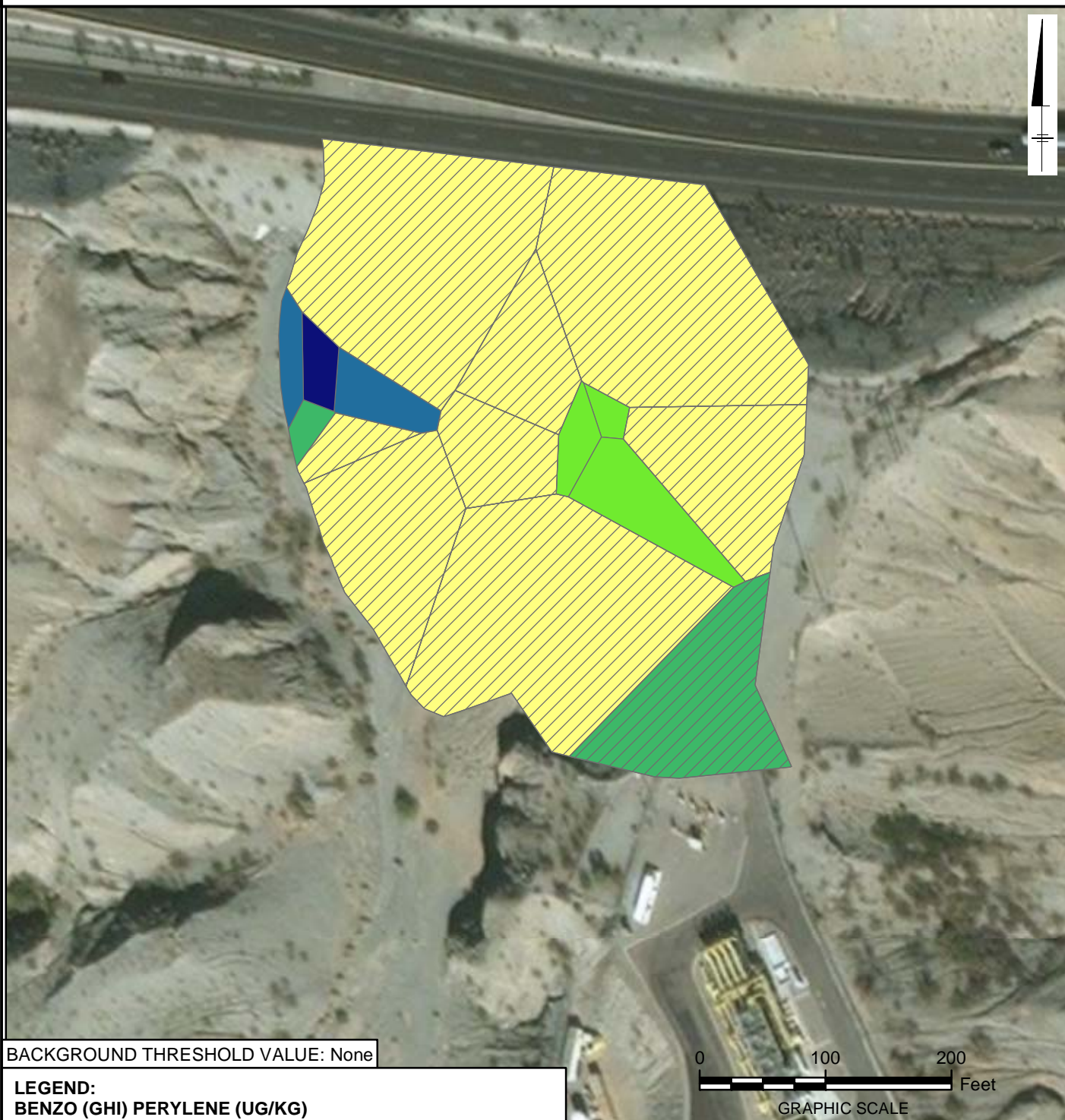
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AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.55
- $\geq 2.55 - 14.00$
- $\geq 14.00 - 26.00$
- $\geq 26.00 - 140.00$
- $\geq 140.00 - 1500.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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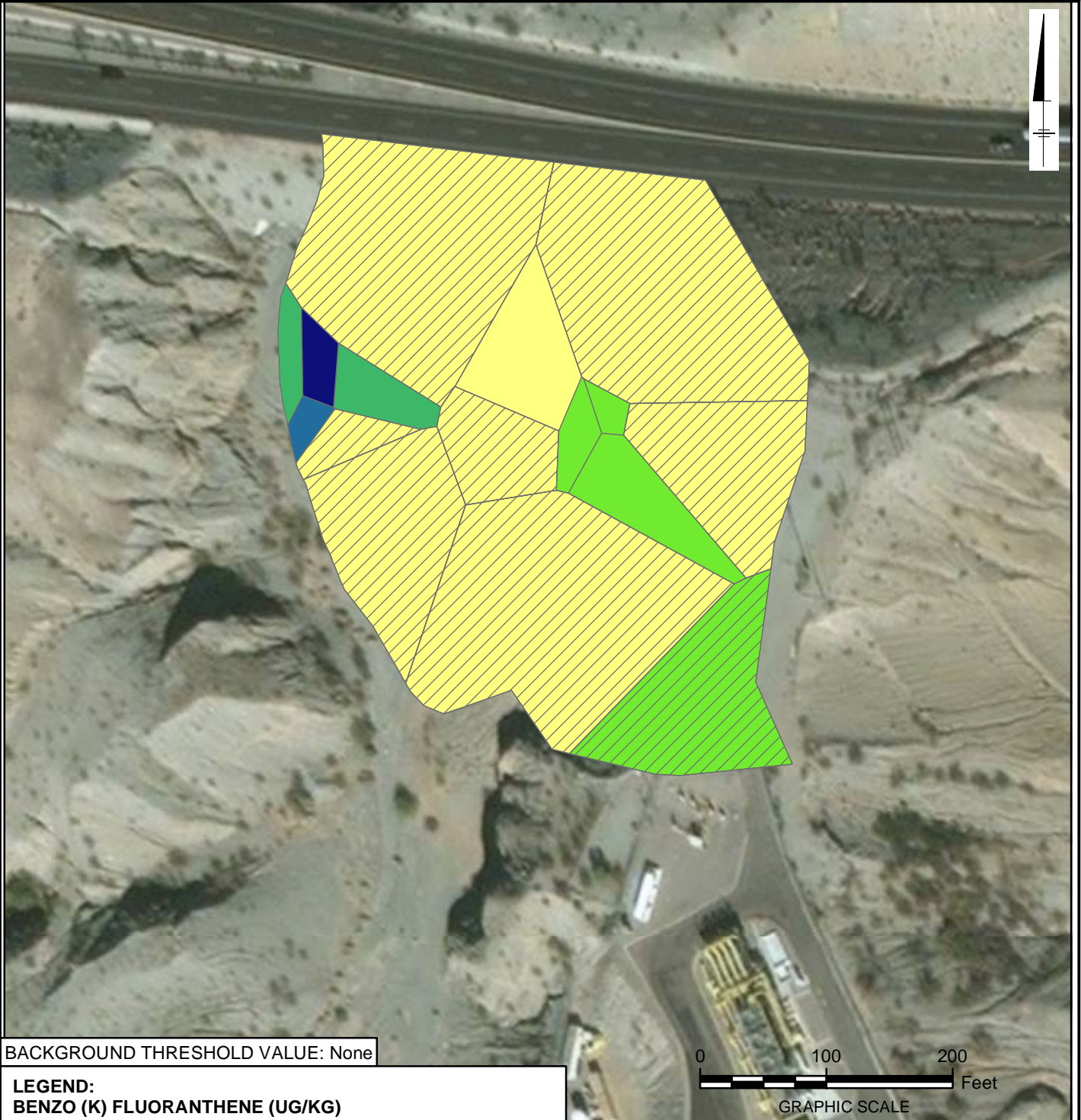


FIGURE
AOC27-A3.19

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 8.50
- ≥8.50 - 39.00
- ≥39.00 - 160.00
- ≥160.00 - 410.00
- ≥410.00 - 1300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

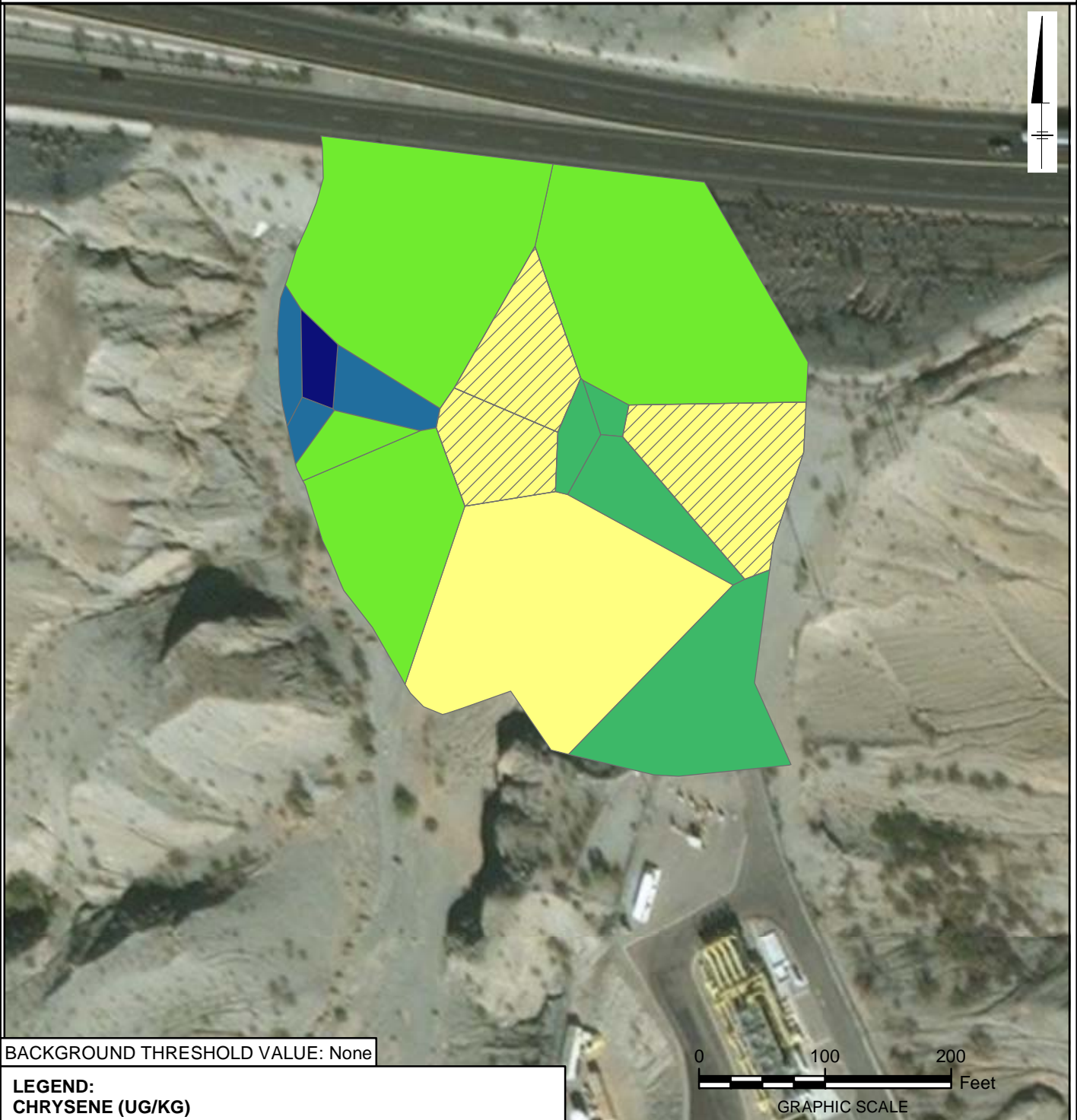
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FIGURE
AOC27-A3.20

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.55 - 5.10
- ≥ 5.10 - 10.00
- ≥ 10.00 - 52.00
- ≥ 52.00 - 480.00
- ≥ 480.00 - 3000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

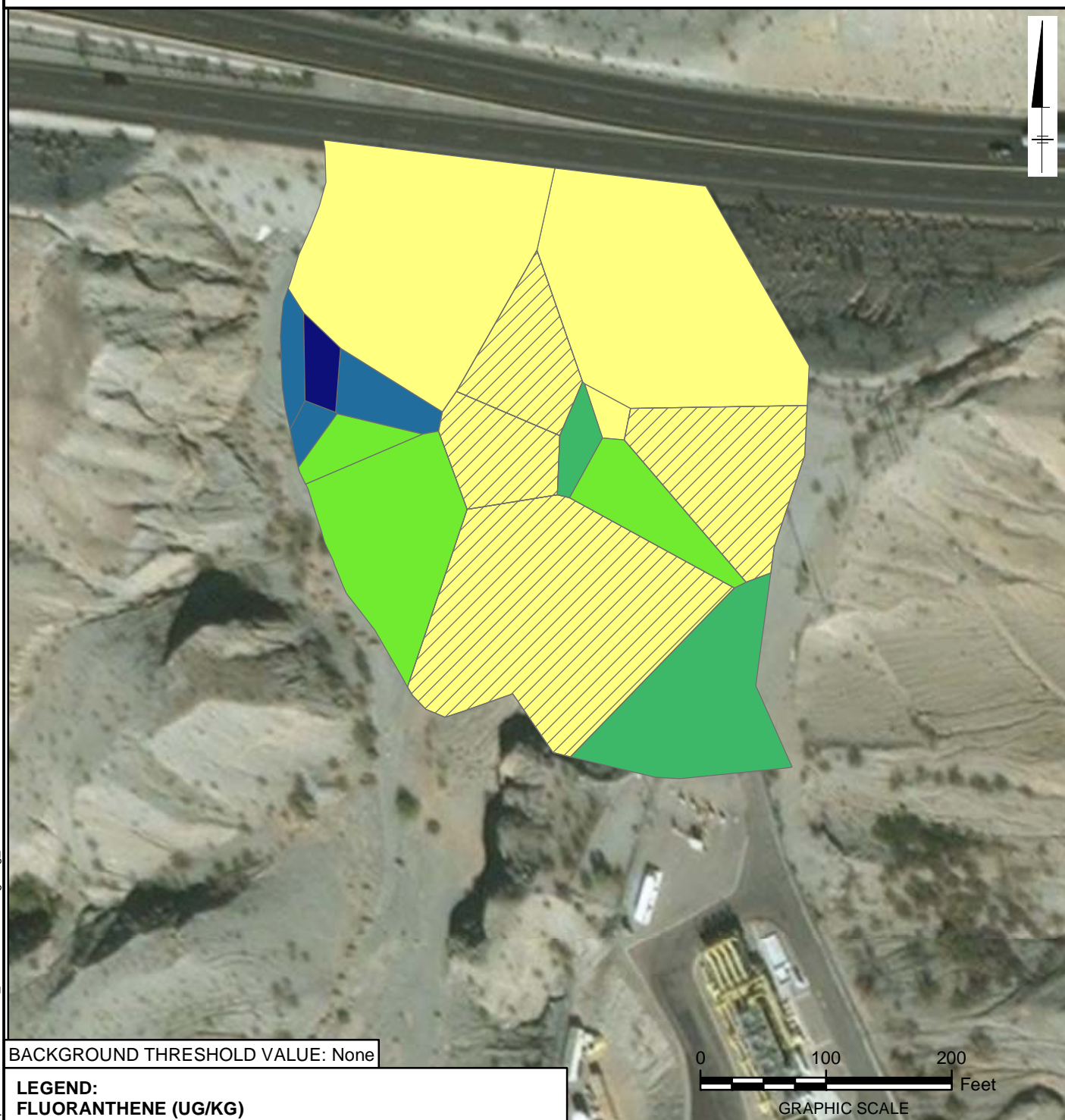
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FIGURE
AOC27-A3.21

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 9.90
- ≥9.90 - 25.00
- ≥25.00 - 56.00
- ≥56.00 - 1100.00
- ≥1100.00 - 8600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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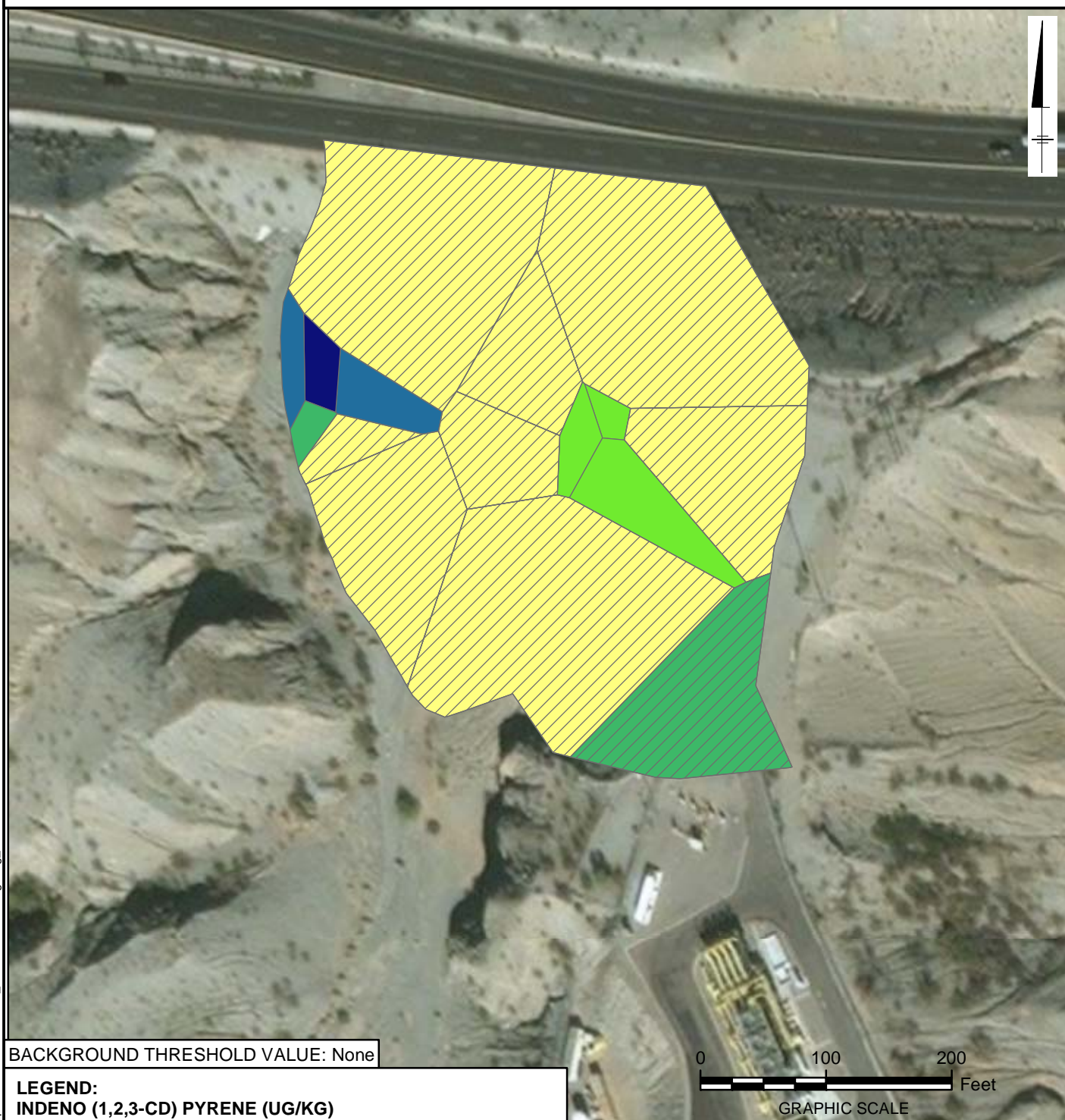


FIGURE
AOC27-A3.22

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

INDENO (1,2,3-CD) PYRENE



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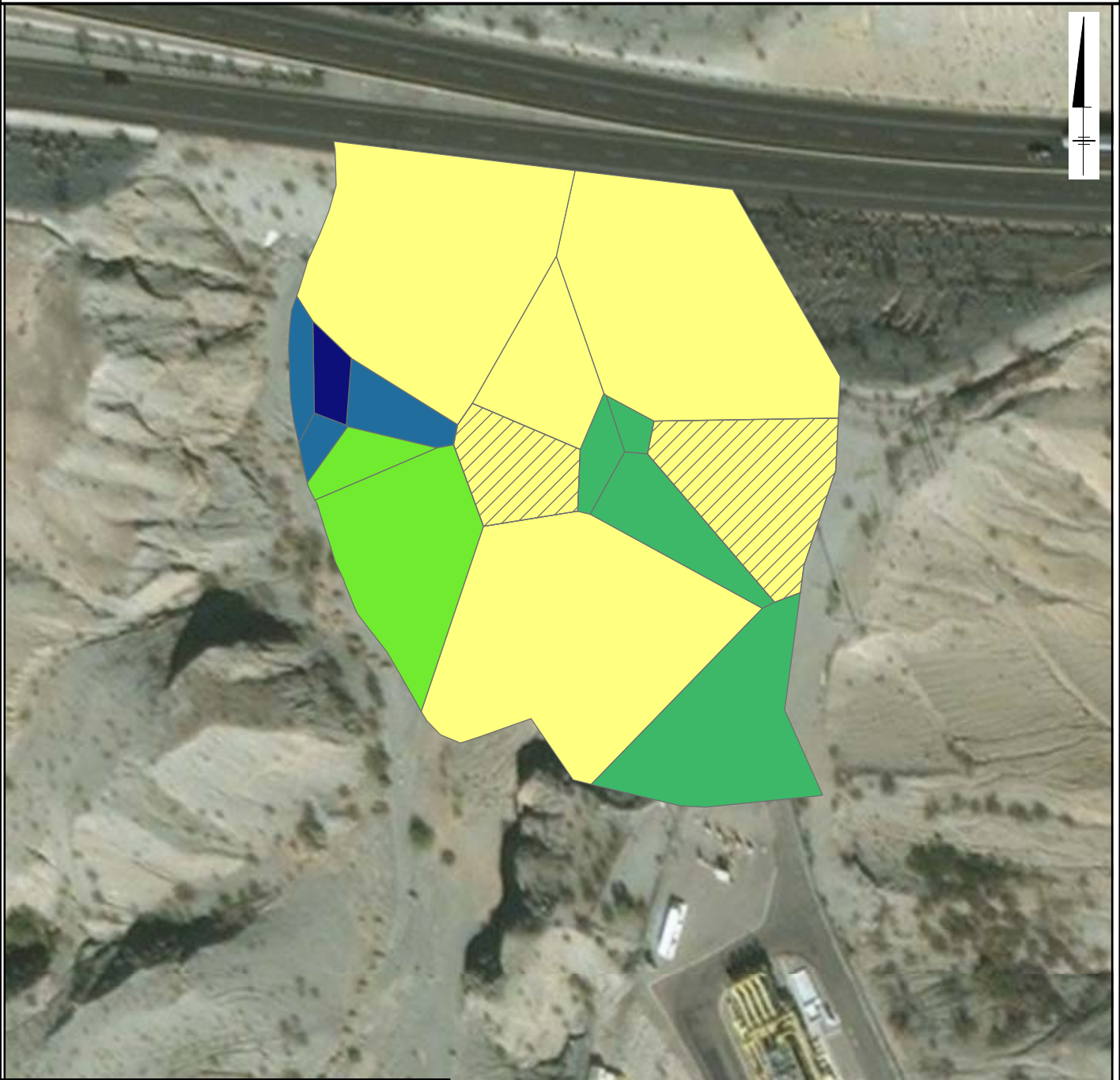
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**FIGURE
AOC27-A3.23**

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT

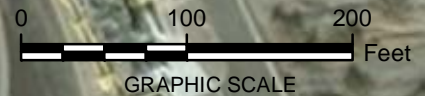


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 30.30
- ≥30.30 - 60.10
- ≥60.10 - 305.00
- ≥305.00 - 4040.00
- ≥4040.00 - 31500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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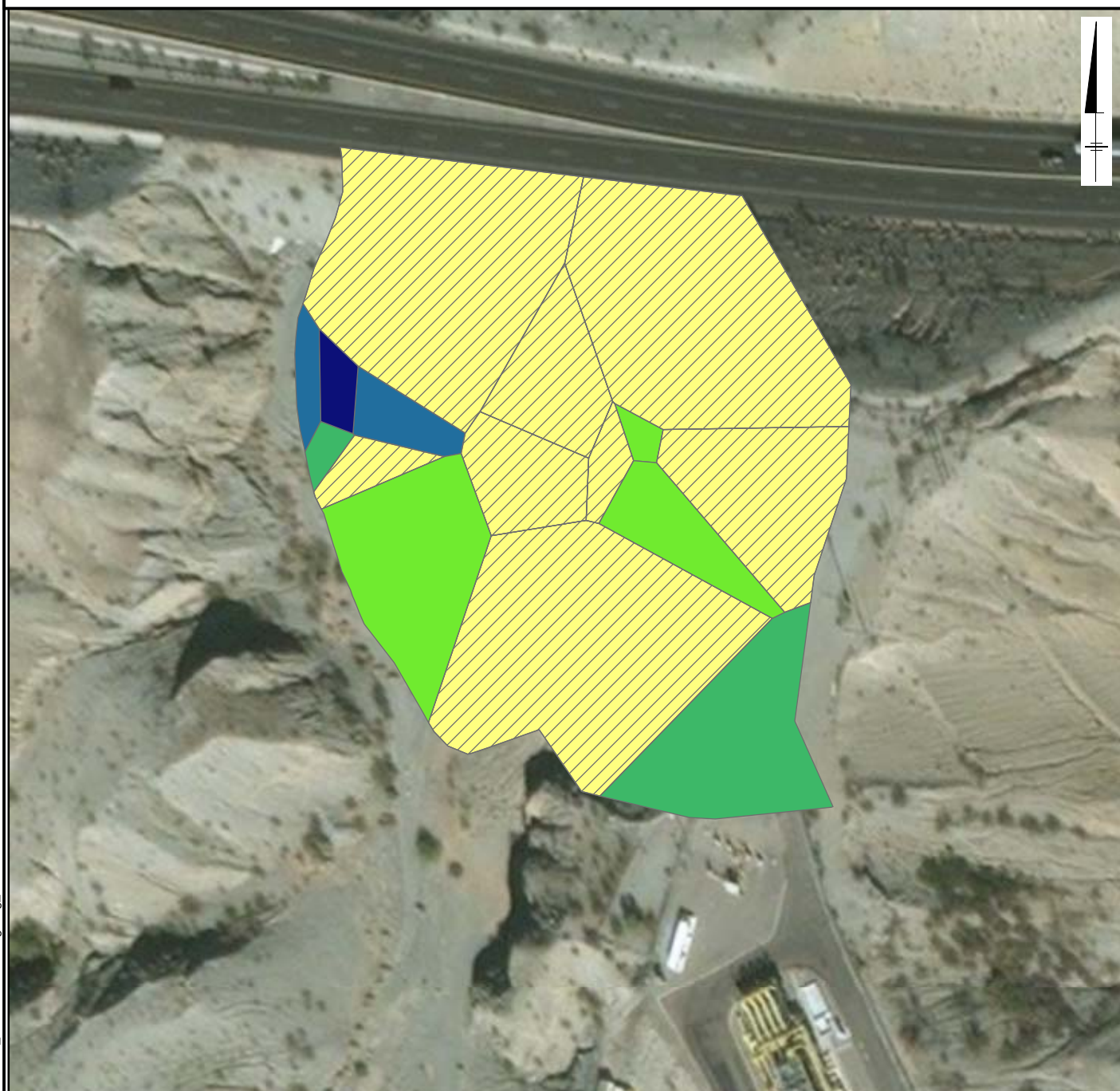


FIGURE
AOC27-A3.24

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

PAH LOW MOLECULAR WEIGHT

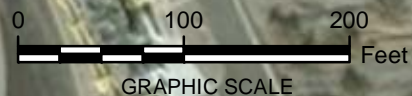


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 0.00
- ≥ 0.00 - 14.00
- ≥ 14.00 - 25.00
- ≥ 25.00 - 543.00
- ≥ 543.00 - 3880.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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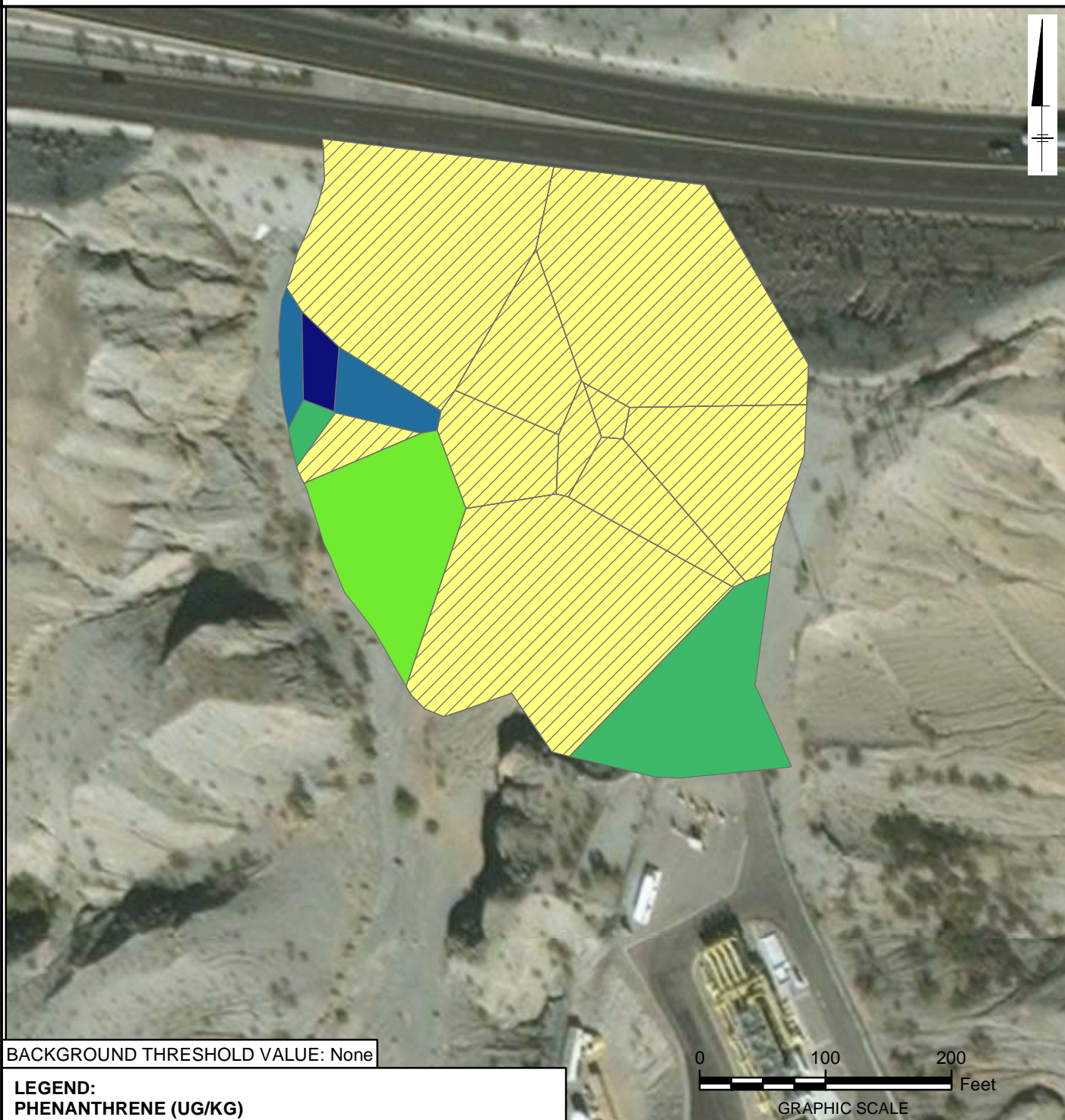
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FIGURE
AOC27-A3.25

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

-  NOT DETECTED
-  2.55 - 2.65
-  ≥ 2.65 - 5.40
-  ≥ 5.40 - 25.00
-  ≥ 25.00 - 480.00
-  ≥ 480.00 - 3100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

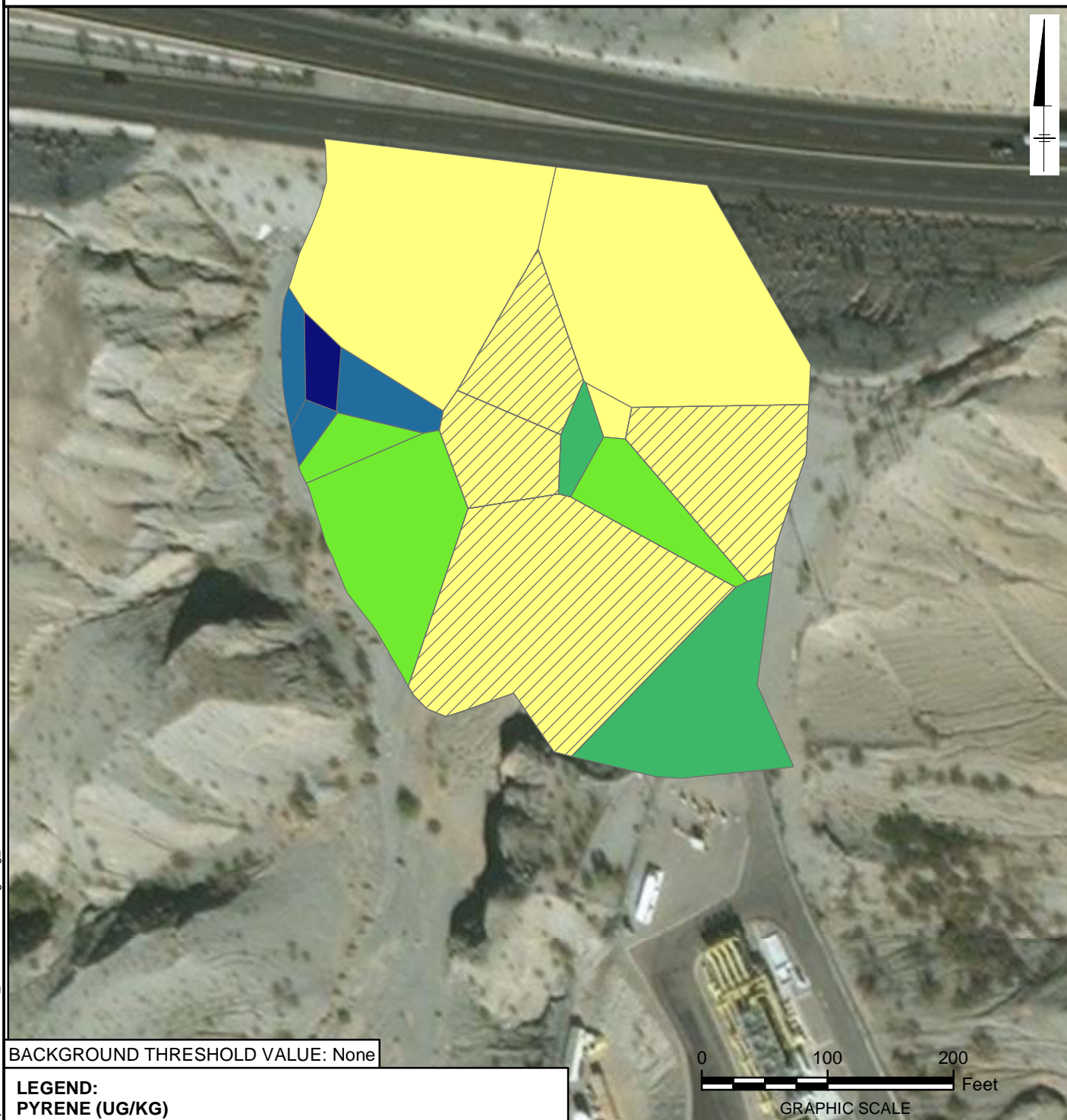
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FIGURE
AOC27-A3.26

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

-  NOT DETECTED
-  2.55 - 9.50
-  ≥9.50 - 24.00
-  ≥24.00 - 43.00
-  ≥43.00 - 870.00
-  ≥870.00 - 6600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

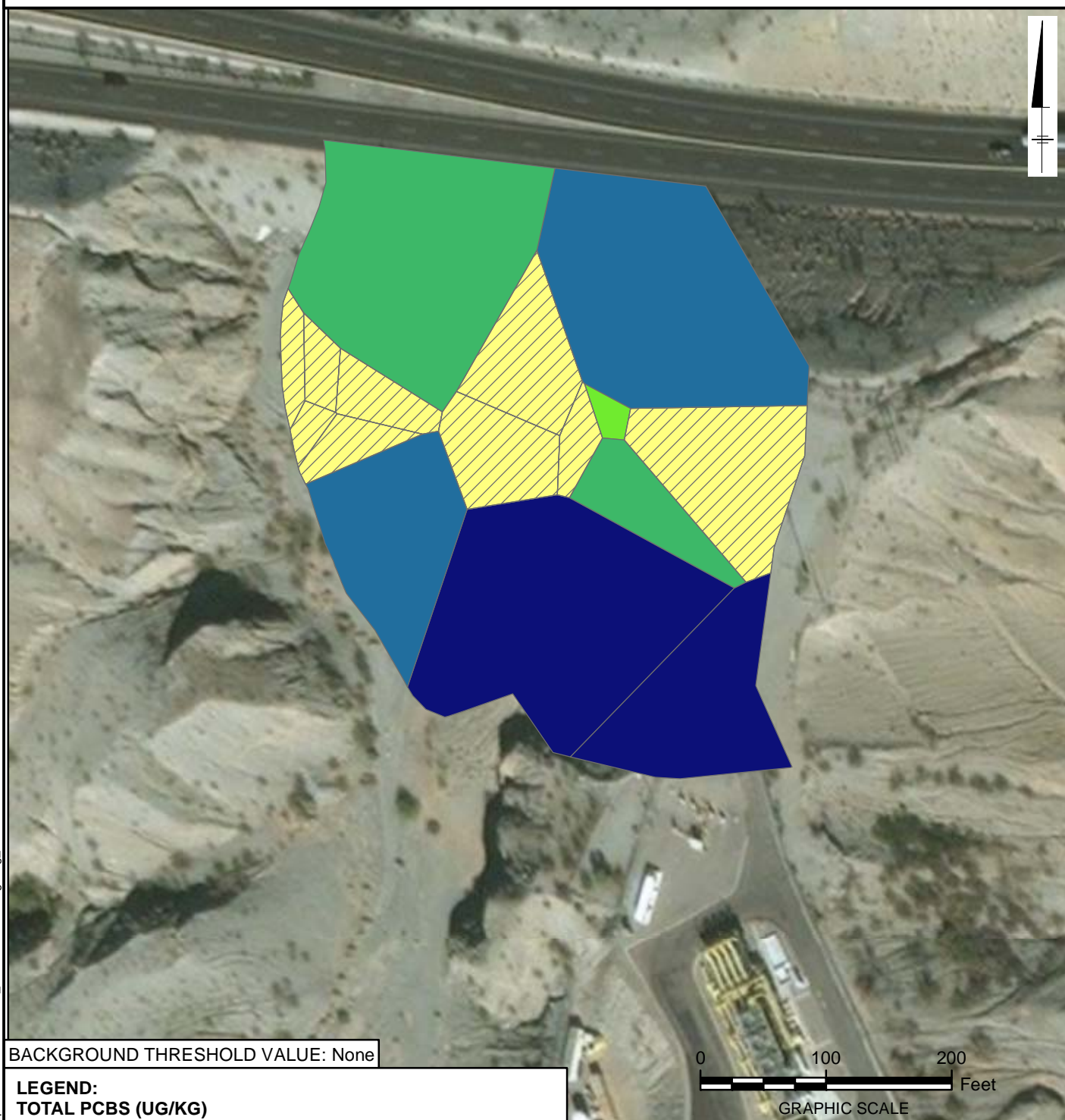
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FIGURE
AOC27-A3.27

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

-  NOT DETECTED
-  8.50 - 9.00
-  ≥ 9.00 - 17.00
-  ≥ 17.00 - 21.00
-  ≥ 21.00 - 32.00
-  ≥ 32.00 - 49.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

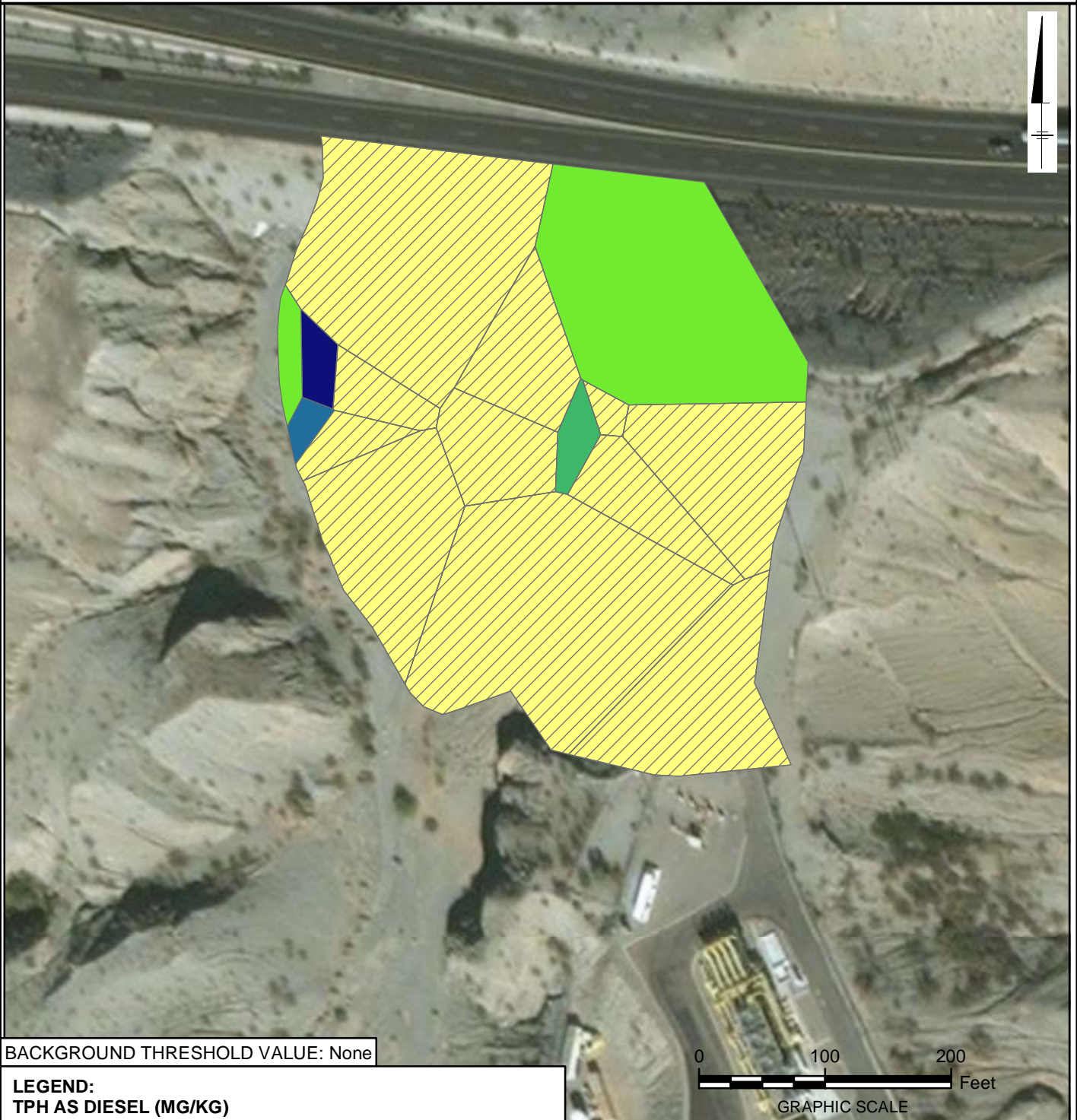
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FIGURE
AOC27-A3.28

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 5.00
- ≥5.00 - 12.00
- ≥12.00 - 18.00
- ≥18.00 - 35.00
- ≥35.00 - 79.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

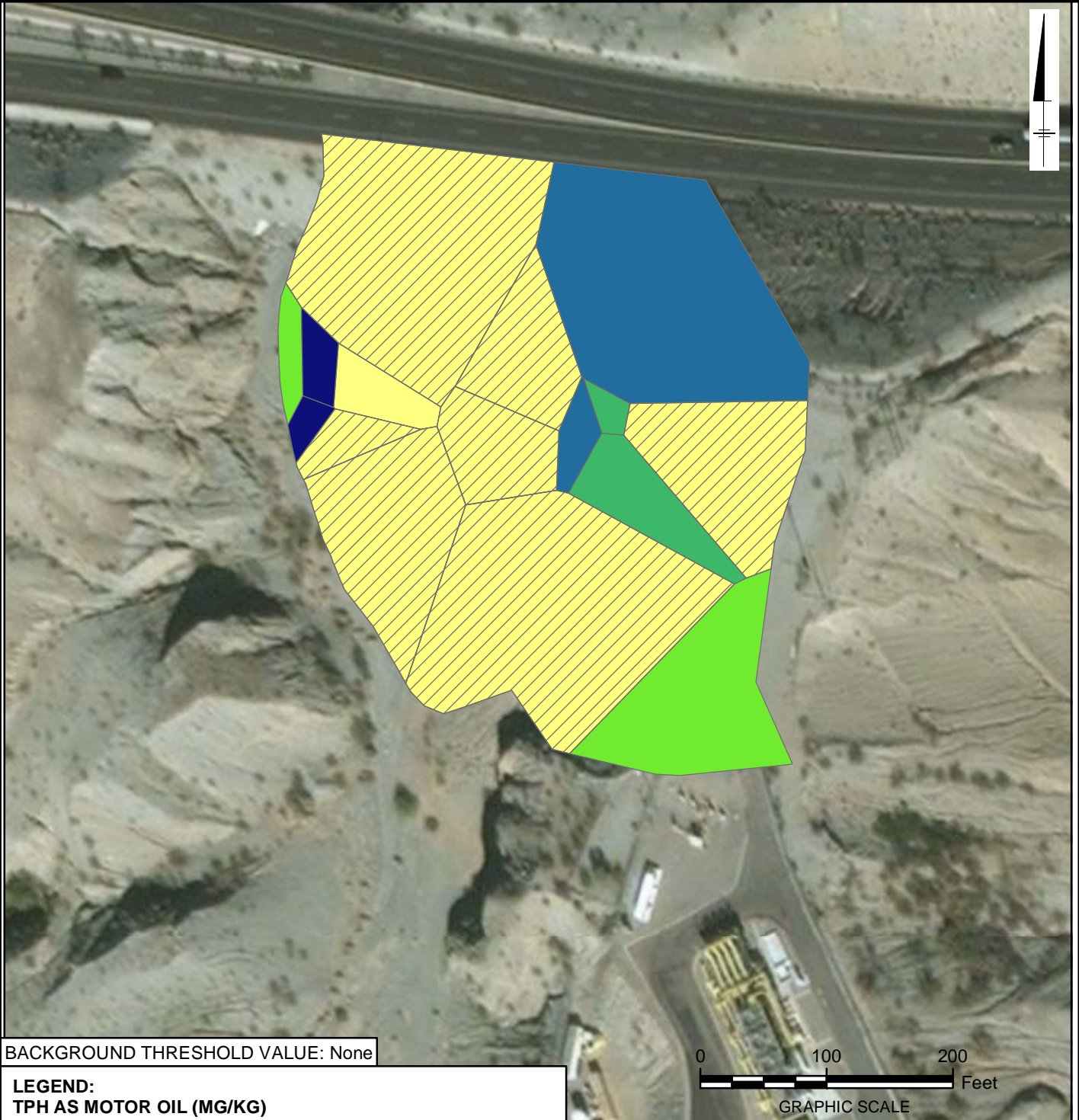
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FIGURE
AOC27-A3.29

AOC 27 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



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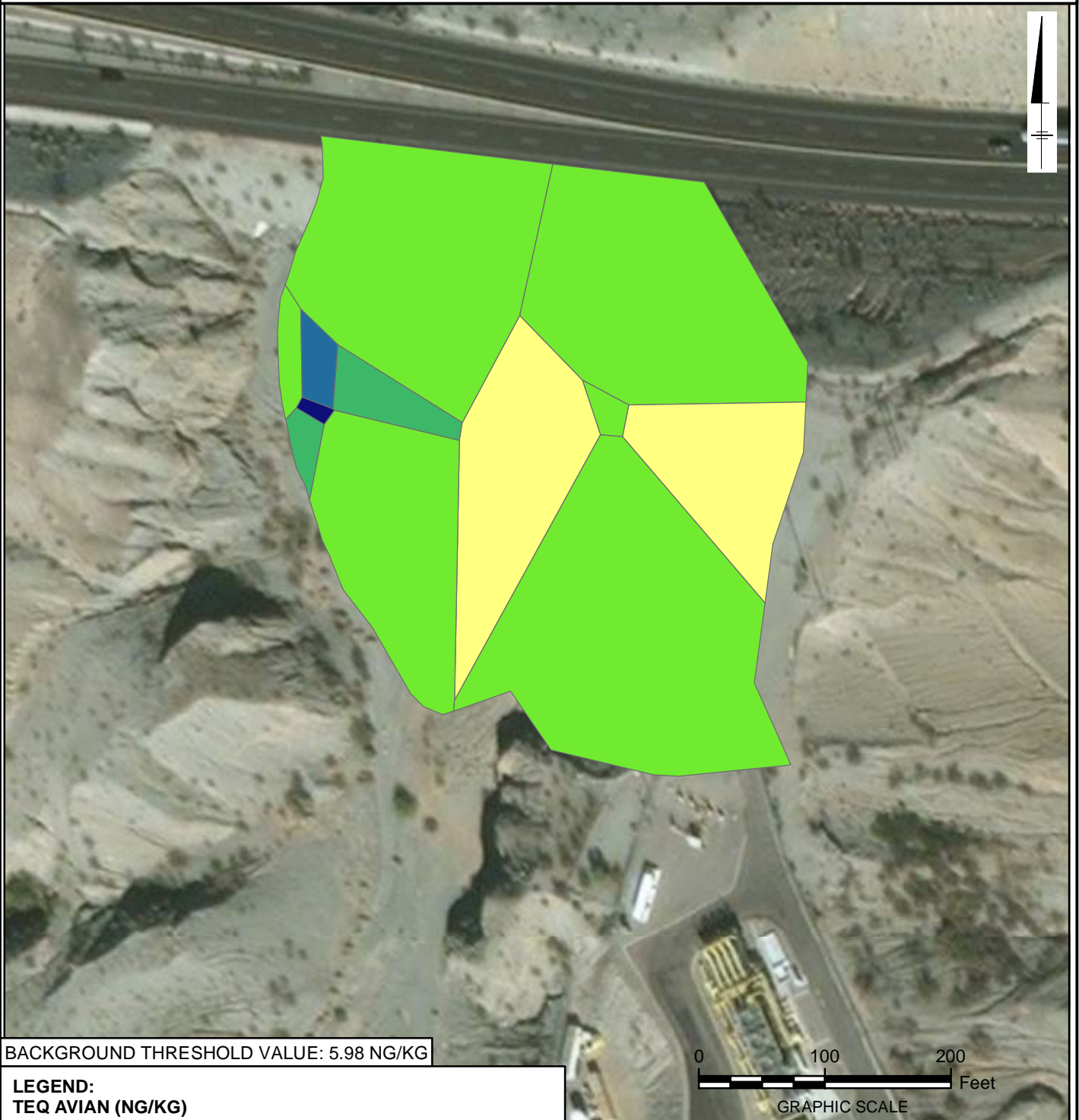
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FIGURE
AOC27-A3.30

AOC 27 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN



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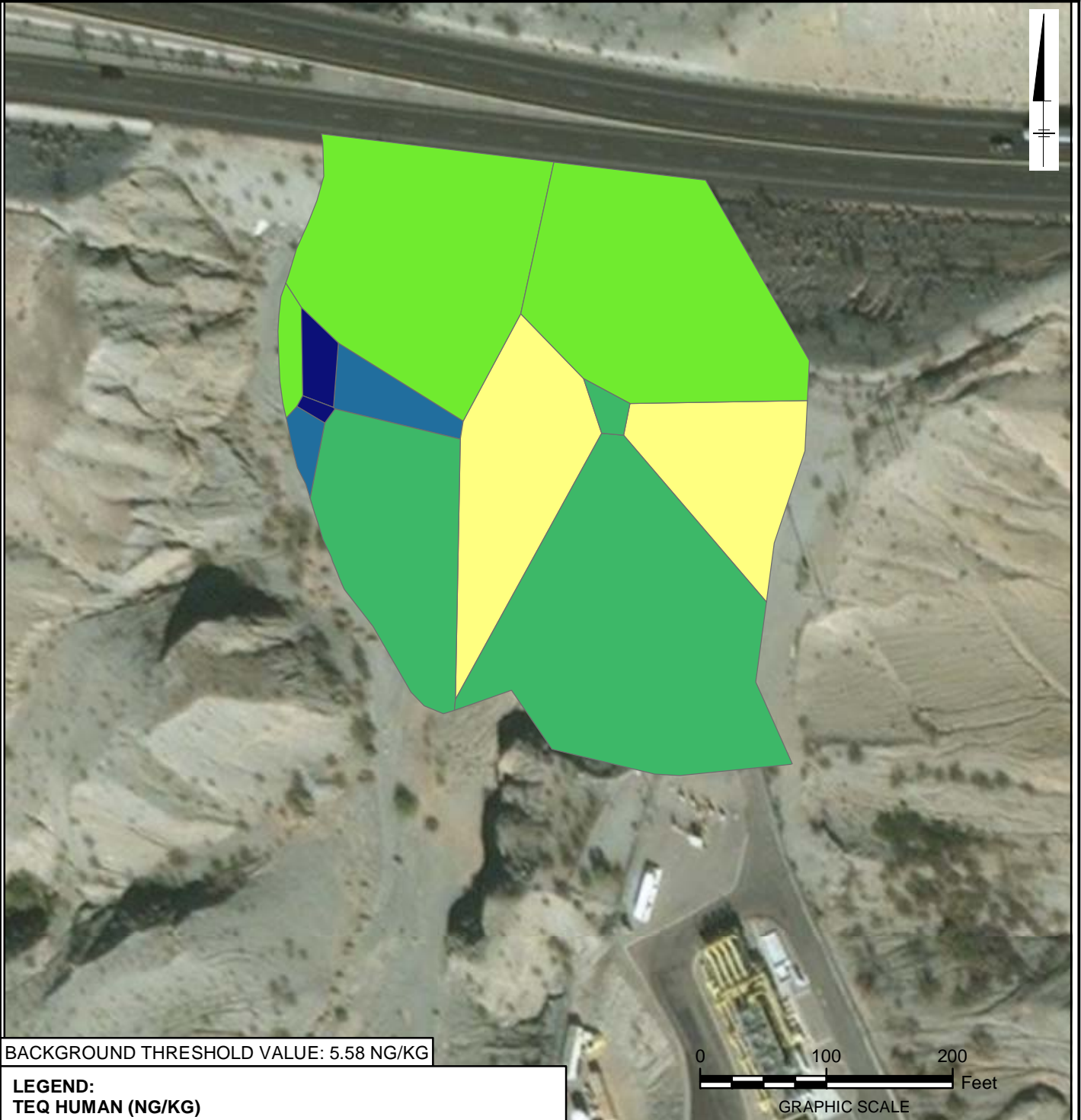
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FIGURE
AOC27-A3.31

AOC 27 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.12 - 0.84
- $\geq 0.84 - 8.73$
- $\geq 8.73 - 18.30$
- $\geq 18.30 - 33.00$
- $\geq 33.00 - 150.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

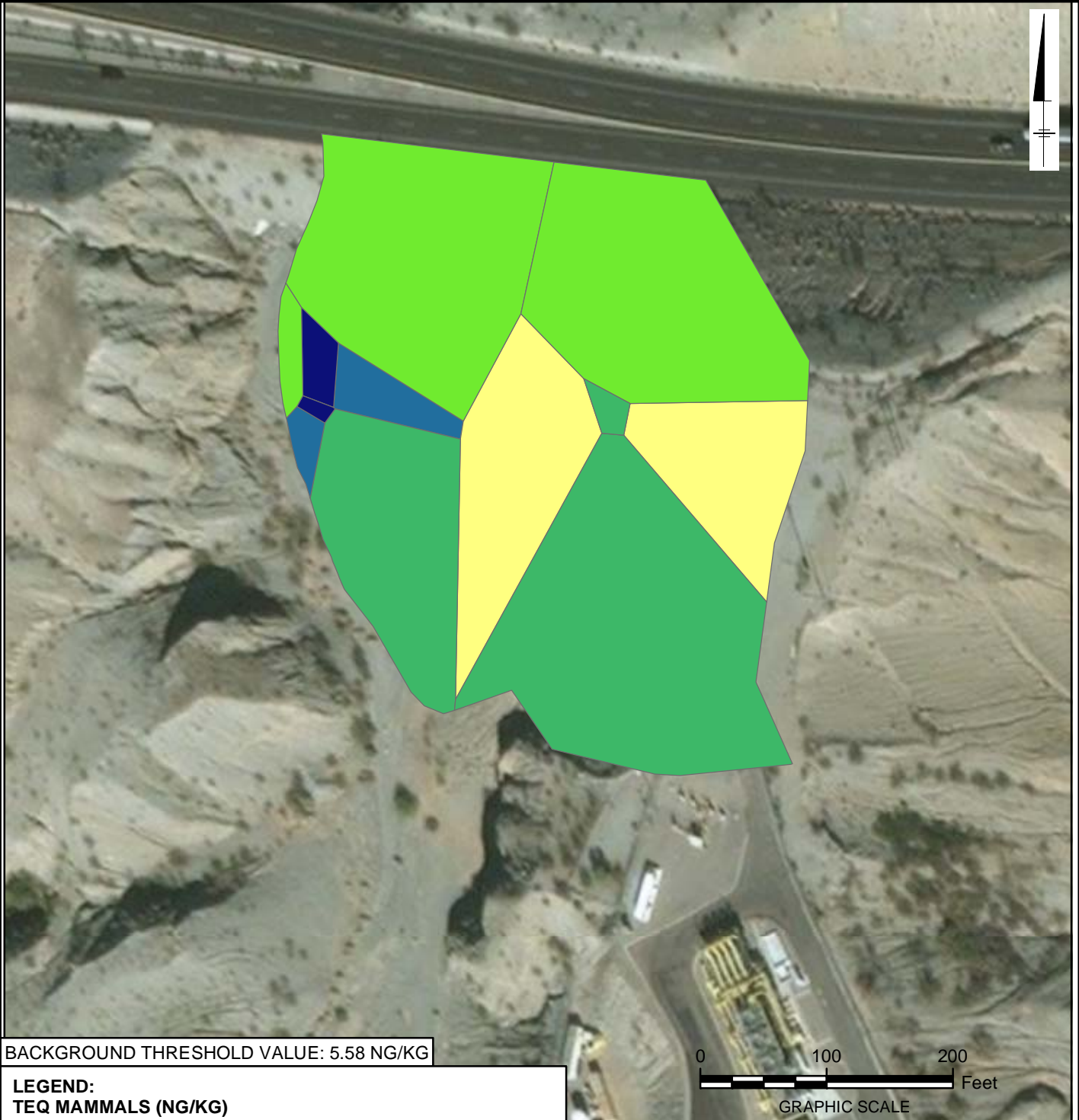
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FIGURE
AOC27-A3.32

AOC 27 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.12 - 0.84
- $\geq 0.84 - 8.73$
- $\geq 8.73 - 18.30$
- $\geq 18.30 - 33.00$
- $\geq 33.00 - 150.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

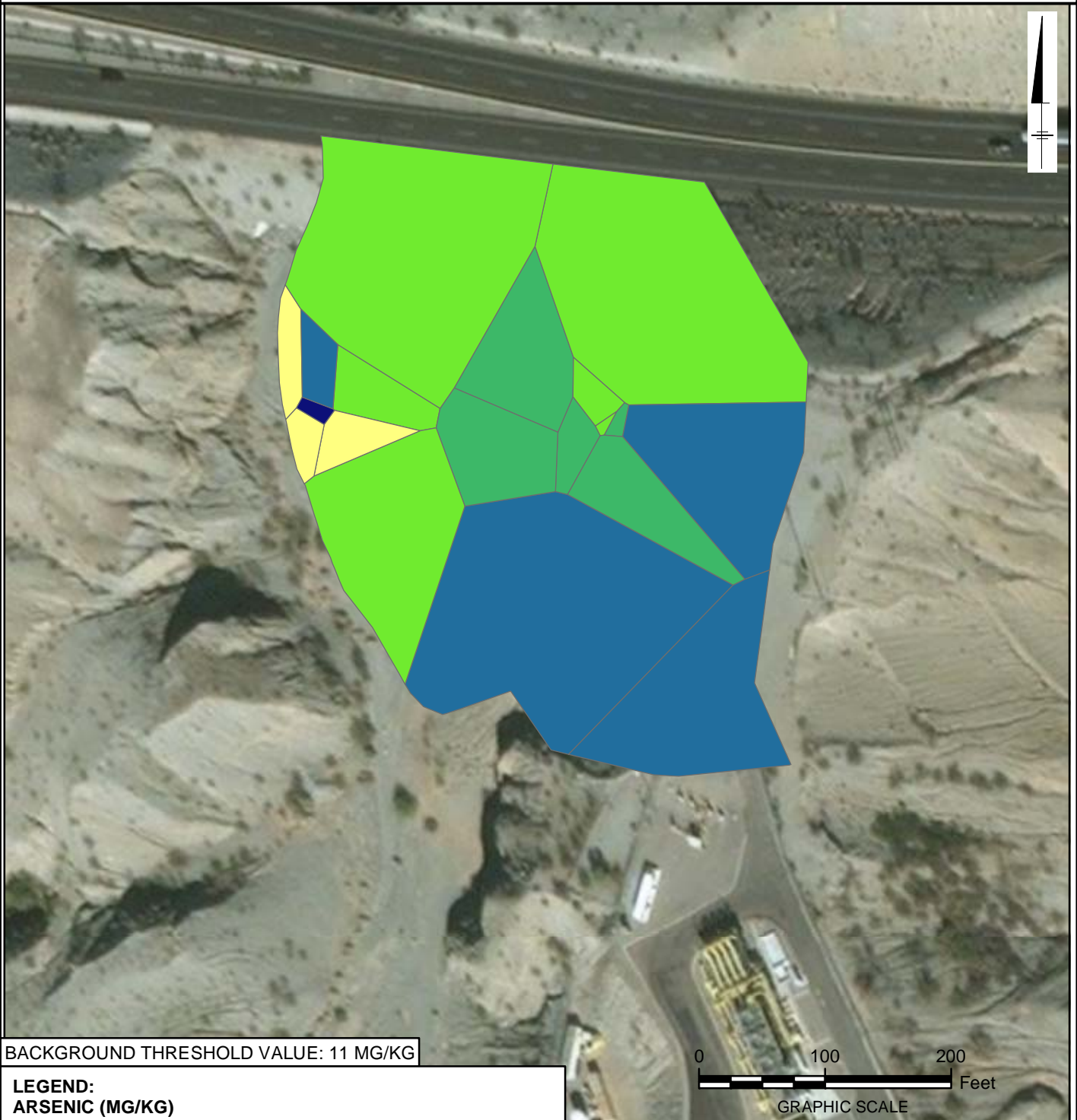
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FIGURE
AOC27-A3.33

AOC 27 0 - 3 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	1.70 - 2.33
	≥2.33 - 3.10
	≥3.10 - 3.63
	≥3.63 - 4.80
	≥4.80 - 10.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

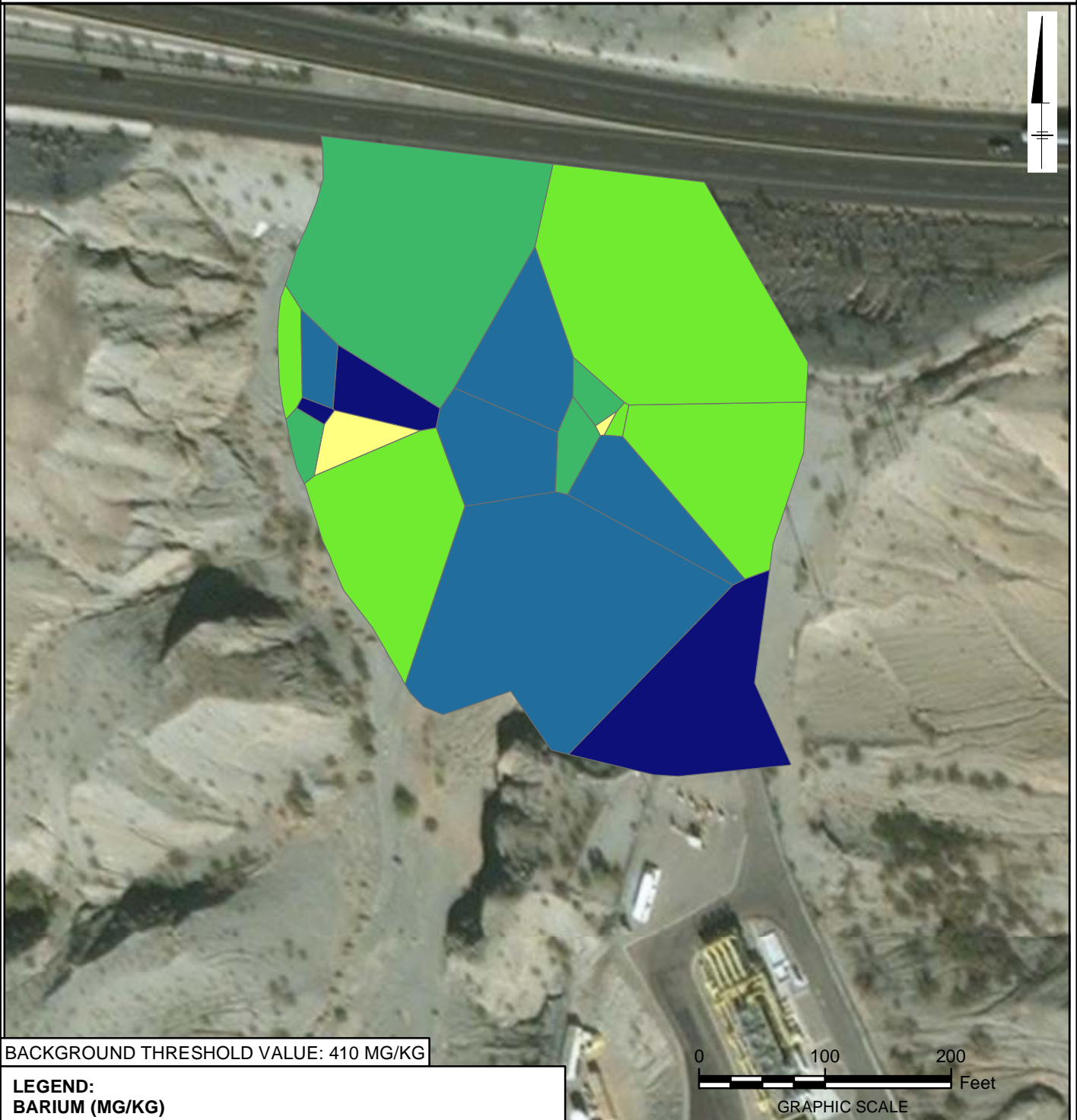
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FIGURE
AOC27-A3.34

AOC 27 0 - 3 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	79.30 - 89.00
	≥89.00 - 117.00
	≥117.00 - 140.00
	≥140.00 - 173.00
	≥173.00 - 200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

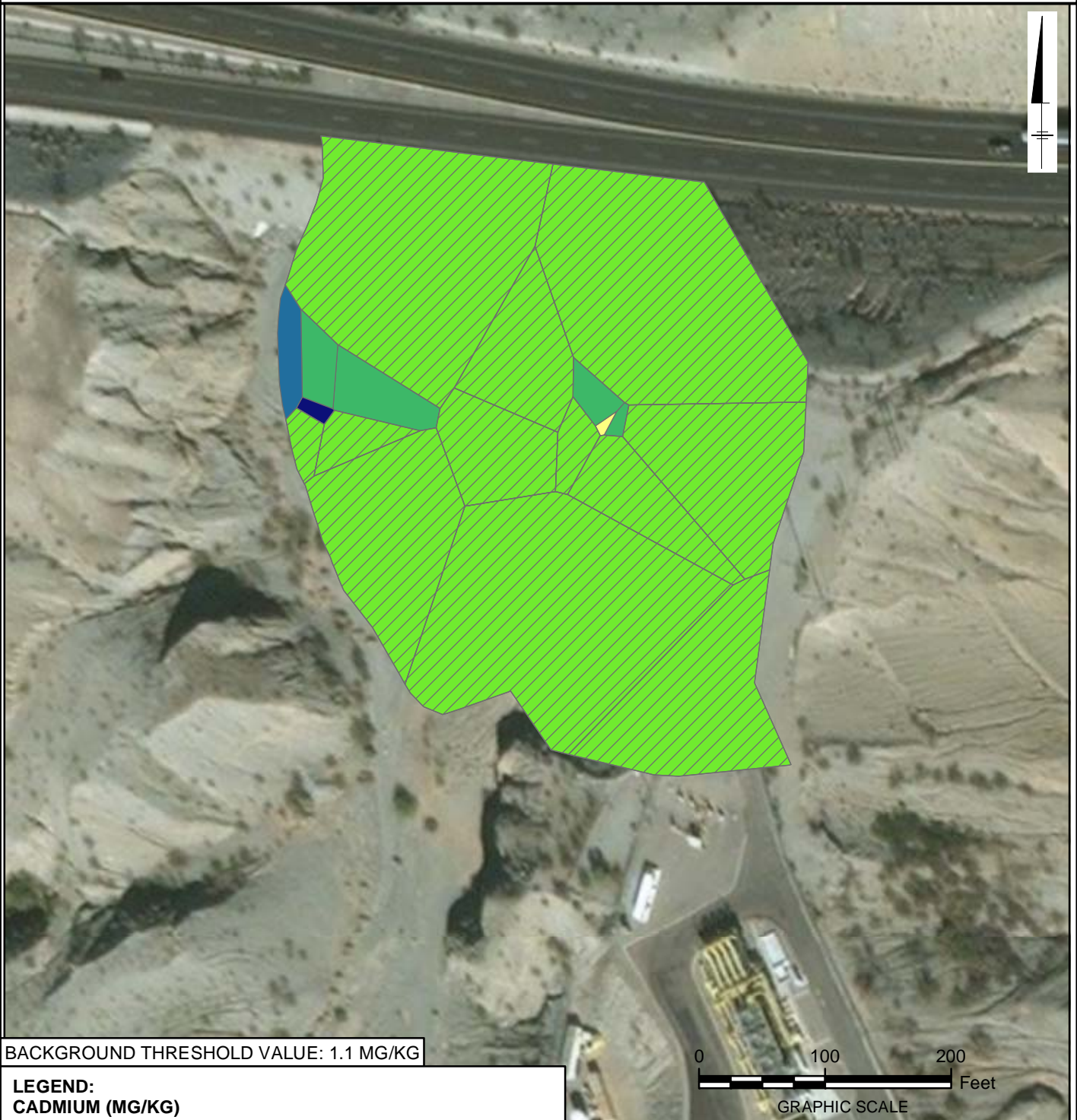
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**FIGURE
AOC27-A3.35**

AOC 27 0 - 3 FEET BELOW GROUND SURFACE CADMIUM



BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.30 - 0.30
	≥0.30 - 0.50
	≥0.50 - 1.17
	≥1.17 - 1.70
	≥1.70 - 2.63

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

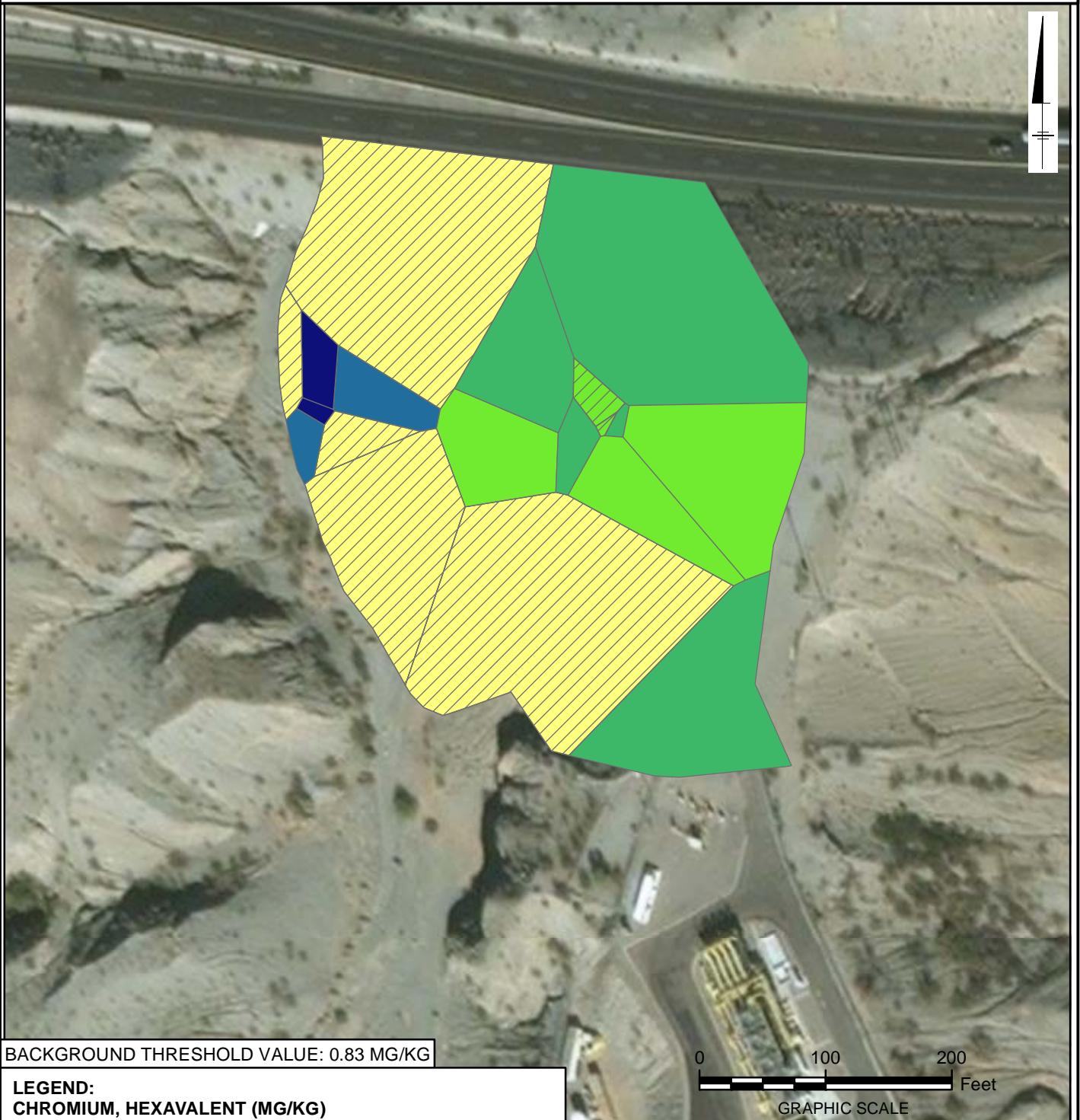
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FIGURE
AOC27-A3.36

AOC 27 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.11
	≥0.11 - 0.23
	≥0.23 - 0.37
	≥0.37 - 0.63
	≥0.63 - 3.13

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

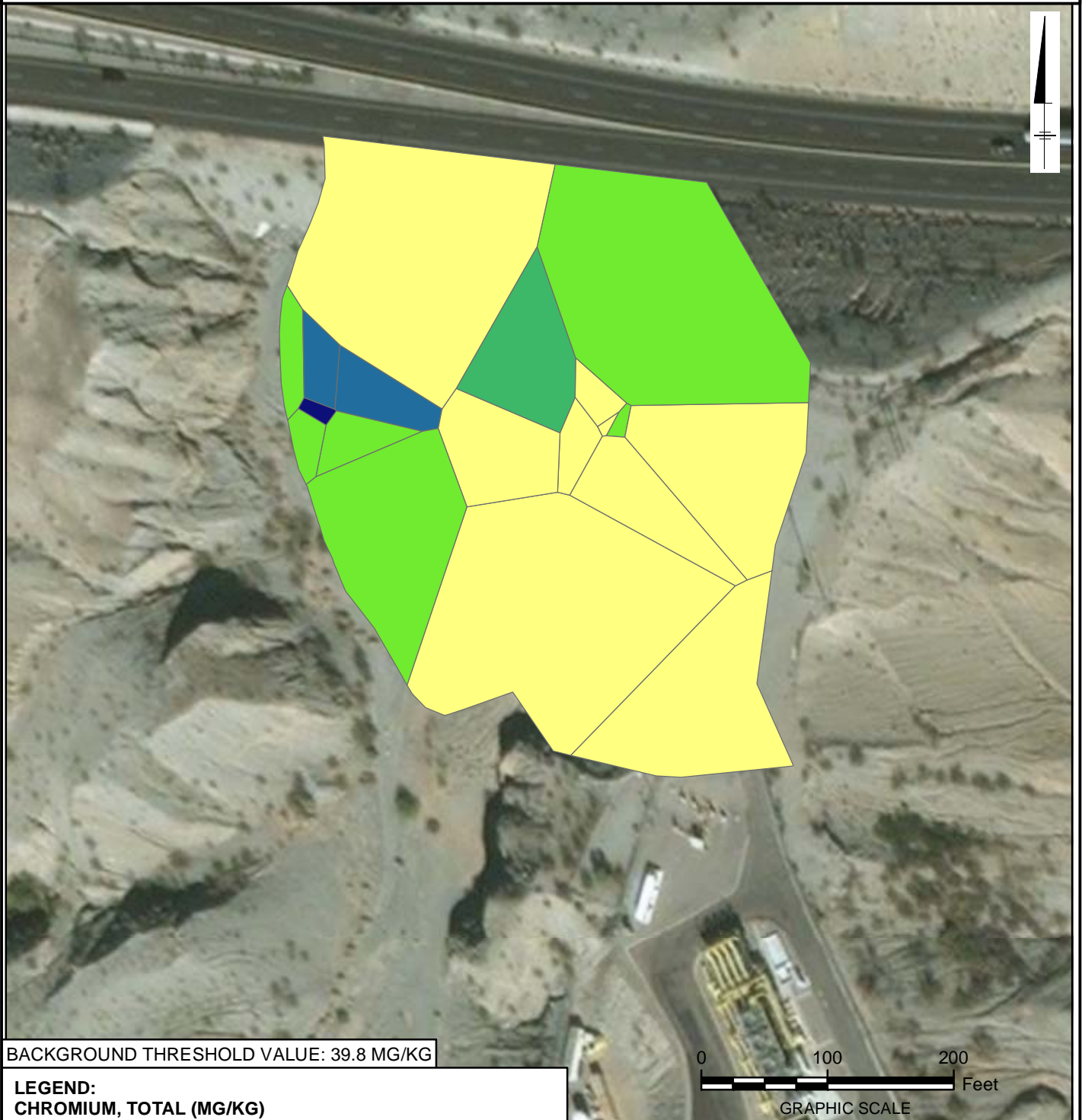
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FIGURE
AOC27-A3.37

AOC 27 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



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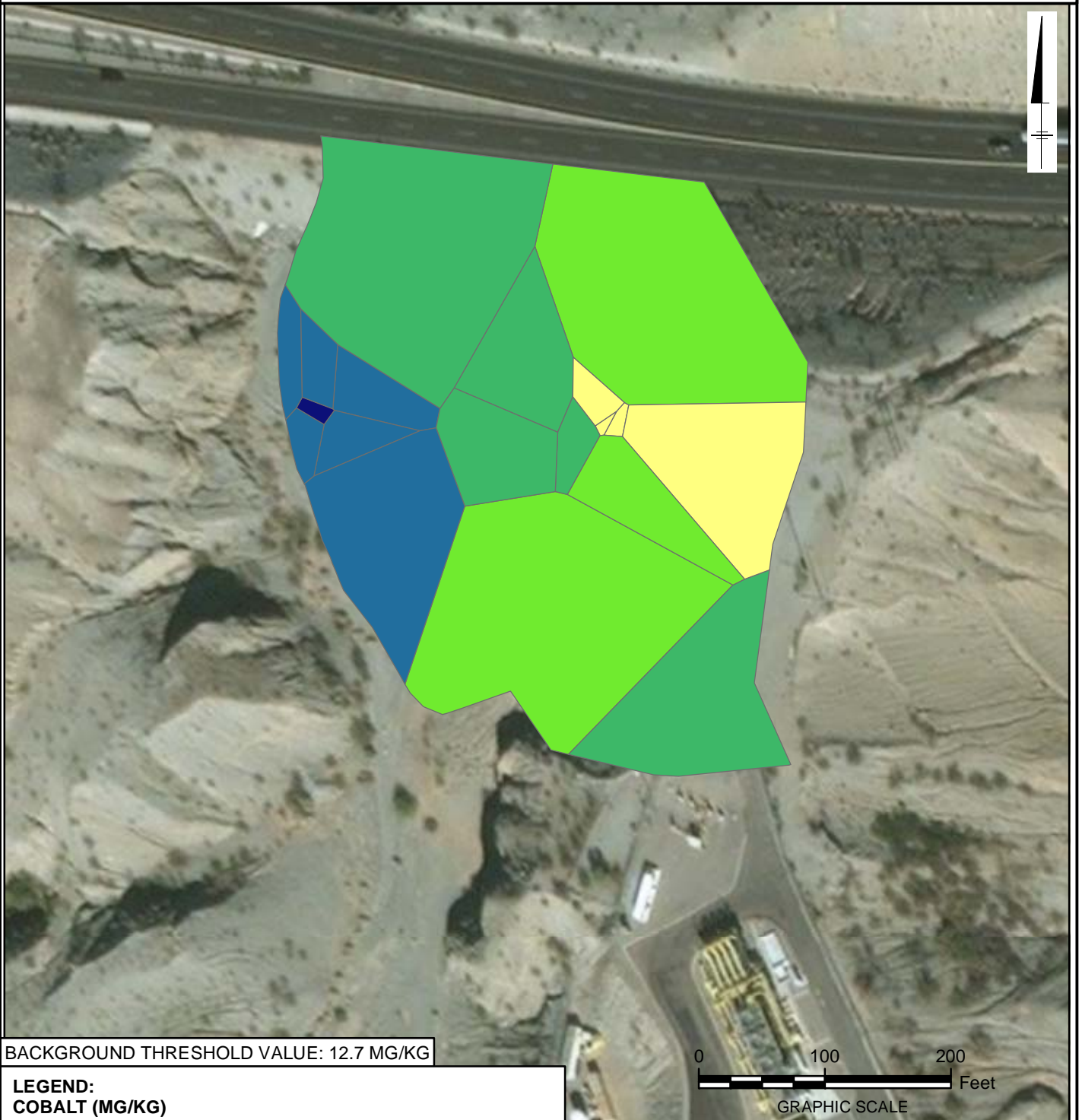
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SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



FIGURE
AOC27-A3.38

AOC 27 0 - 3 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 3.40 - 4.03
- ≥4.03 - 5.10
- ≥5.10 - 6.40
- ≥6.40 - 8.07
- ≥8.07 - 12.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

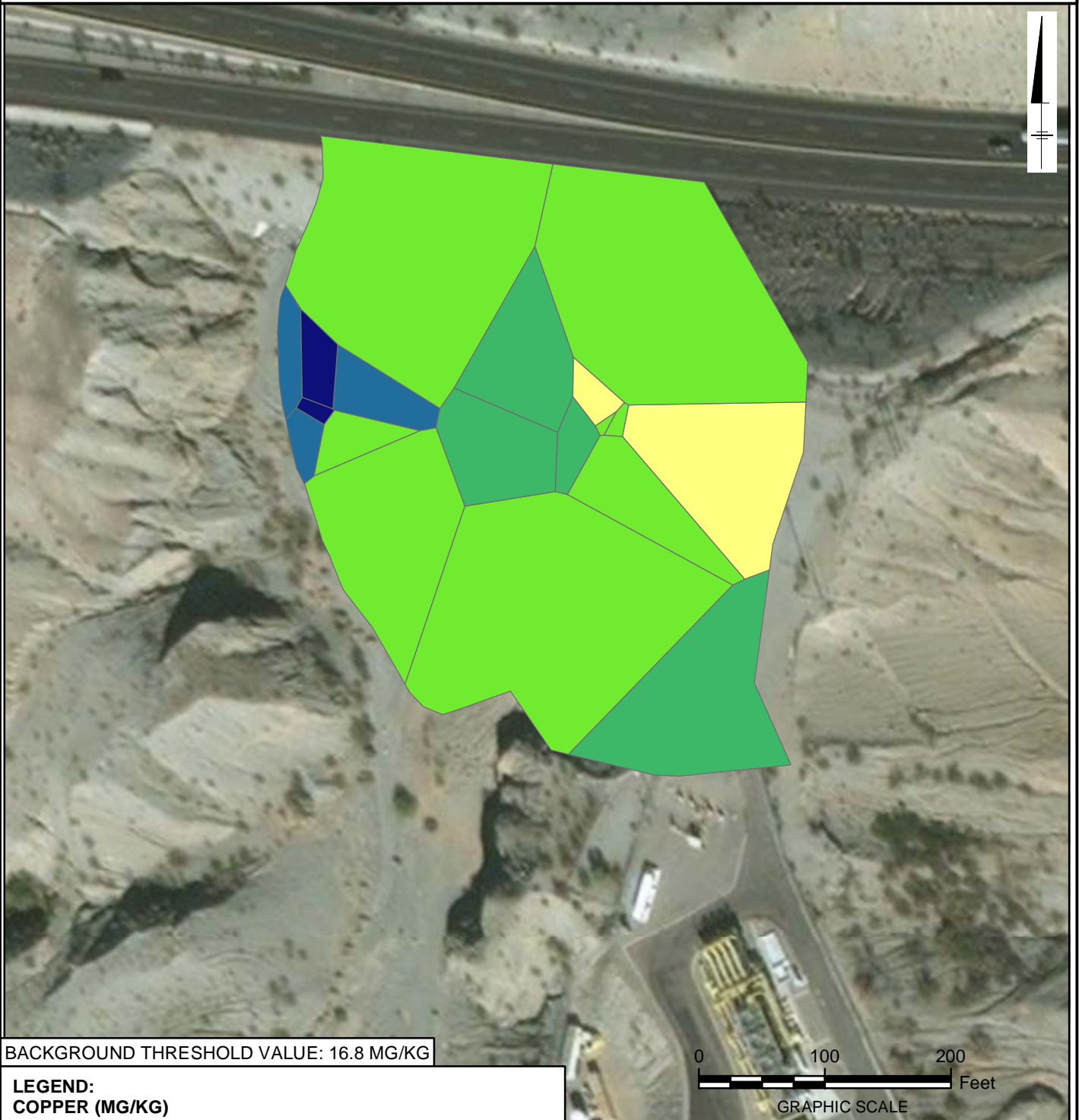
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FIGURE
AOC27-A3.39

AOC 27 0 - 3 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 6.43 - 7.20
- $\geq 7.20 - 10.10$
- $\geq 10.10 - 12.00$
- $\geq 12.00 - 50.00$
- $\geq 50.00 - 720.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

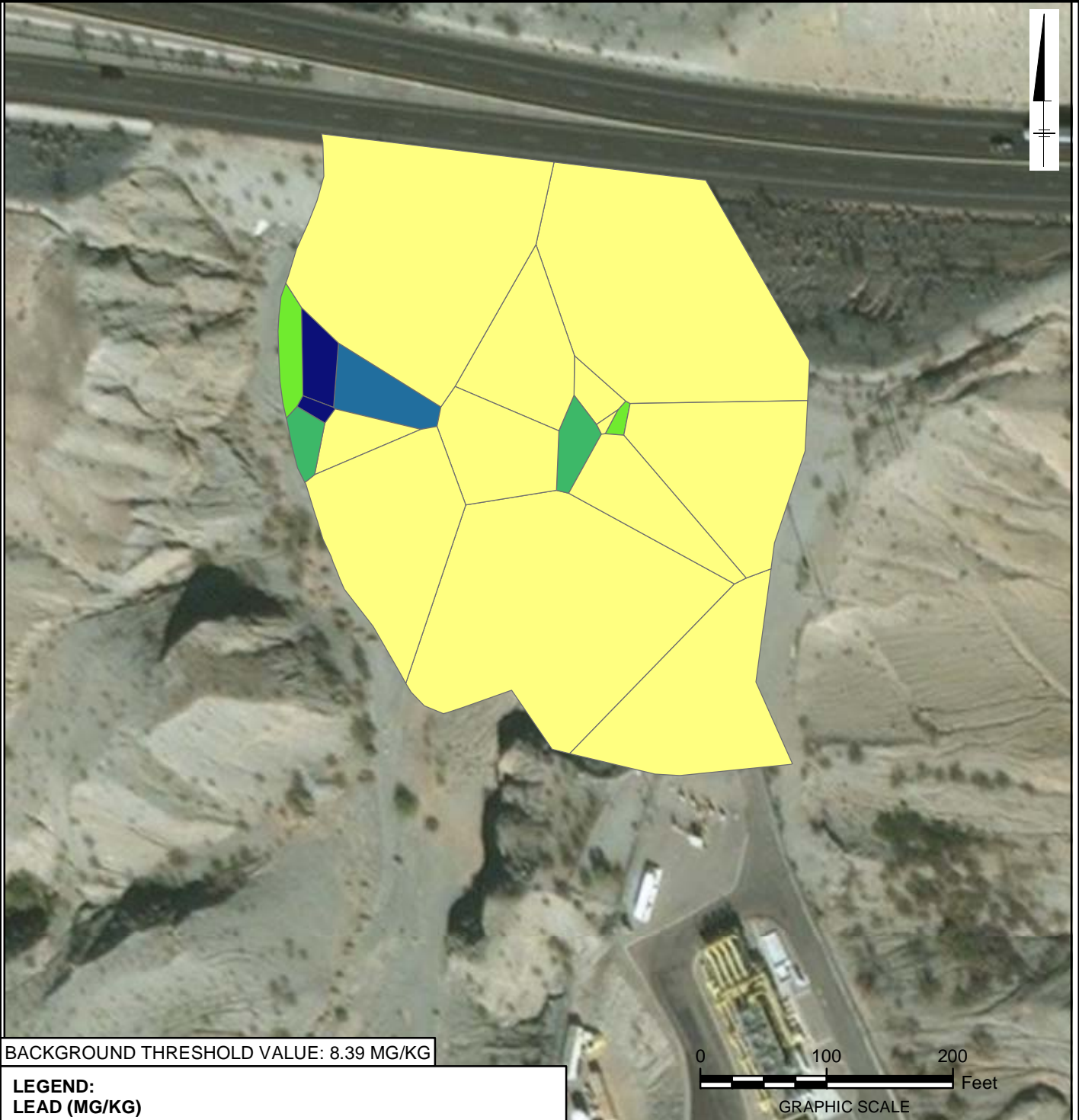
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FIGURE
AOC27-A3.40

AOC 27 0 - 3 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	4.43 - 8.70
	≥8.70 - 17.30
	≥17.30 - 24.00
	≥24.00 - 112.00
	≥112.00 - 432.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

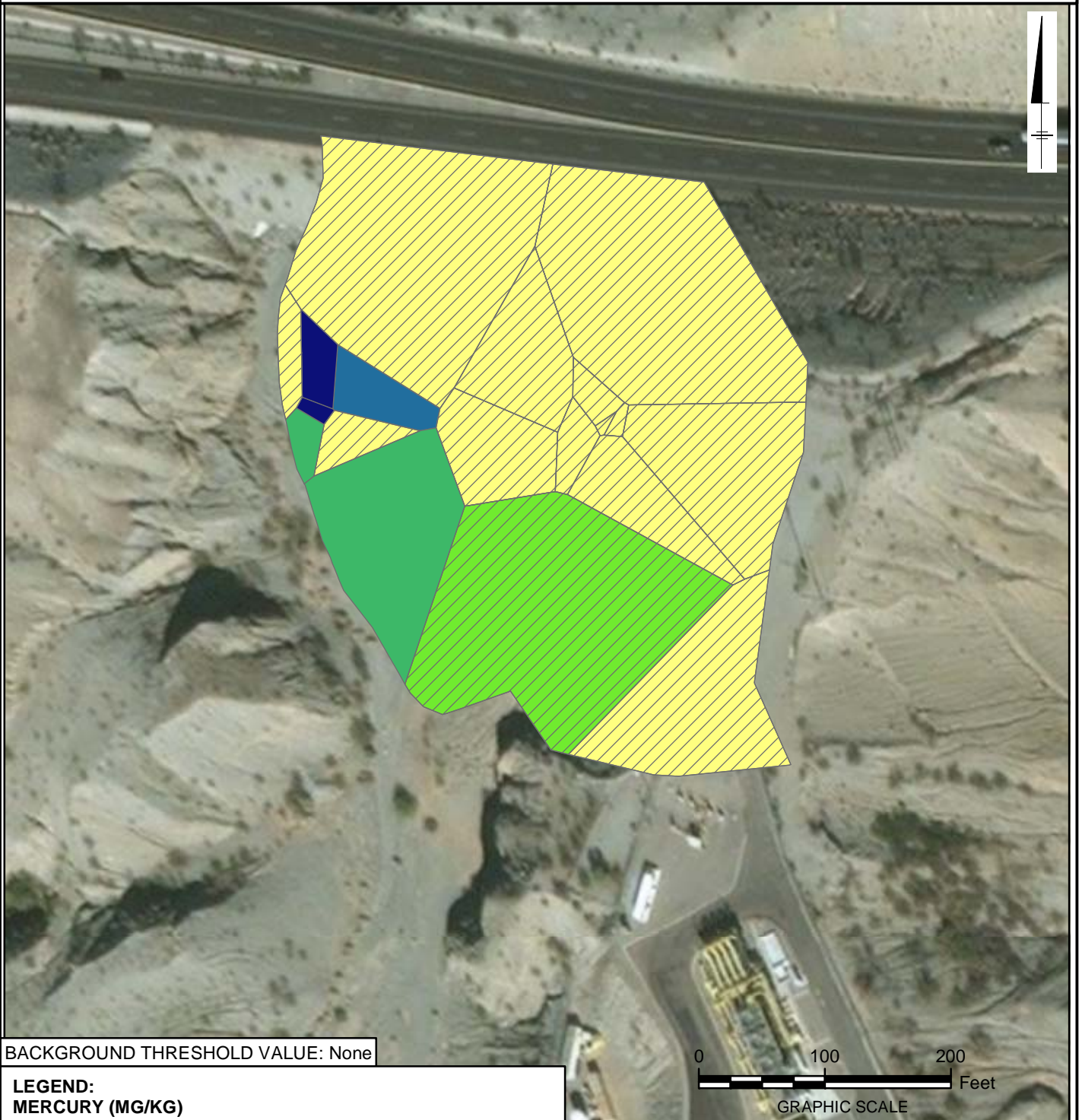
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FIGURE
AOC27-A3.41

AOC 27 0 - 3 FEET BELOW GROUND SURFACE MERCURY



BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

-  NOT DETECTED
-  0.05 - 0.05
-  $\geq 0.05 - 0.05$
-  $\geq 0.05 - 0.17$
-  $\geq 0.17 - 0.24$
-  $\geq 0.24 - 0.53$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

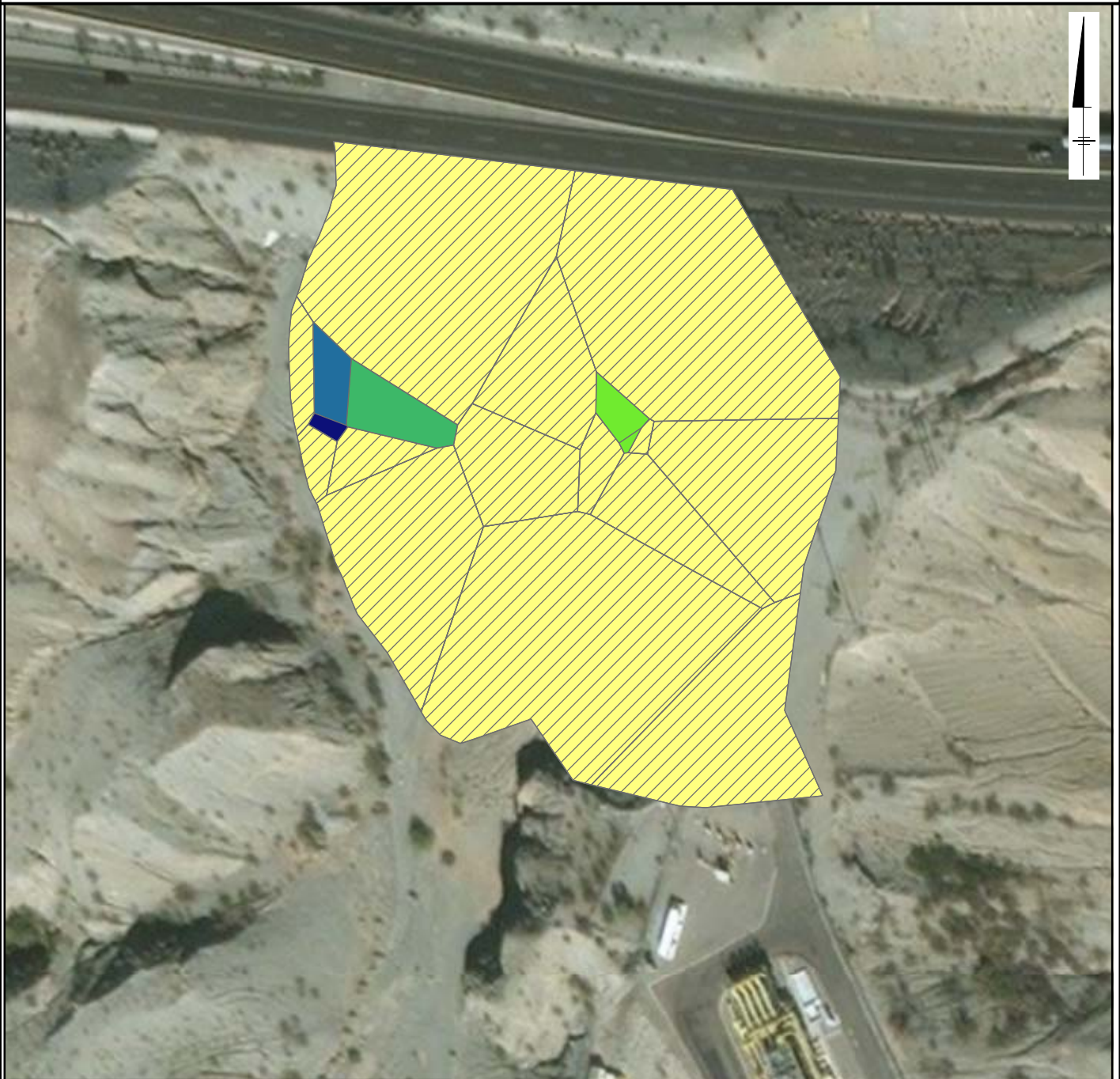
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FIGURE
AOC27-A3.42

AOC 27 0 - 3 FEET BELOW GROUND SURFACE MOLYBDENUM

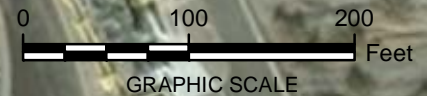


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

- NOT DETECTED
- 0.50 - 0.50
- $\geq 0.50 - 0.70$
- $\geq 0.70 - 1.90$
- $\geq 1.90 - 5.70$
- $\geq 5.70 - 16.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



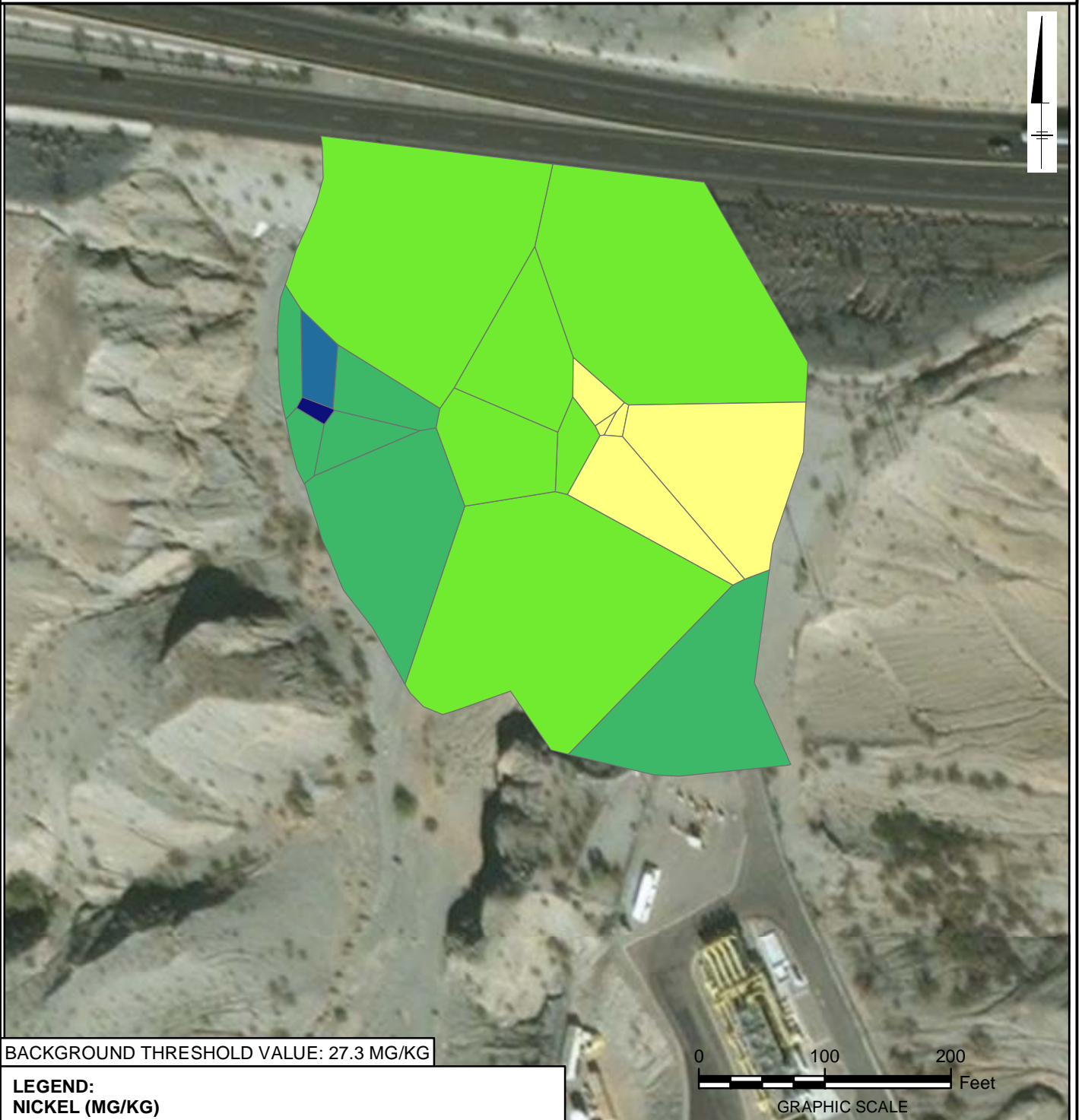
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FIGURE
AOC27-A3.43

AOC 27 0 - 3 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 5.37 - 7.73
- ≥ 7.73 - 9.67
- ≥ 9.67 - 14.00
- ≥ 14.00 - 20.00
- ≥ 20.00 - 55.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

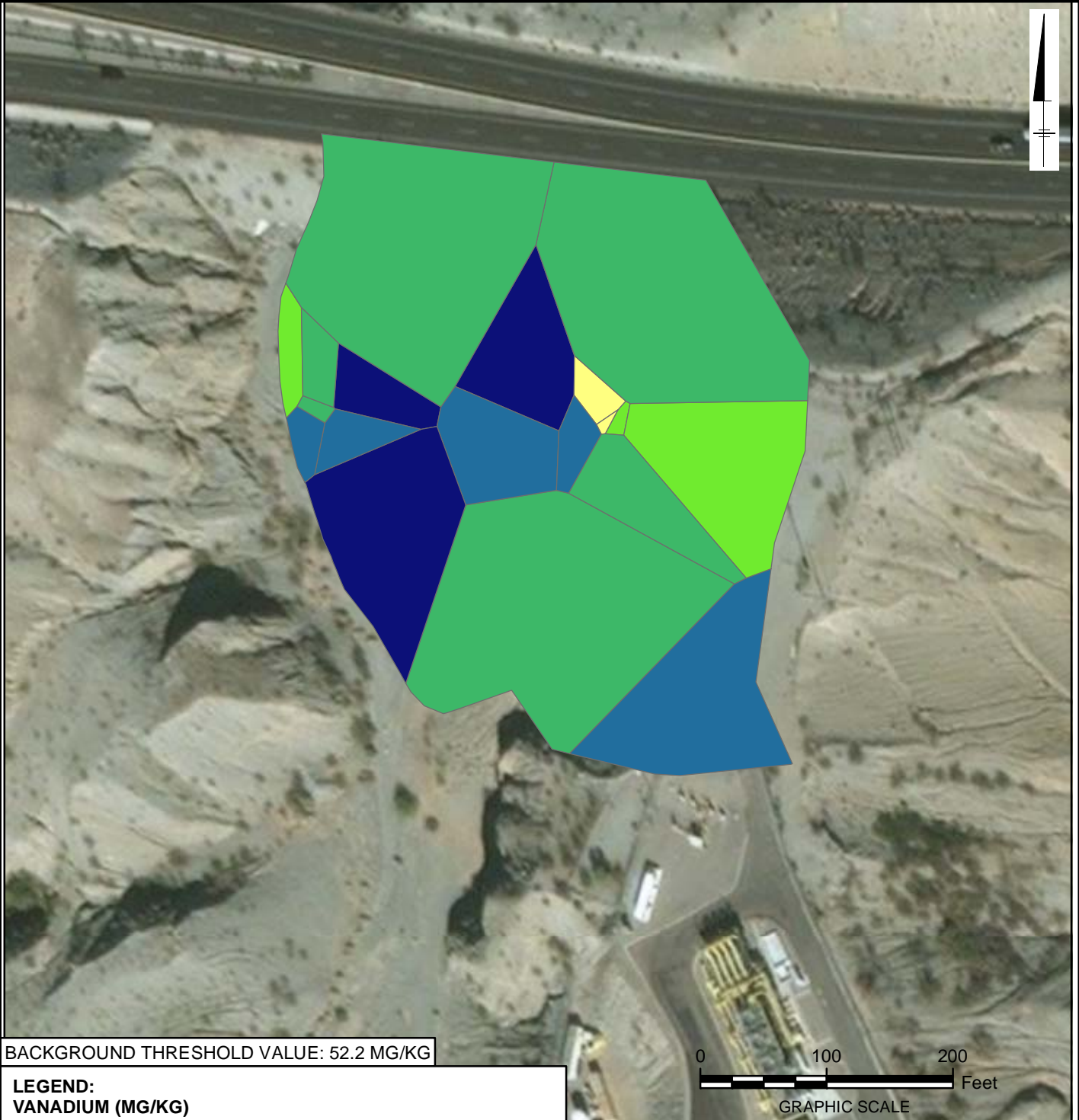
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FIGURE
AOC27-A3.44

AOC 27 0 - 3 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	17.00 - 18.00
	≥18.00 - 20.70
	≥20.70 - 25.00
	≥25.00 - 29.00
	≥29.00 - 34.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

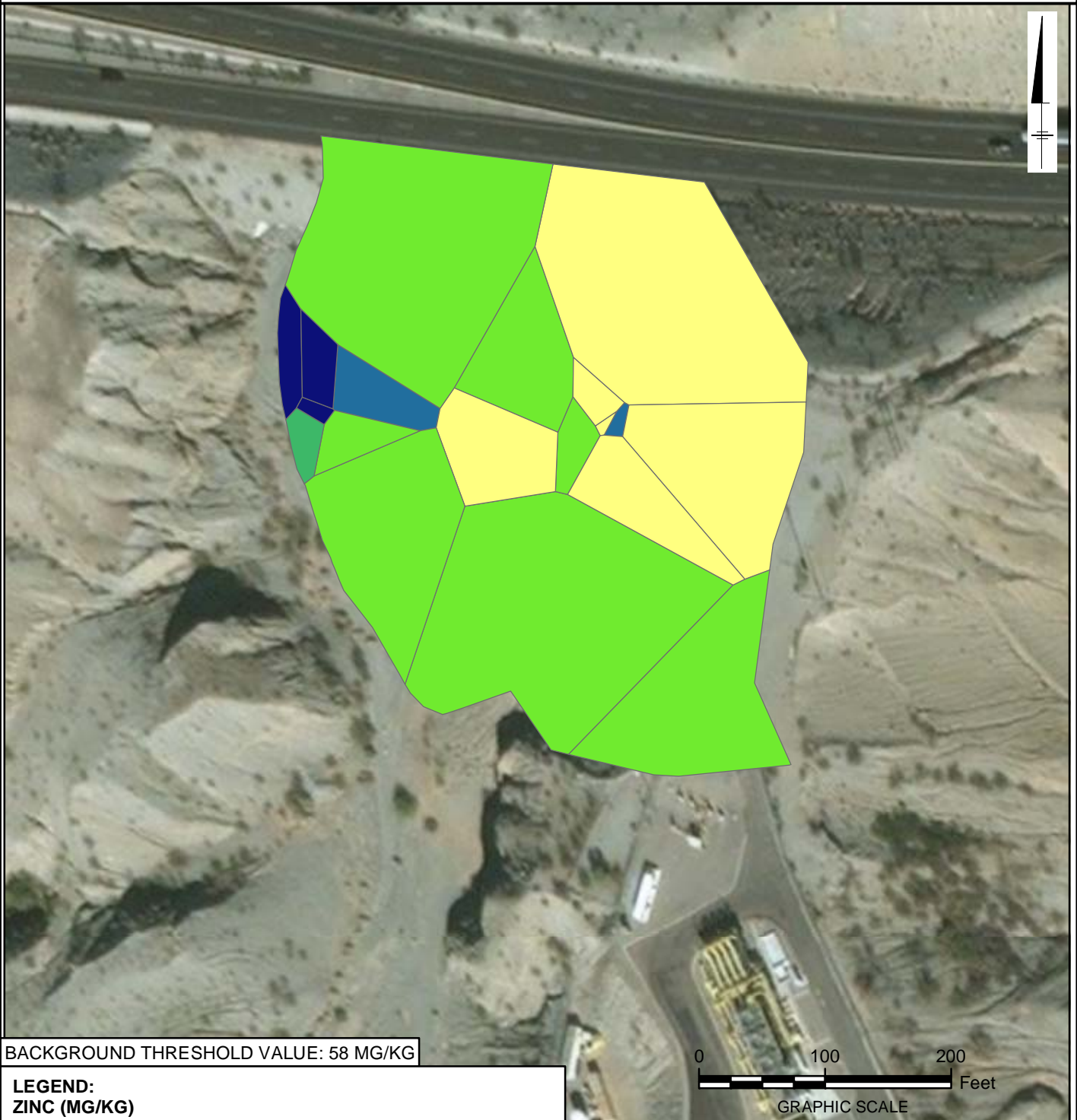
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FIGURE
AOC27-A3.45

AOC 27 0 - 3 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND:
ZINC (MG/KG)

	NOT DETECTED
	16.00 - 31.00
	≥31.00 - 47.30
	≥47.30 - 93.00
	≥93.00 - 277.00
	≥277.00 - 809.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

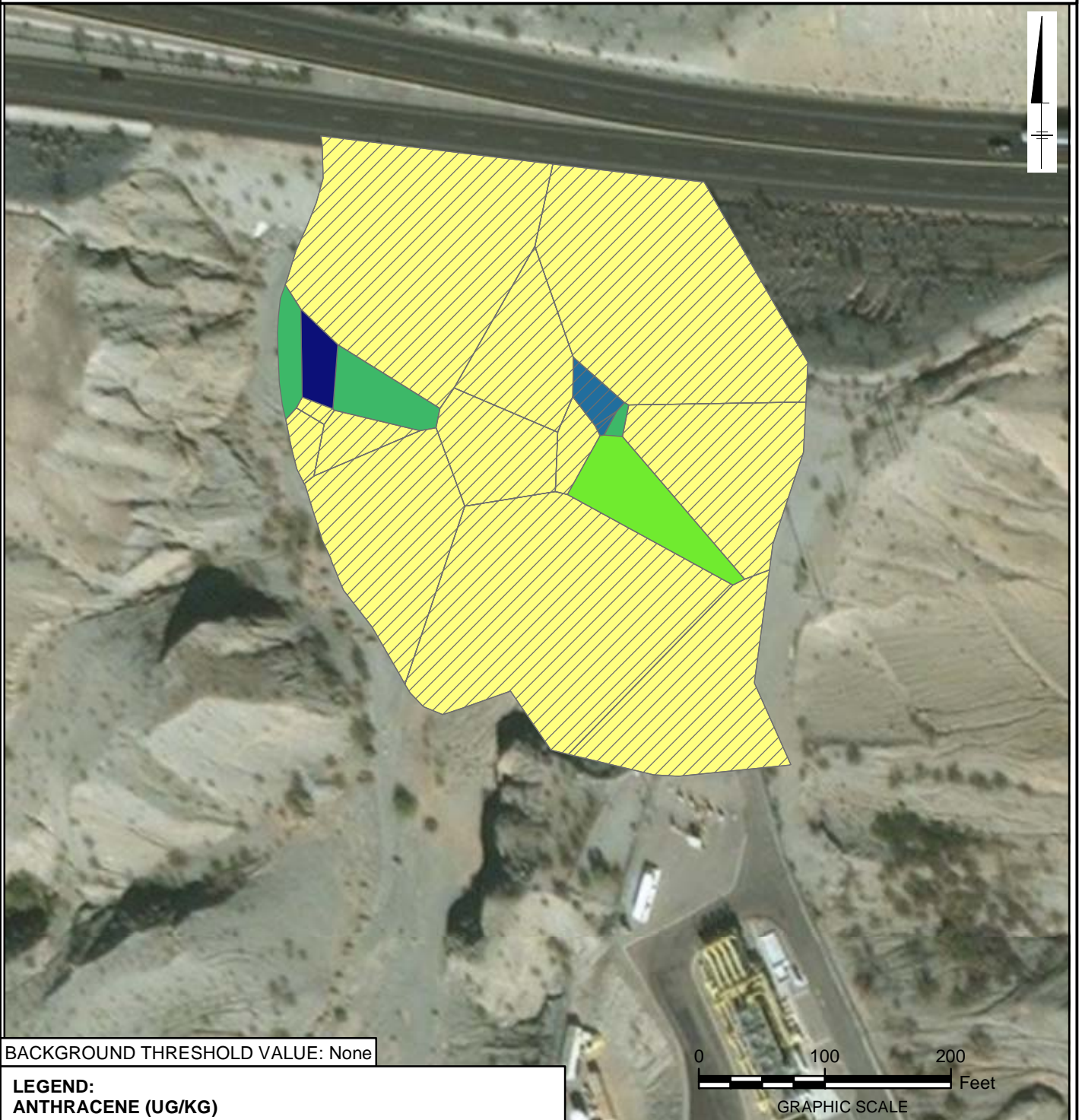
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**FIGURE
AOC27-A3.46**

AOC 27 0 - 3 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.65
- $\geq 2.65 - 5.38$
- $\geq 5.38 - 37.50$
- $\geq 37.50 - 165.00$
- $\geq 165.00 - 476.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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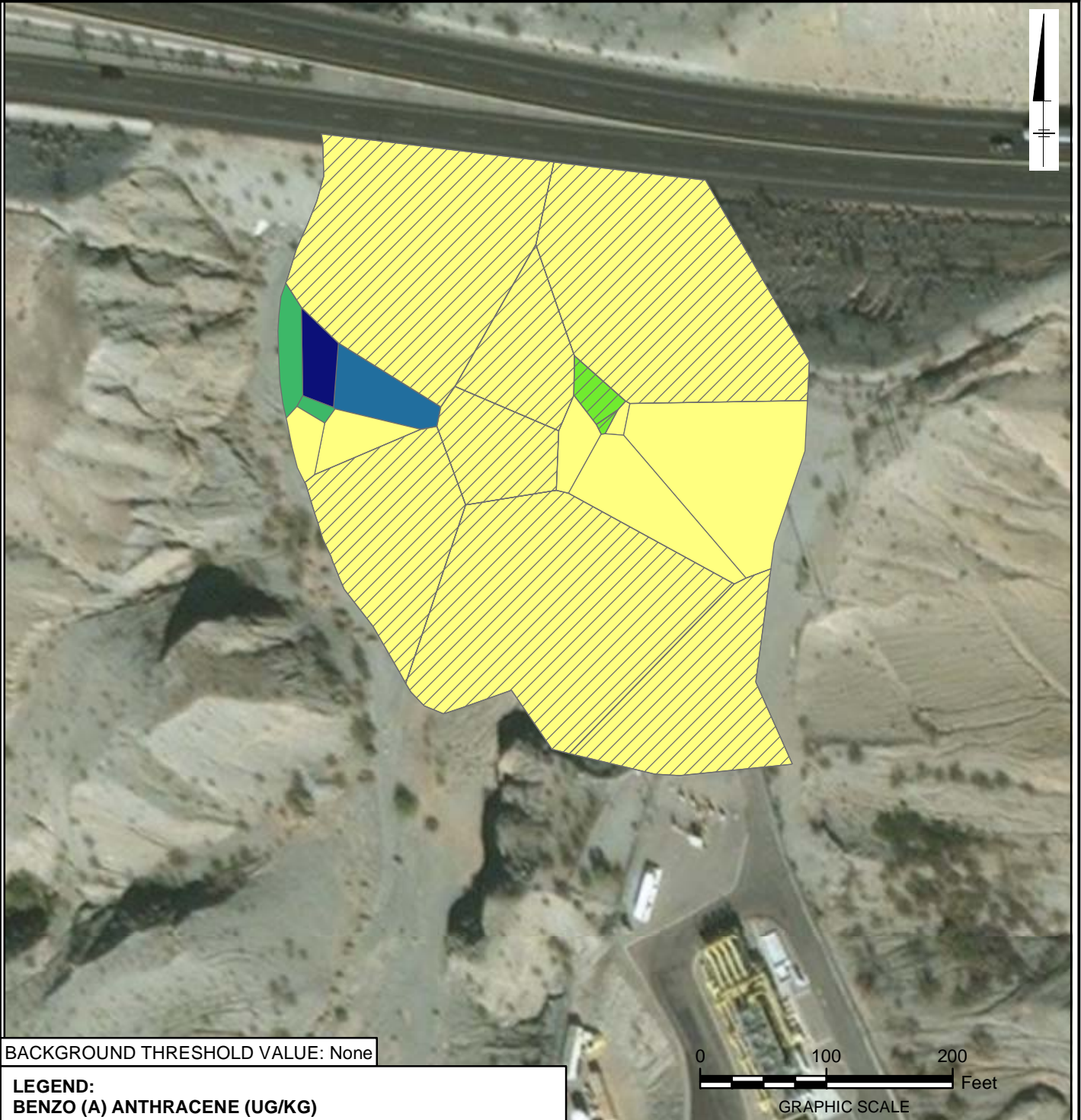


FIGURE
AOC27-A3.47

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.55 - 28.00
- ≥ 28.00 - 165.00
- ≥ 165.00 - 328.00
- ≥ 328.00 - 727.00
- ≥ 727.00 - 2450.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

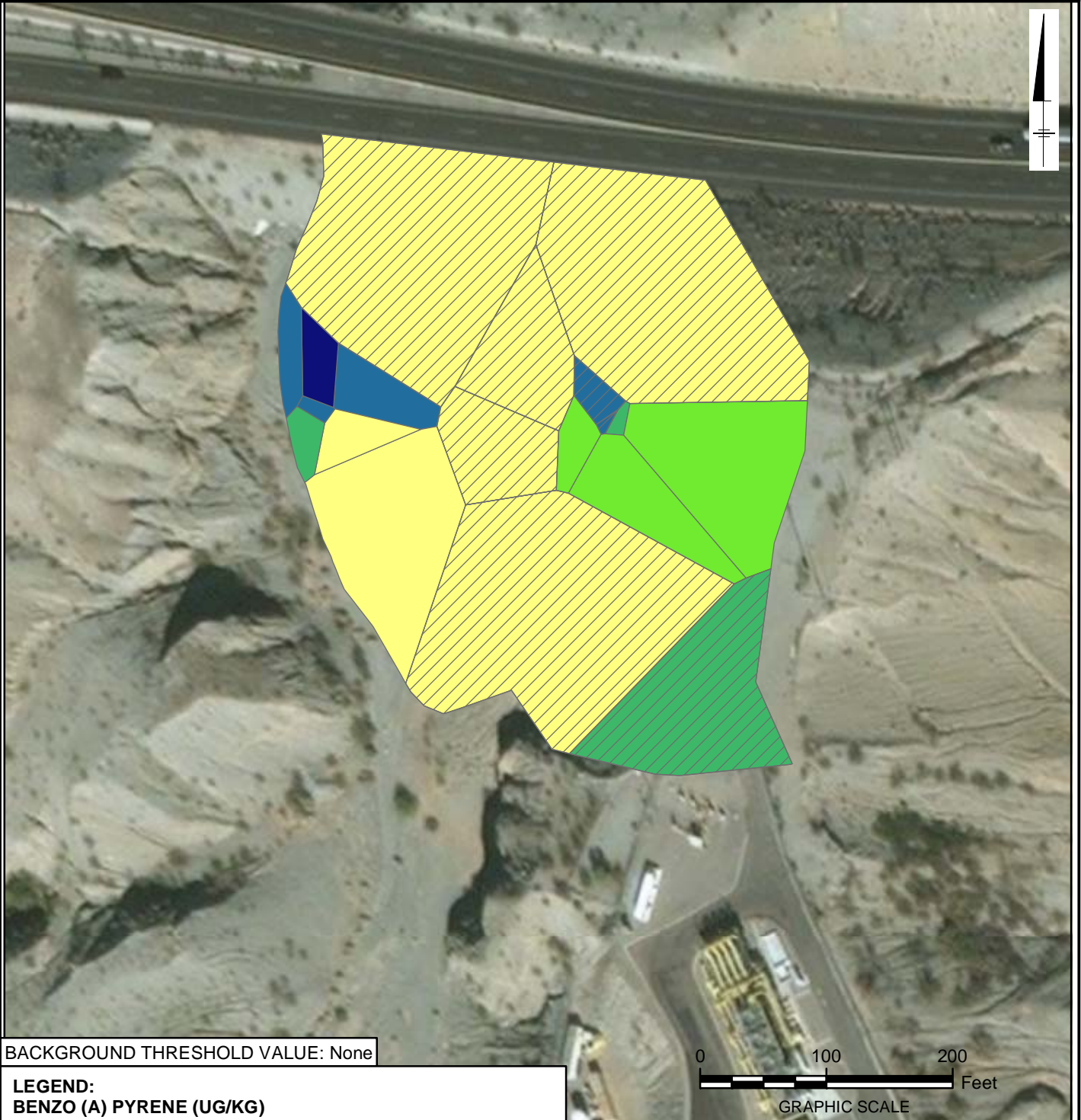
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FIGURE
AOC27-A3.48

AOC 27 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

- NOT DETECTED
- 2.55 - 4.93
- ≥4.93 - 13.50
- ≥13.50 - 30.00
- ≥30.00 - 490.00
- ≥490.00 - 1640.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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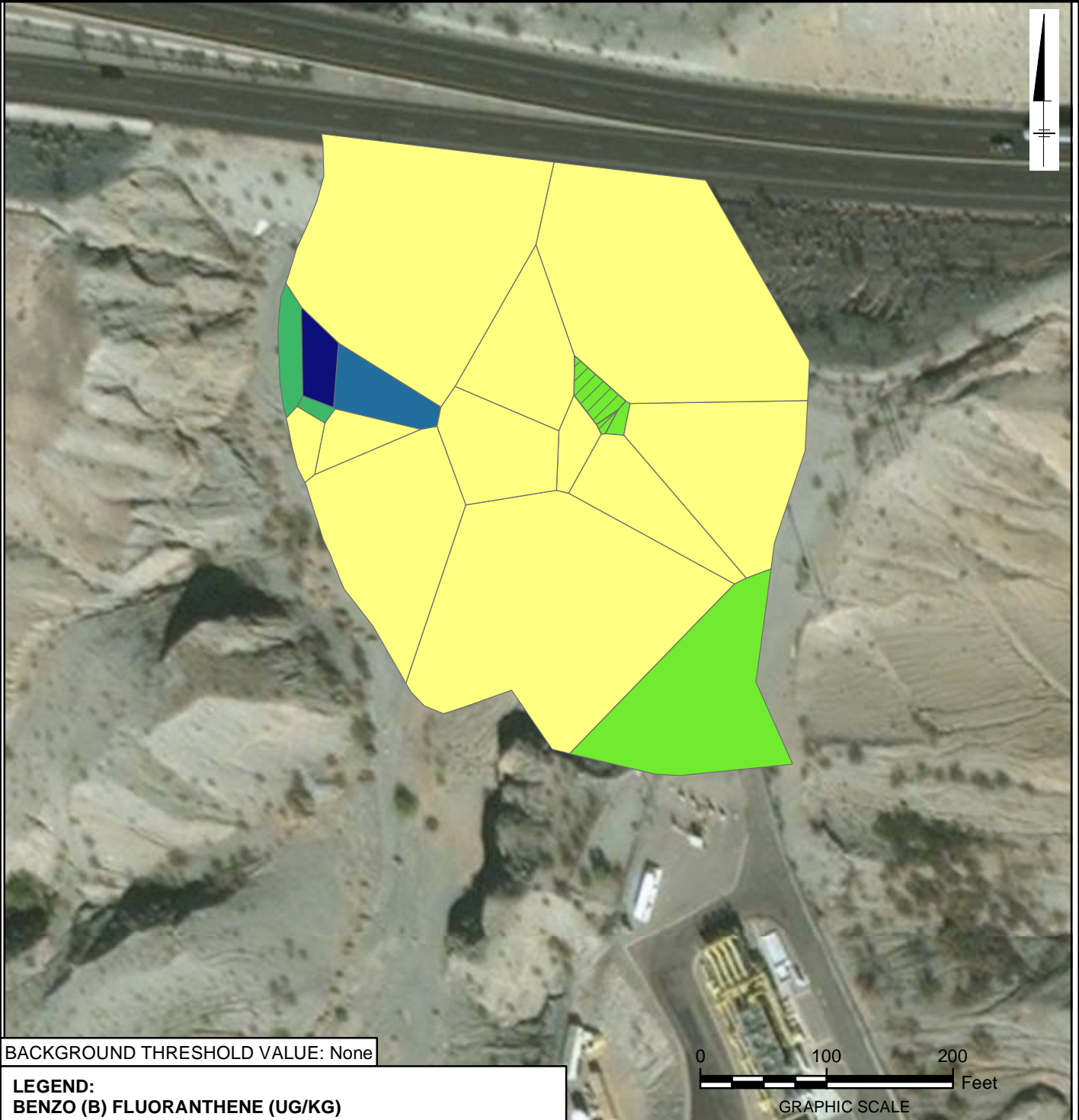


FIGURE
AOC27-A3.49

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 5.85 - 55.50
- ≥55.50 - 165.00
- ≥165.00 - 580.00
- ≥580.00 - 1060.00
- ≥1060.00 - 2870.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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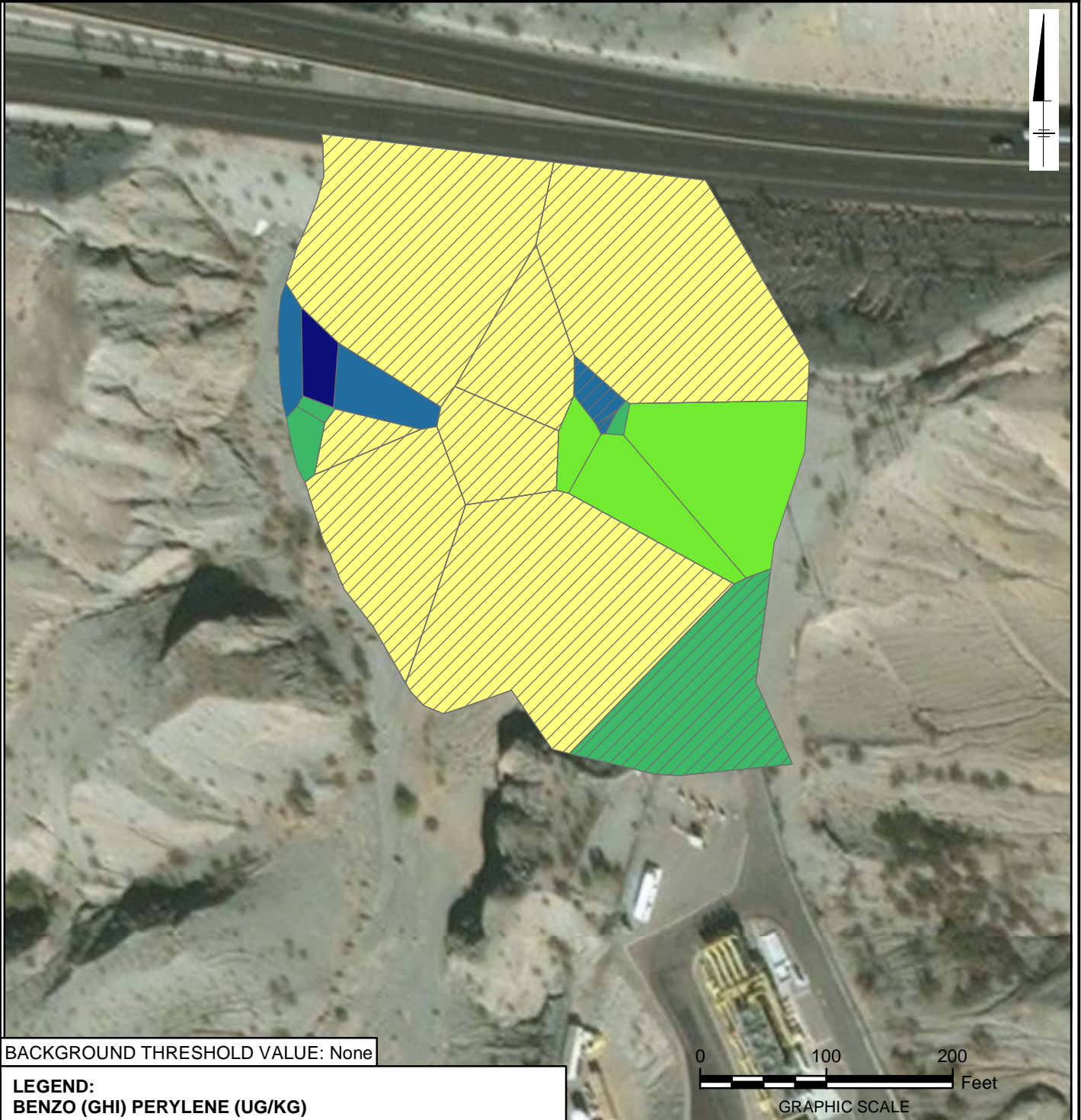


FIGURE
AOC27-A3.50

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.57
- $\geq 2.57 - 10.20$
- $\geq 10.20 - 26.20$
- $\geq 26.20 - 165.00$
- $\geq 165.00 - 1010.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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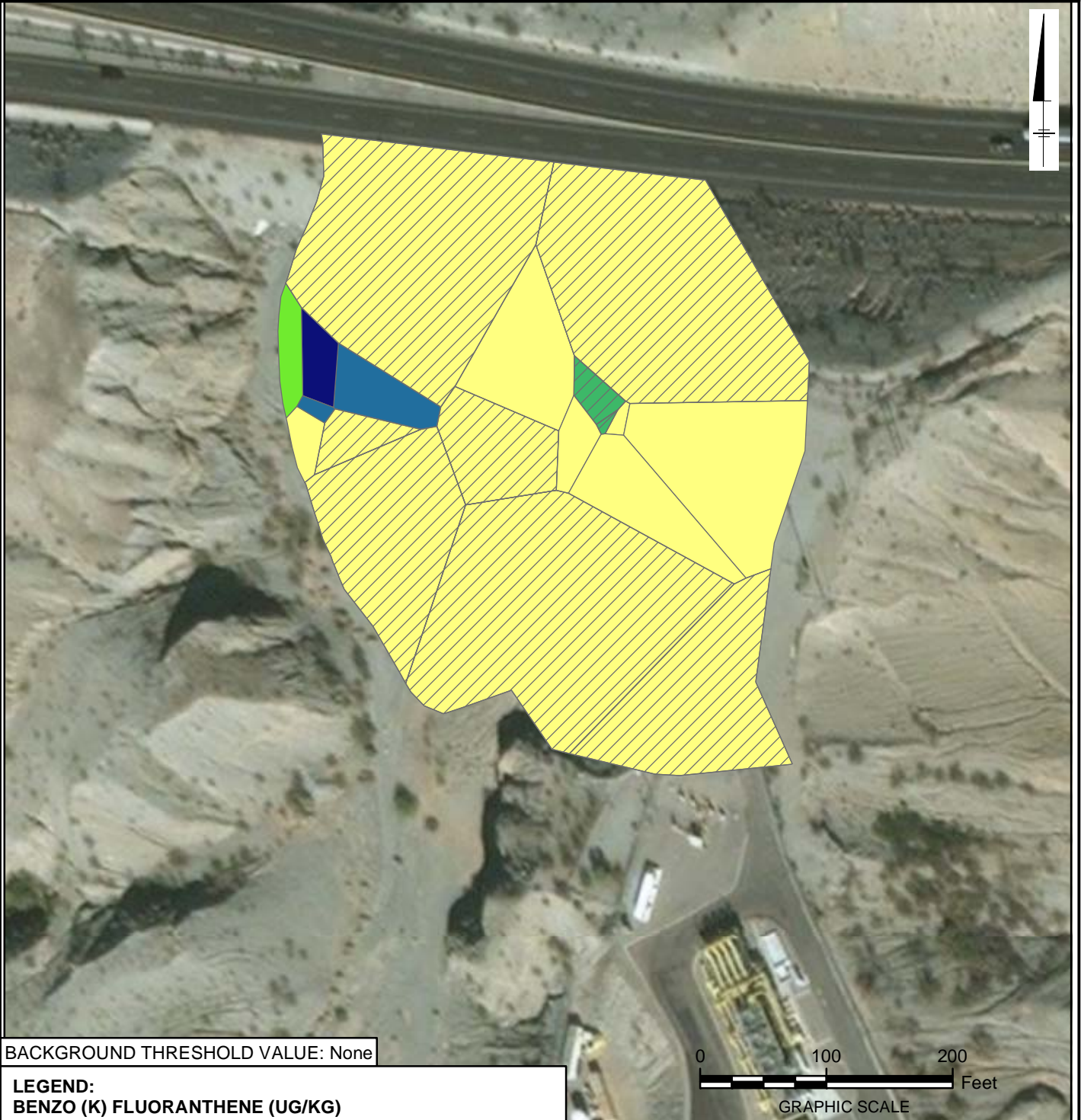


FIGURE
AOC27-A3.51

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 36.00
- ≥ 36.00 - 87.50
- ≥ 87.50 - 165.00
- ≥ 165.00 - 383.00
- ≥ 383.00 - 1090.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

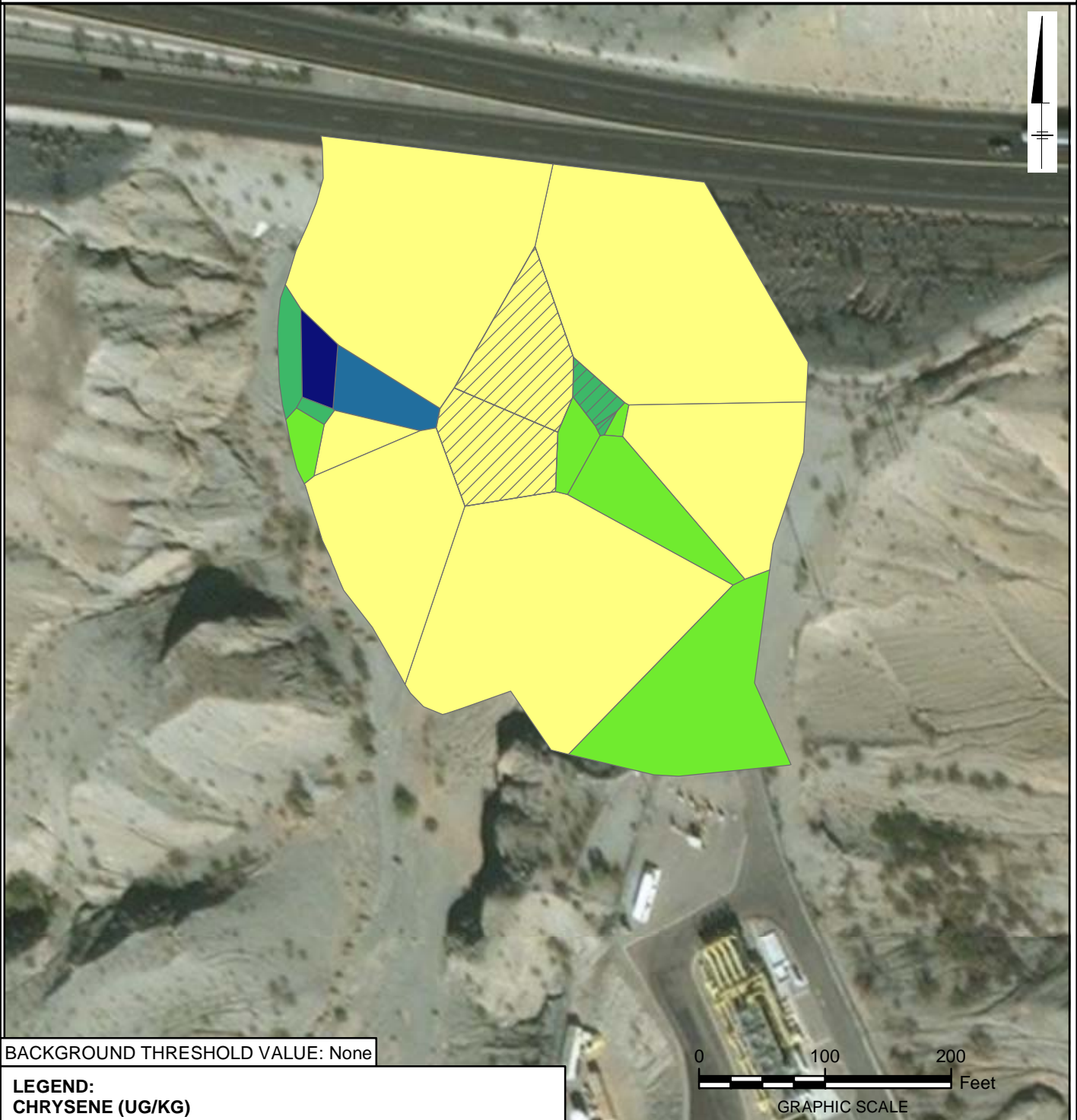
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FIGURE
AOC27-A3.52

AOC 27 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.55 - 11.70
- ≥11.70 - 52.00
- ≥52.00 - 300.00
- ≥300.00 - 720.00
- ≥720.00 - 2190.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

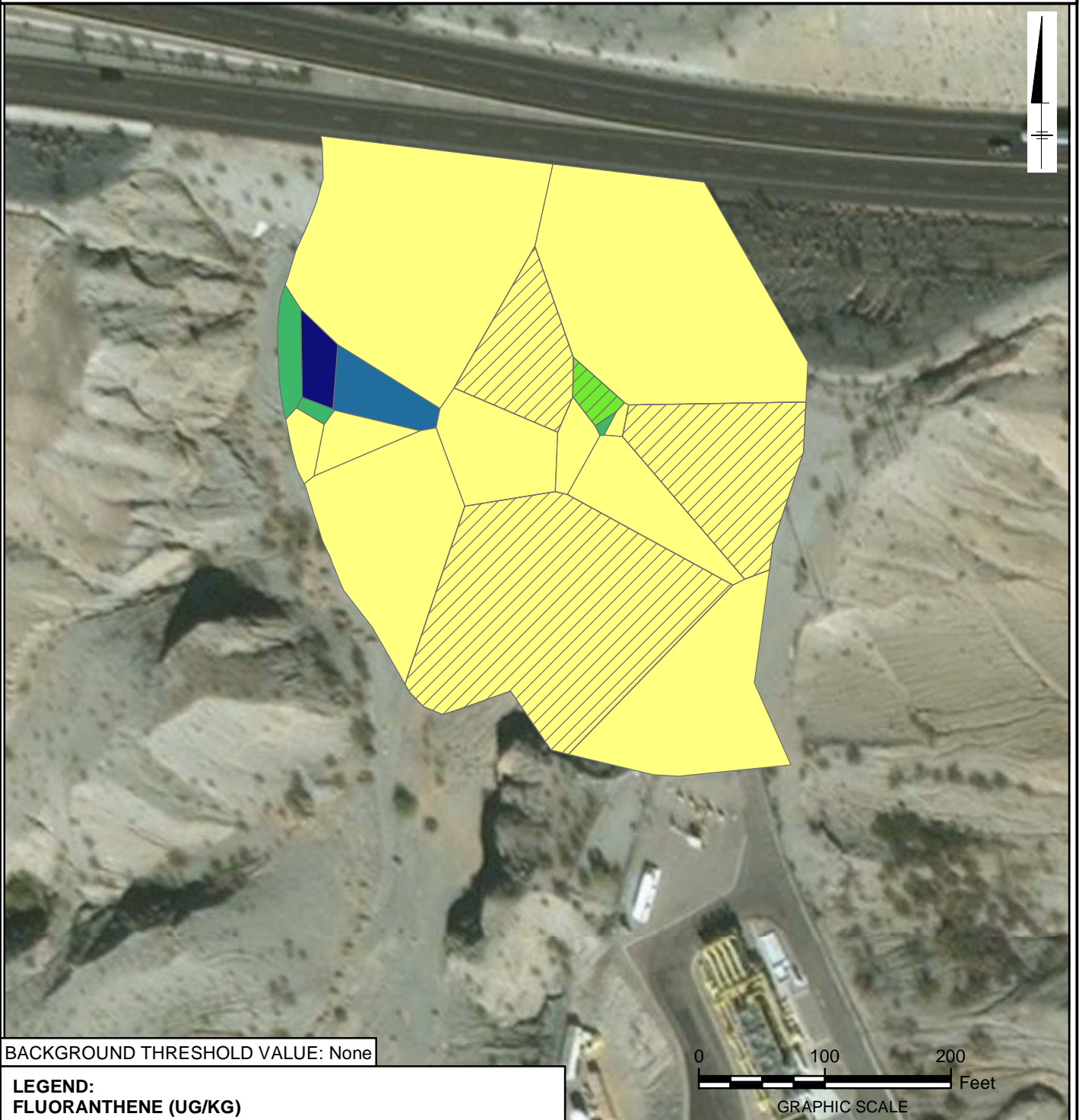
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FIGURE
AOC27-A3.53

AOC 27 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 56.00
- ≥56.00 - 165.00
- ≥165.00 - 614.00
- ≥614.00 - 1670.00
- ≥1670.00 - 5950.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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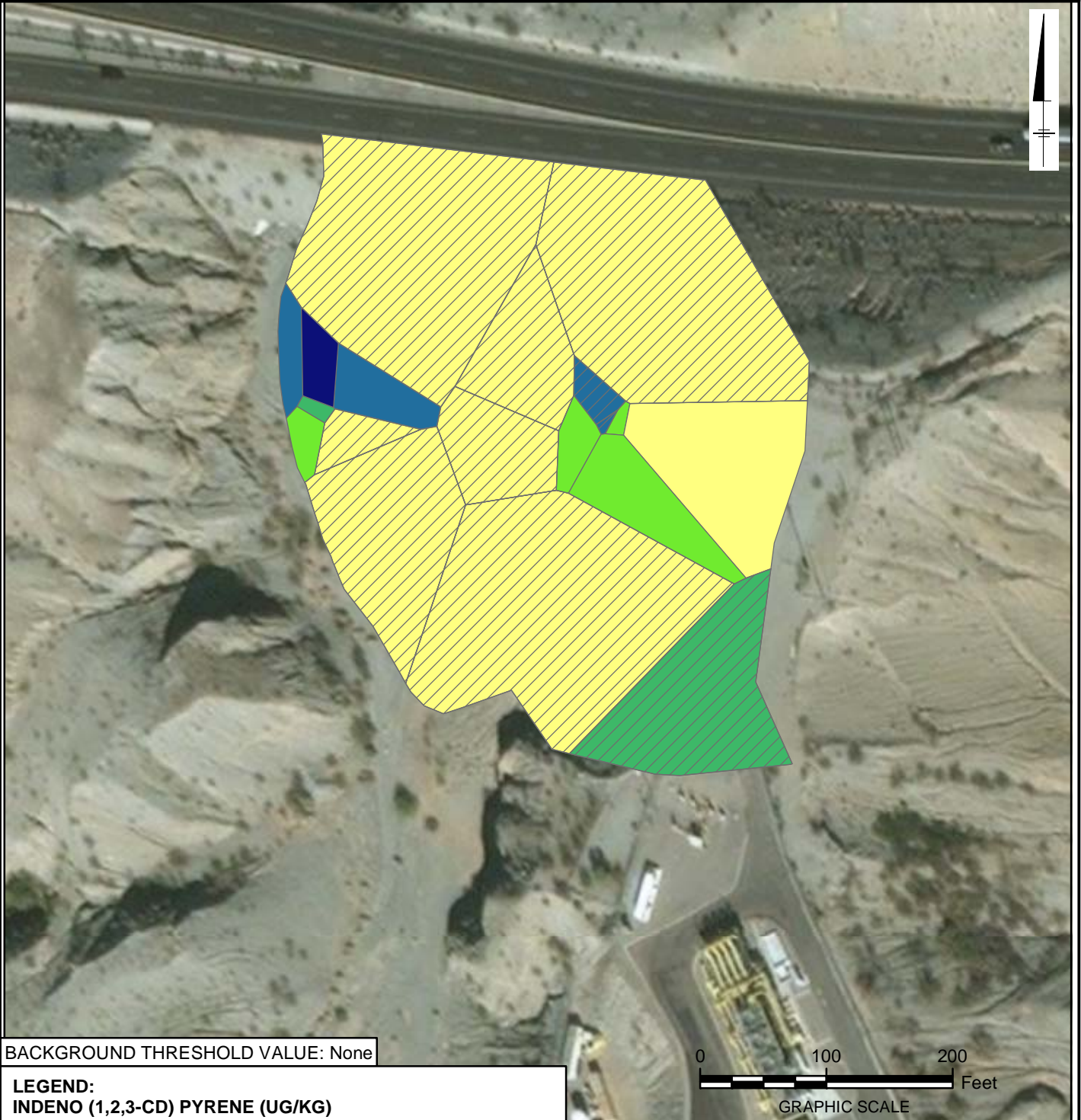


FIGURE
AOC27-A3.54

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

INDENO (1,2,3-CD) PYRENE



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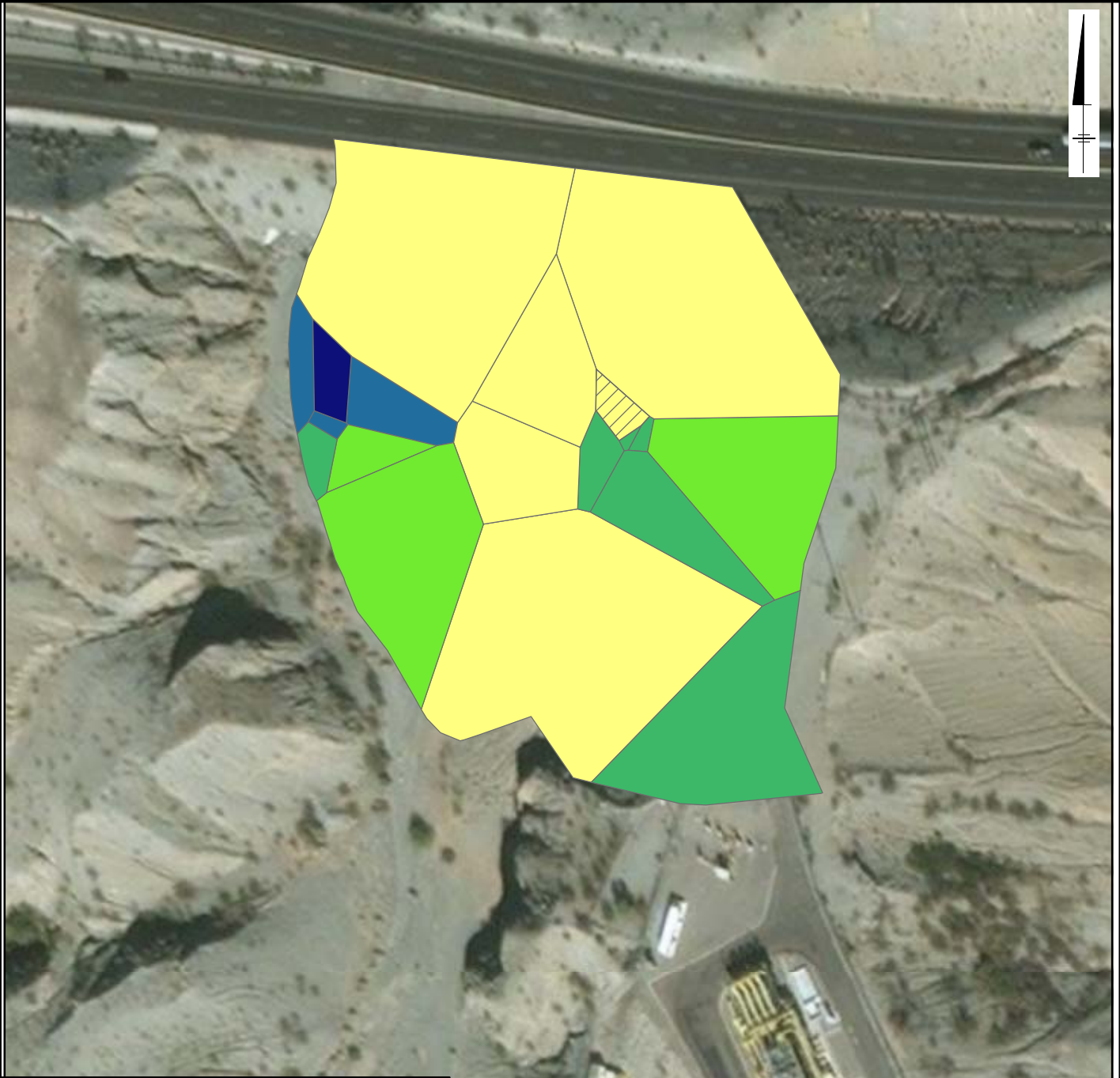
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FIGURE
AOC27-A3.55

AOC 27







0 - 3 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT

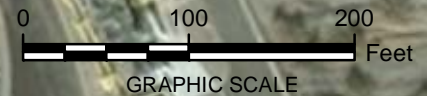


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

-  NOT DETECTED
-  0.00 - 20.20
-  ≥20.20 - 65.70
-  ≥65.70 - 370.00
-  ≥370.00 - 6590.00
-  ≥6590.00 - 22900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



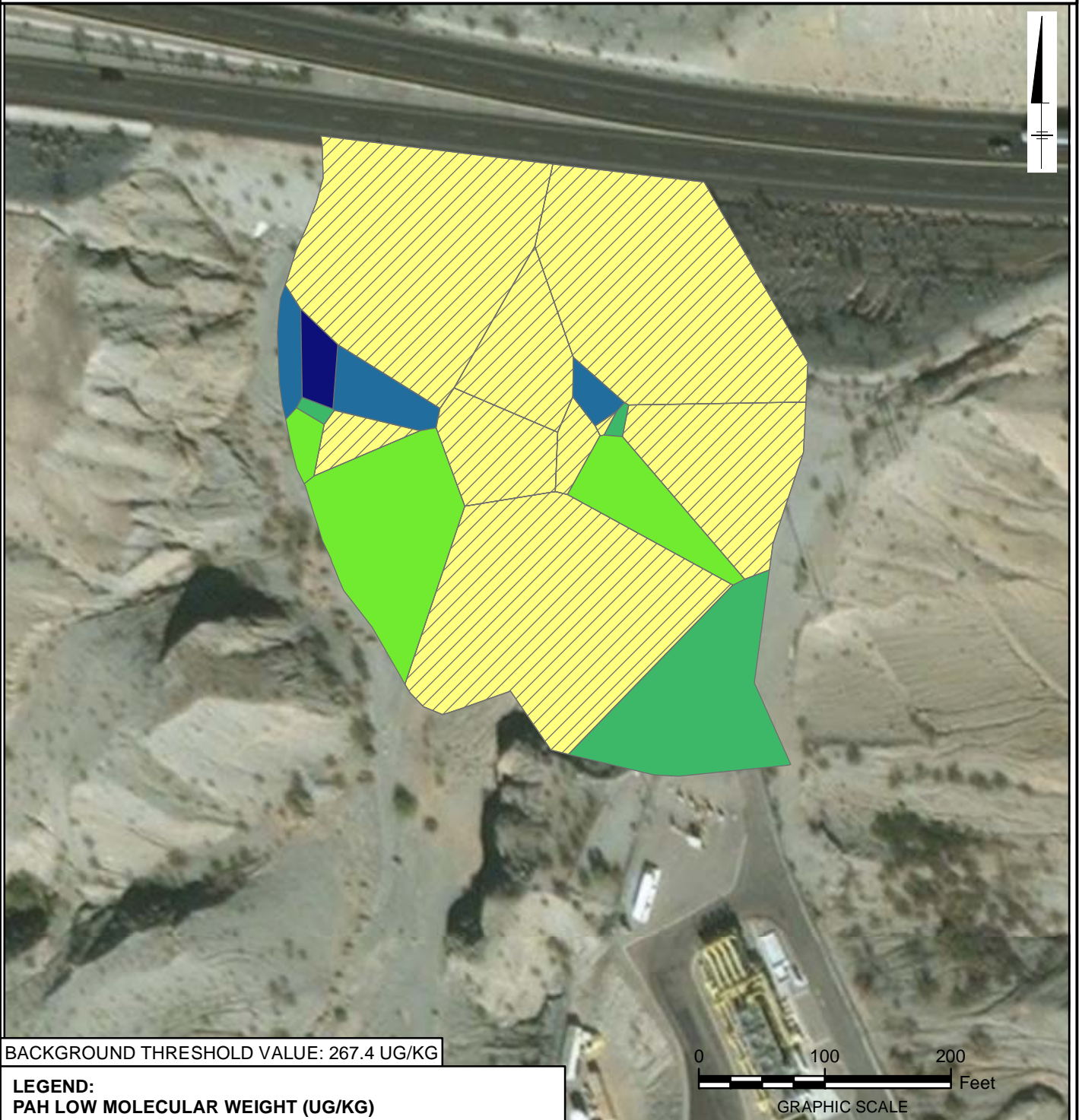
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FIGURE
AOC27-A3.56

AOC 27 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



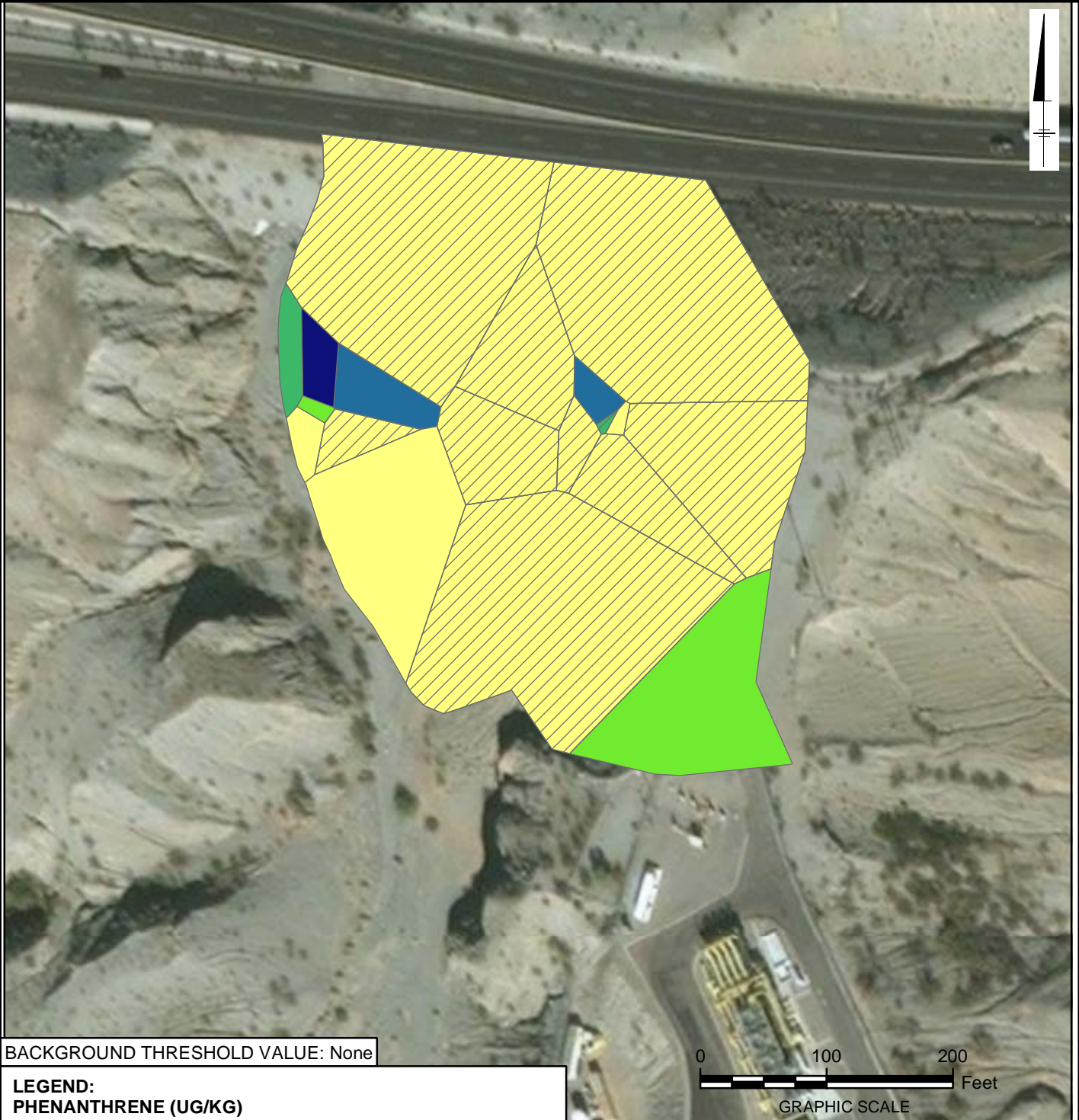
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**FIGURE
AOC27-A3.57**

AOC 27 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.55 - 9.20
	≥9.20 - 36.70
	≥36.70 - 321.00
	≥321.00 - 537.00
	≥537.00 - 2080.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

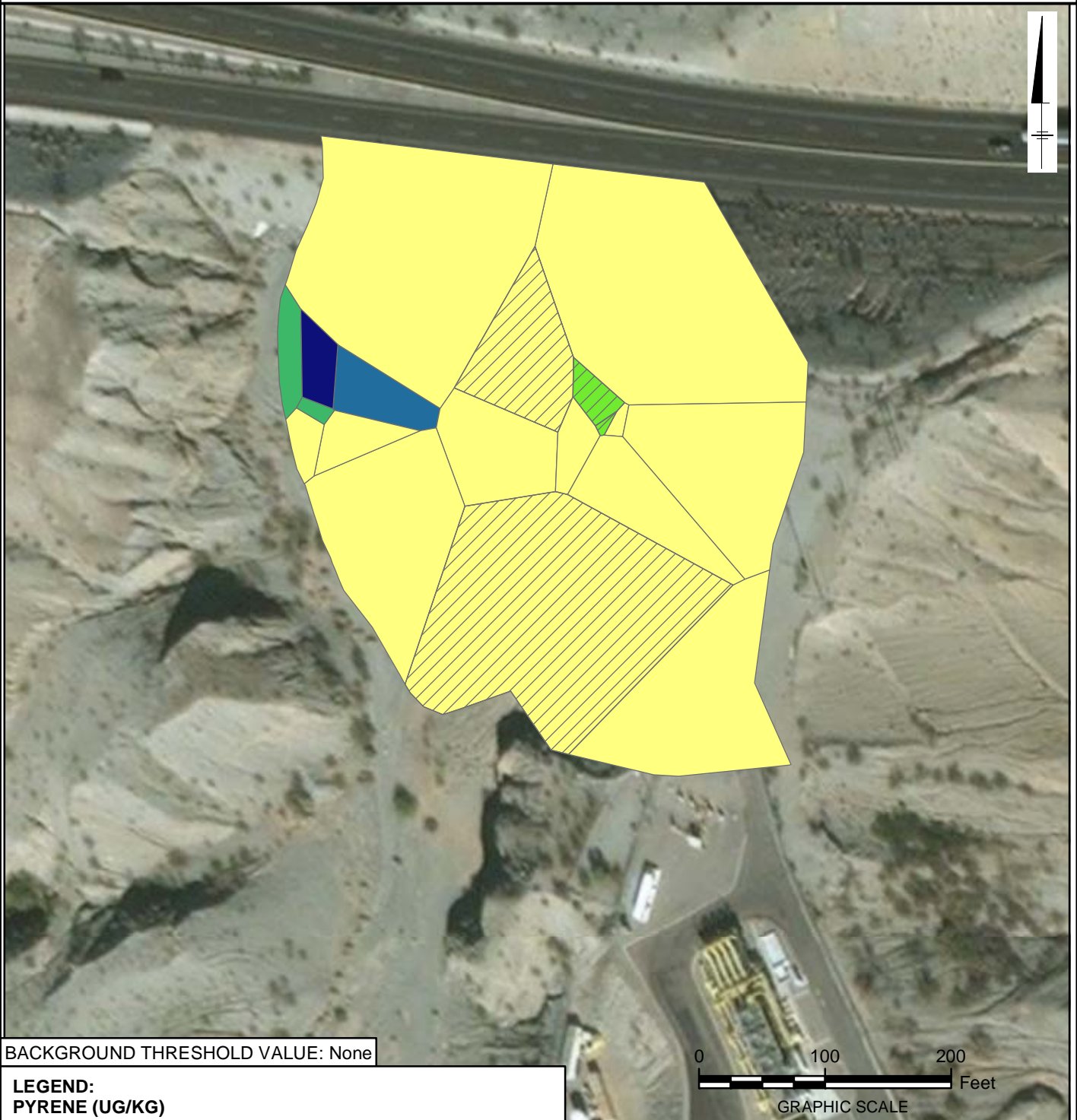
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FIGURE
AOC27-A3.58

AOC 27 0 - 3 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.55 - 43.00
	≥43.00 - 165.00
	≥165.00 - 494.00
	≥494.00 - 1350.00
	≥1350.00 - 4600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

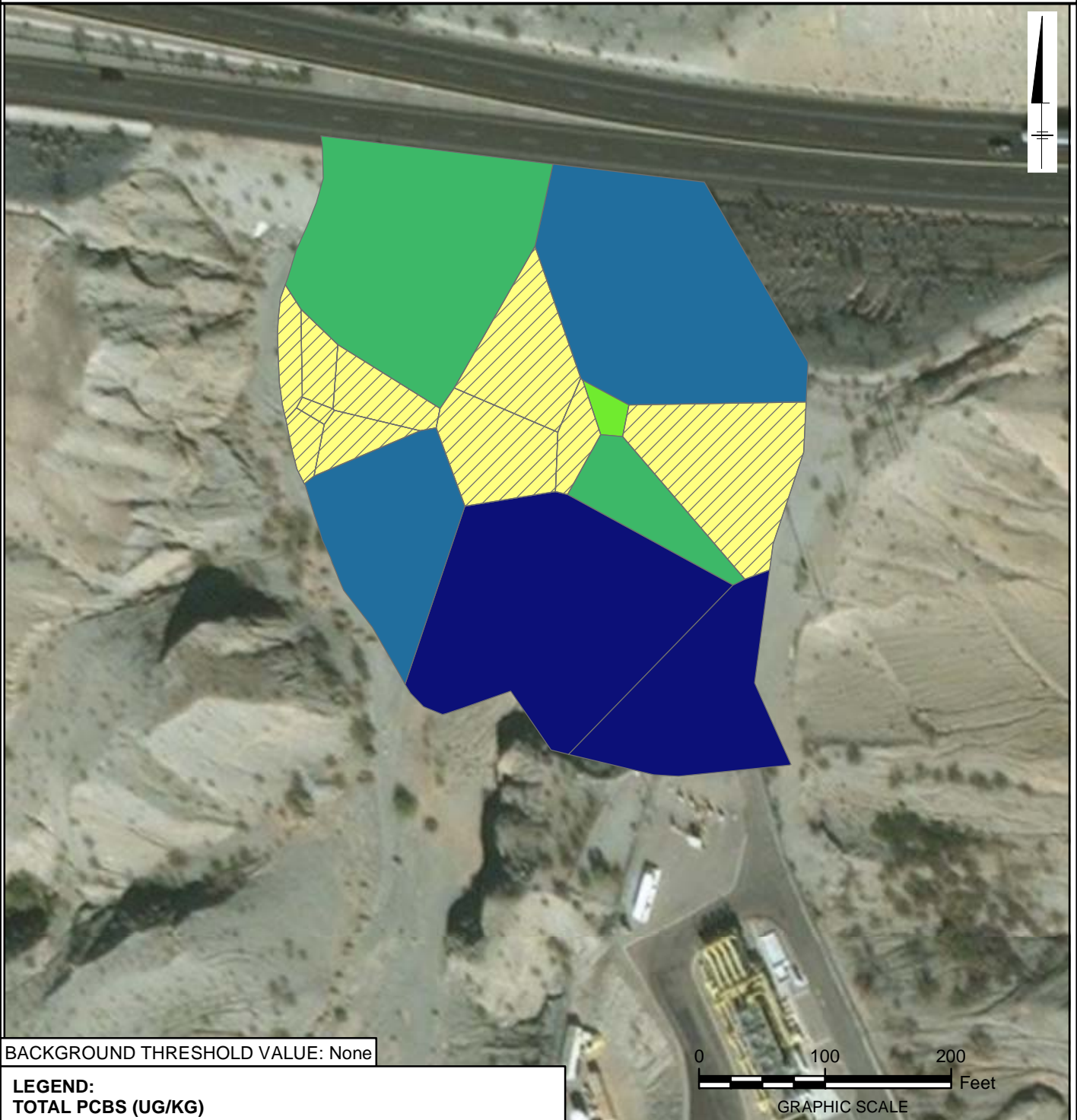
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FIGURE
AOC27-A3.59

AOC 27 0 - 3 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

- NOT DETECTED
- 8.50 - 8.83
- ≥8.83 - 14.20
- ≥14.20 - 16.80
- ≥16.80 - 24.20
- ≥24.20 - 47.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

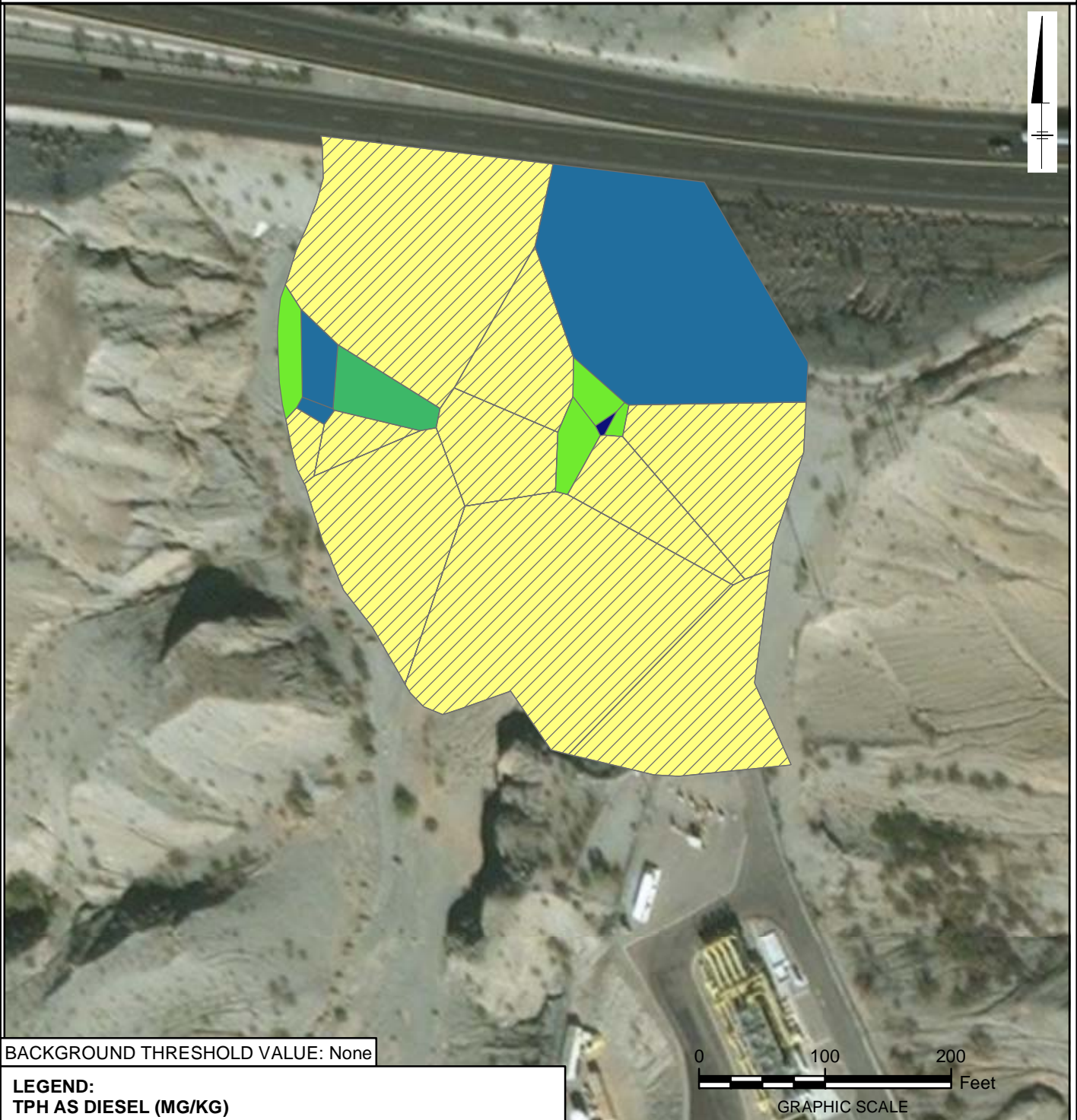
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FIGURE
AOC27-A3.60

AOC 27 0 - 3 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 5.00
- $\geq 5.00 - 13.70$
- $\geq 13.70 - 43.30$
- $\geq 43.30 - 61.30$
- $\geq 61.30 - 160.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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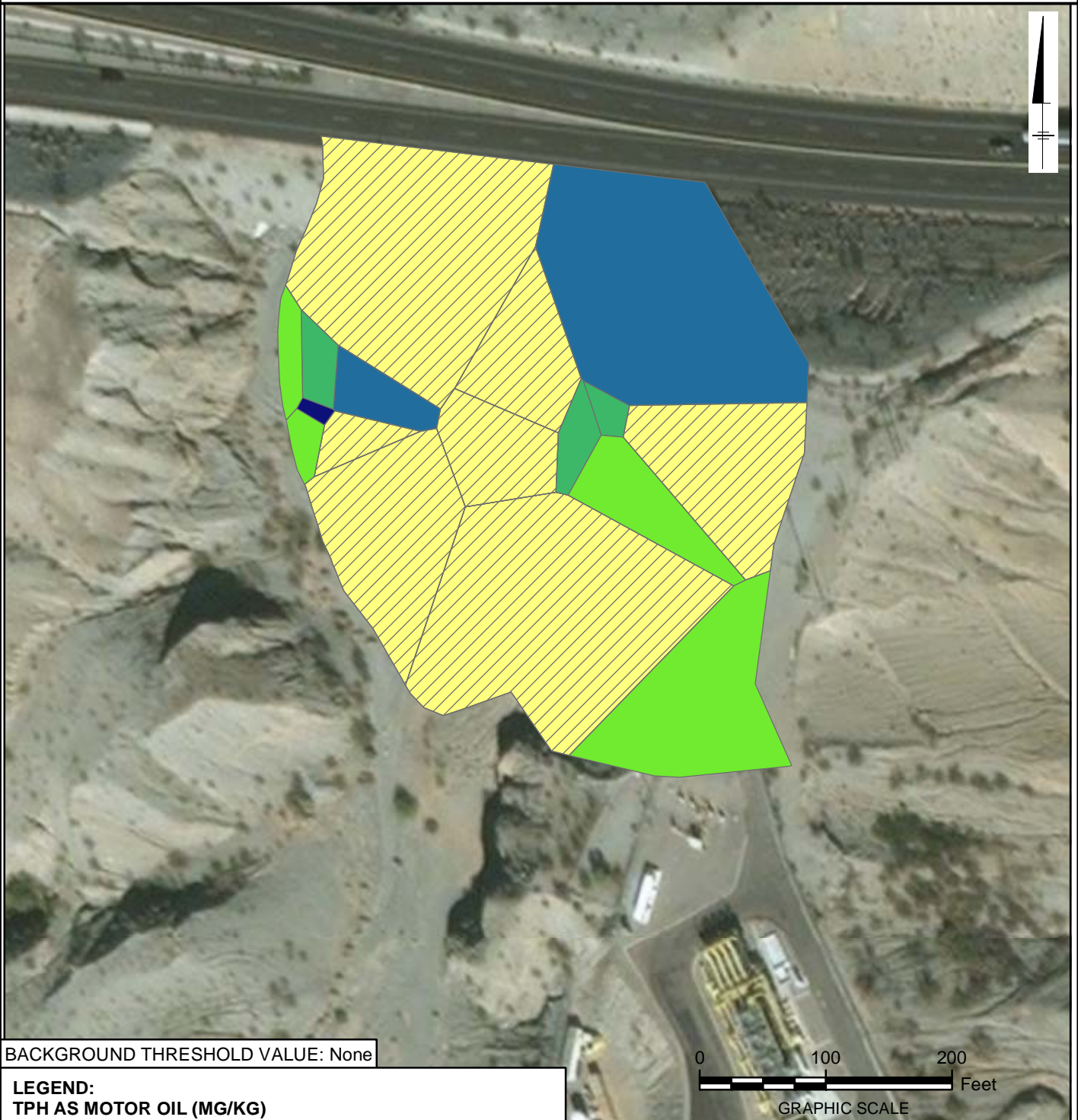


FIGURE
AOC27-A3.61

AOC 27

0 - 3 FEET BELOW GROUND SURFACE

TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

- NOT DETECTED
- 5.00 - 5.00
- ≥ 5.00 - 56.00
- ≥ 56.00 - 147.00
- ≥ 147.00 - 271.00
- ≥ 271.00 - 443.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

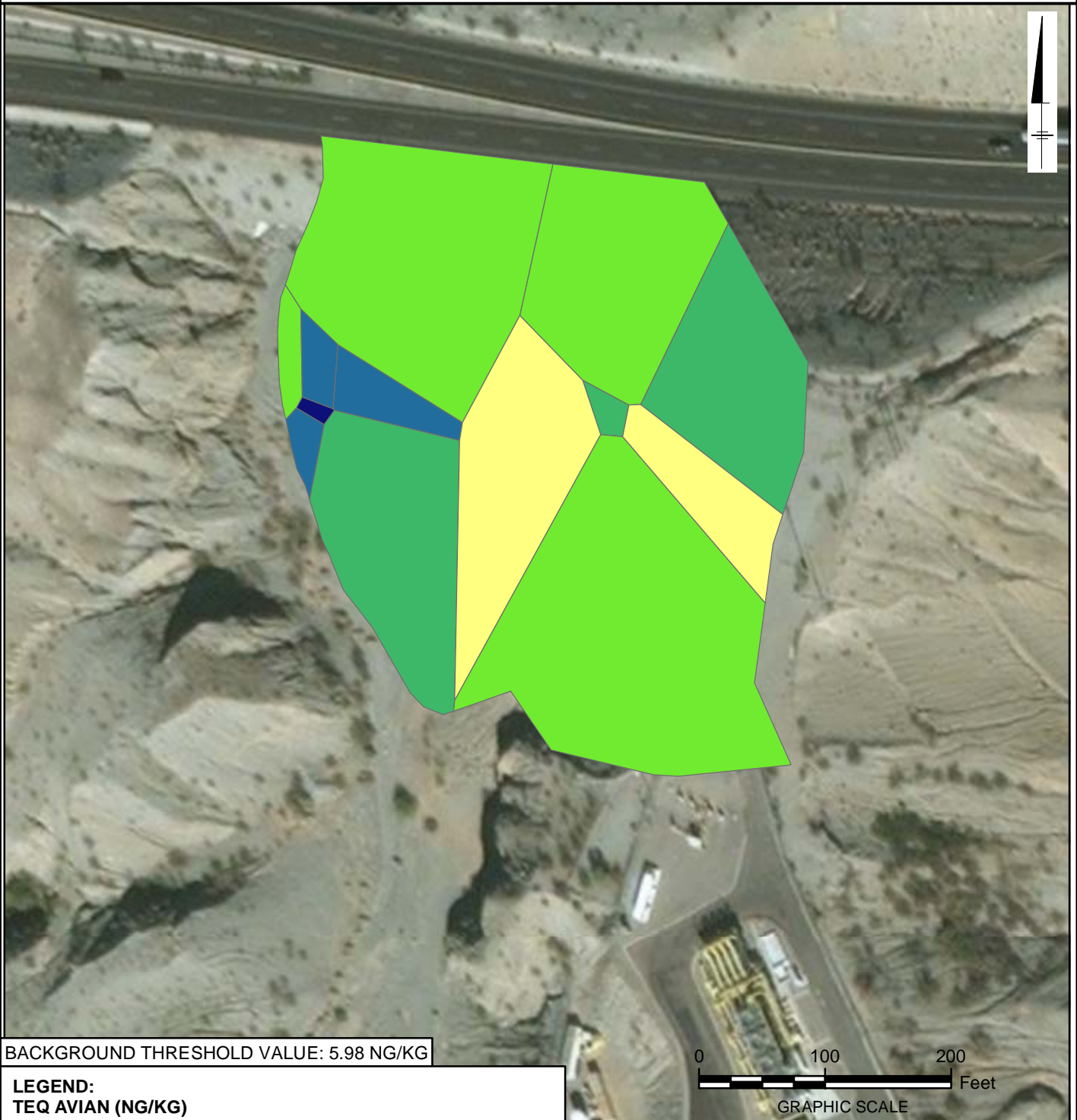
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FIGURE
AOC27-A3.62

AOC 27 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN



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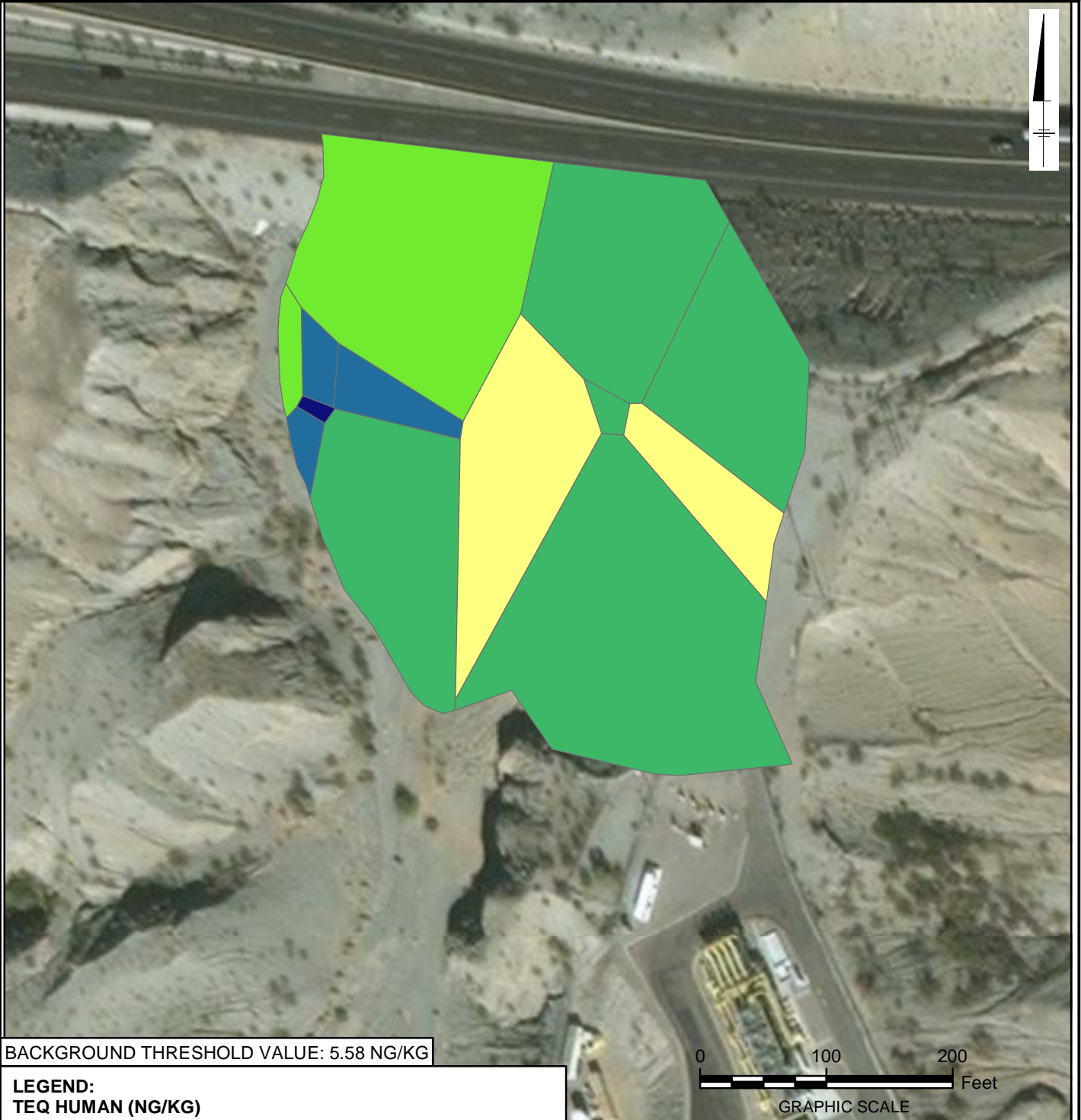
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FIGURE
AOC27-A3.63

AOC 27 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.12 - 0.83
- $\geq 0.83 - 3.42$
- $\geq 3.42 - 15.00$
- $\geq 15.00 - 57.20$
- $\geq 57.20 - 152.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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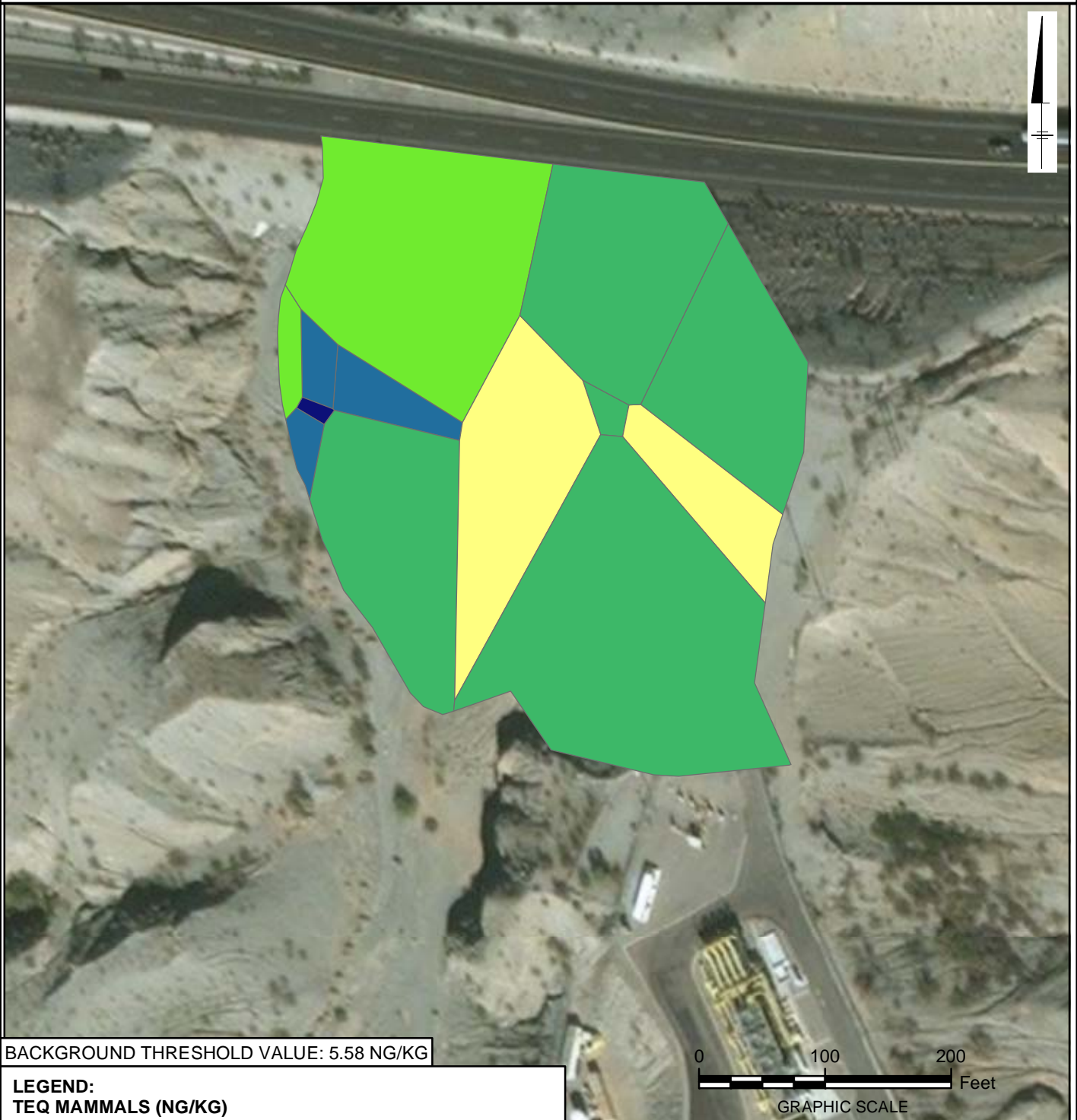


FIGURE
AOC27-A3.64

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.12 - 0.83
- $\geq 0.83 - 3.42$
- $\geq 3.42 - 15.00$
- $\geq 15.00 - 57.20$
- $\geq 57.20 - 152.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

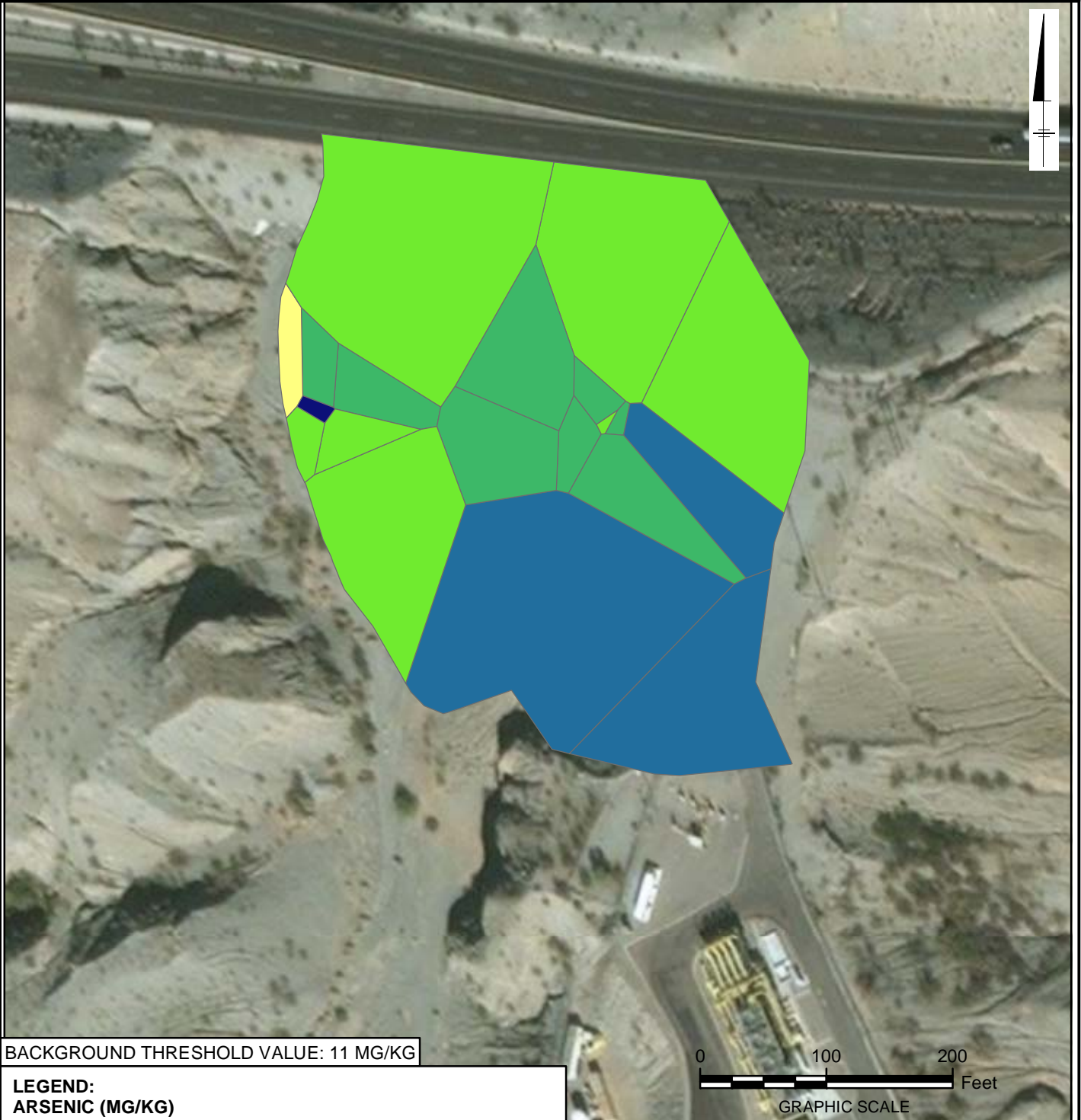
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FIGURE
AOC27-A3.65

AOC 27 0 - 6 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	1.25 - 1.25
	≥1.25 - 2.90
	≥2.90 - 3.88
	≥3.88 - 4.80
	≥4.80 - 12.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

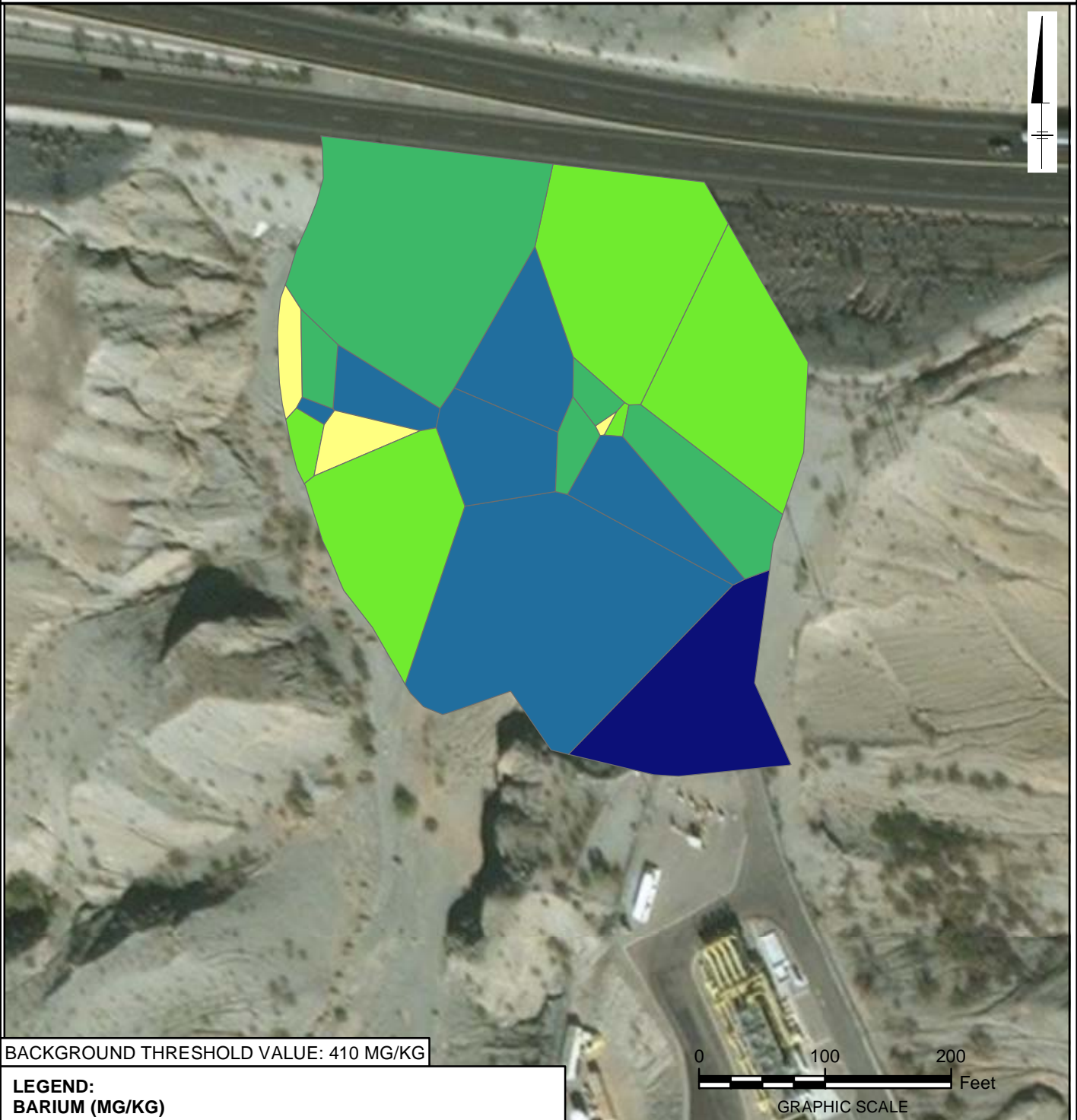
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FIGURE
AOC27-A3.66

AOC 27 0 - 6 FEET BELOW GROUND SURFACE BARIUM



LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	73.80 - 93.50
	≥93.50 - 115.00
	≥115.00 - 138.00
	≥138.00 - 172.00
	≥172.00 - 200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

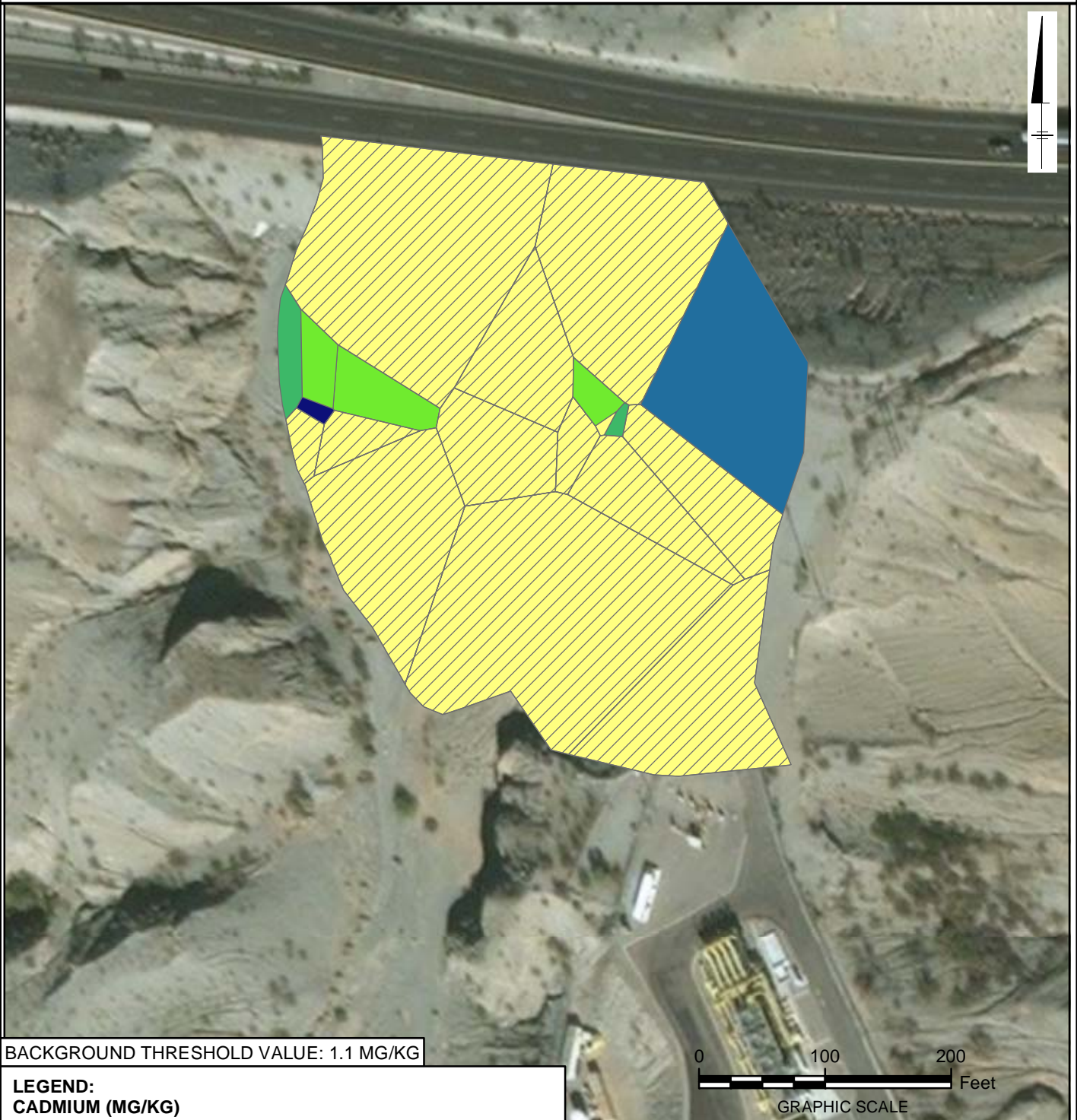
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**FIGURE
AOC27-A3.67**

AOC 27 0 - 6 FEET BELOW GROUND SURFACE CADMIUM



BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.30 - 0.51
	≥0.51 - 0.83
	≥0.83 - 1.22
	≥1.22 - 1.80
	≥1.80 - 2.90

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

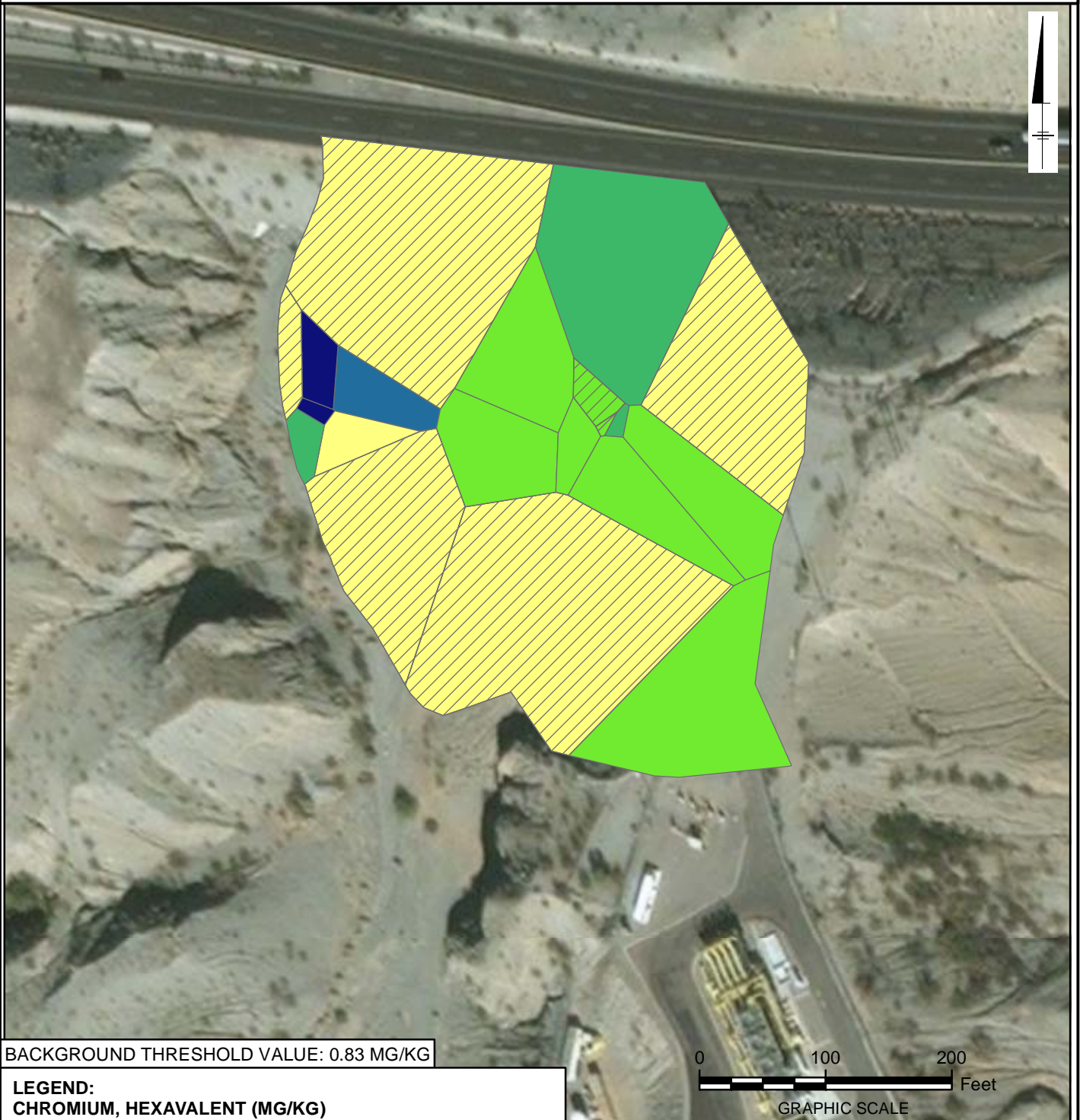
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FIGURE
AOC27-A3.68

AOC 27 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



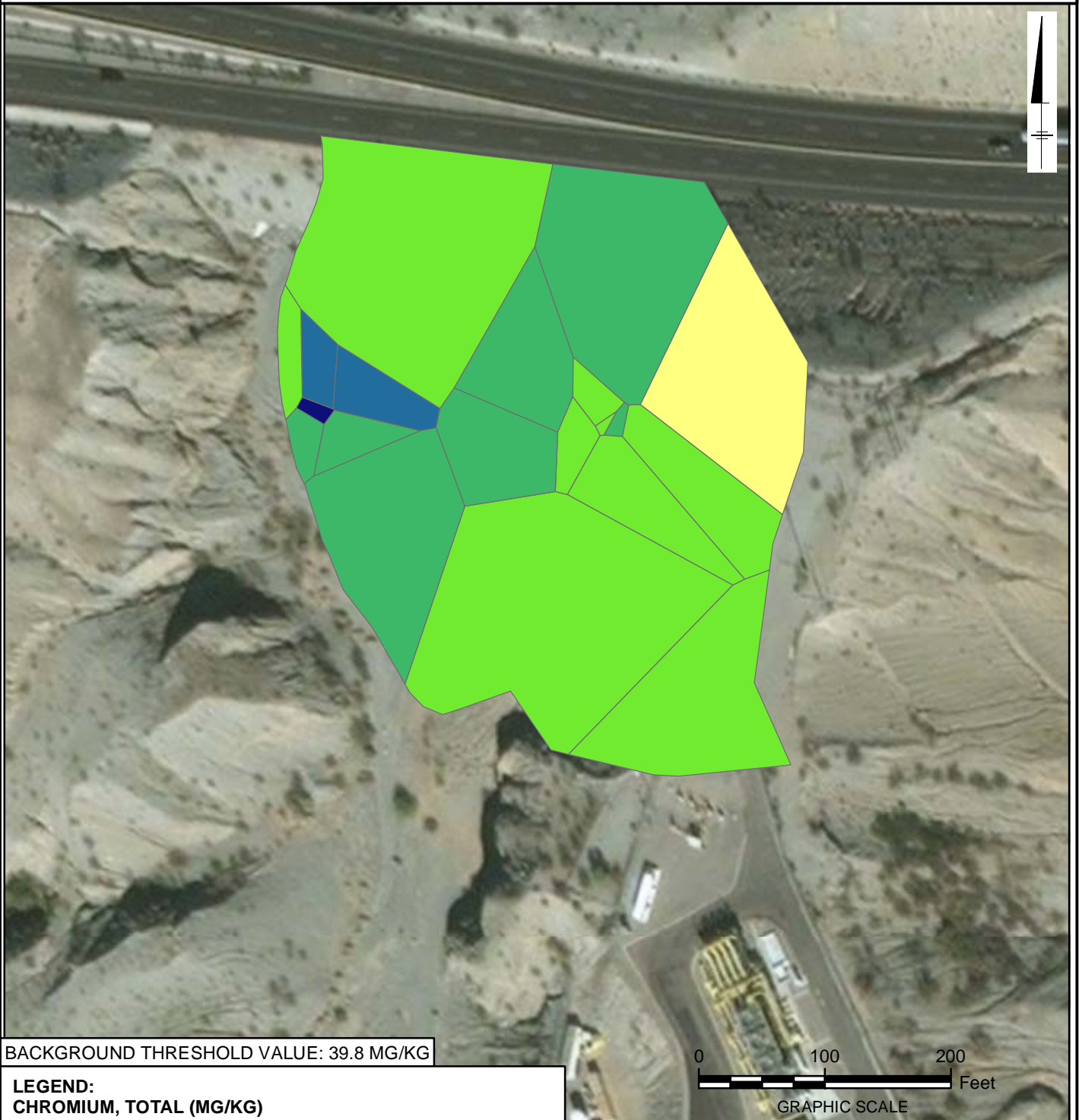
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FIGURE
AOC27-A3.69

AOC 27 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



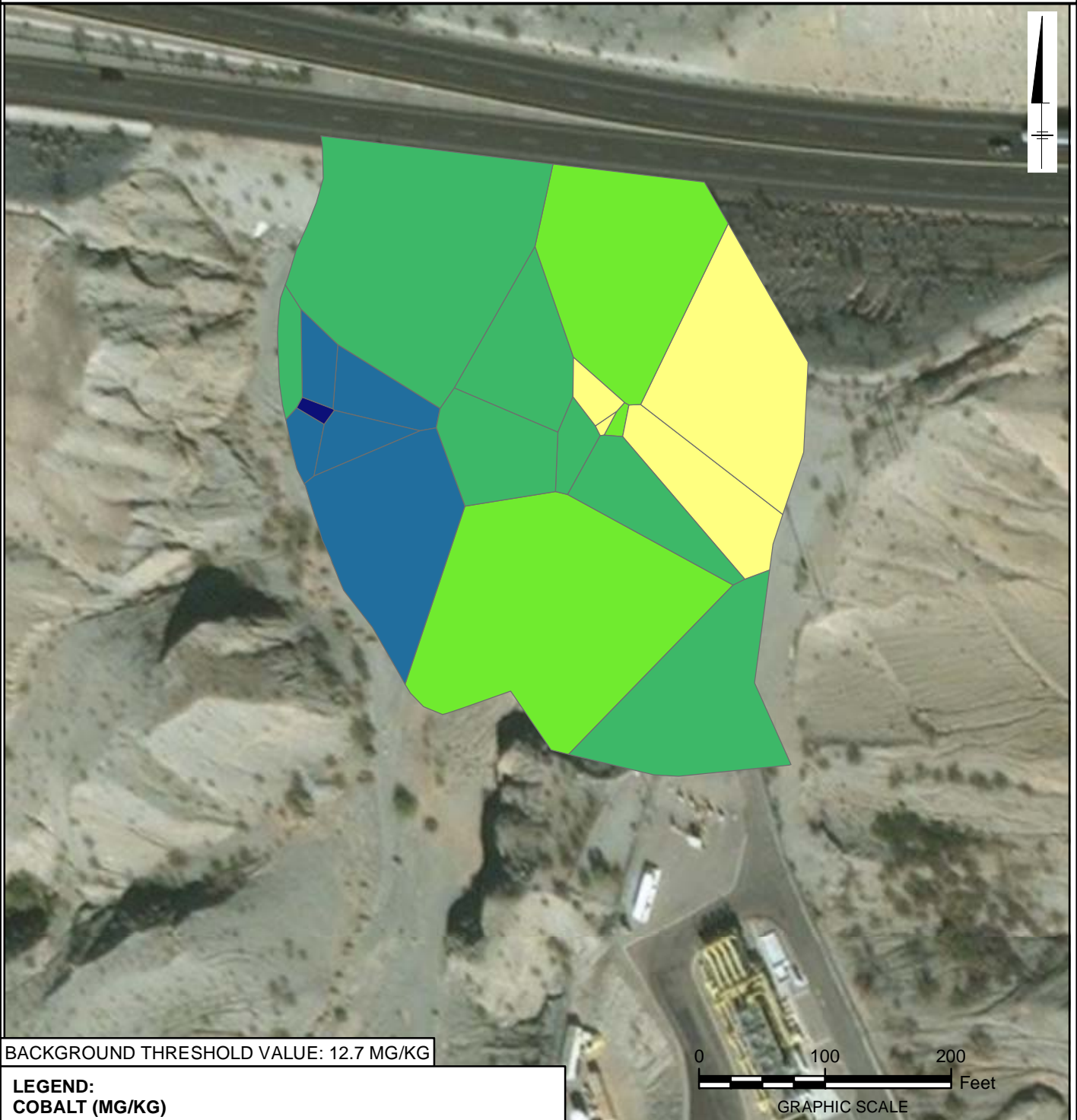
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**FIGURE
AOC27-A3.70**

AOC 27 0 - 6 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

-  NOT DETECTED
-  3.40 - 3.90
-  $\geq 3.90 - 4.77$
-  $\geq 4.77 - 6.45$
-  $\geq 6.45 - 8.00$
-  $\geq 8.00 - 13.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

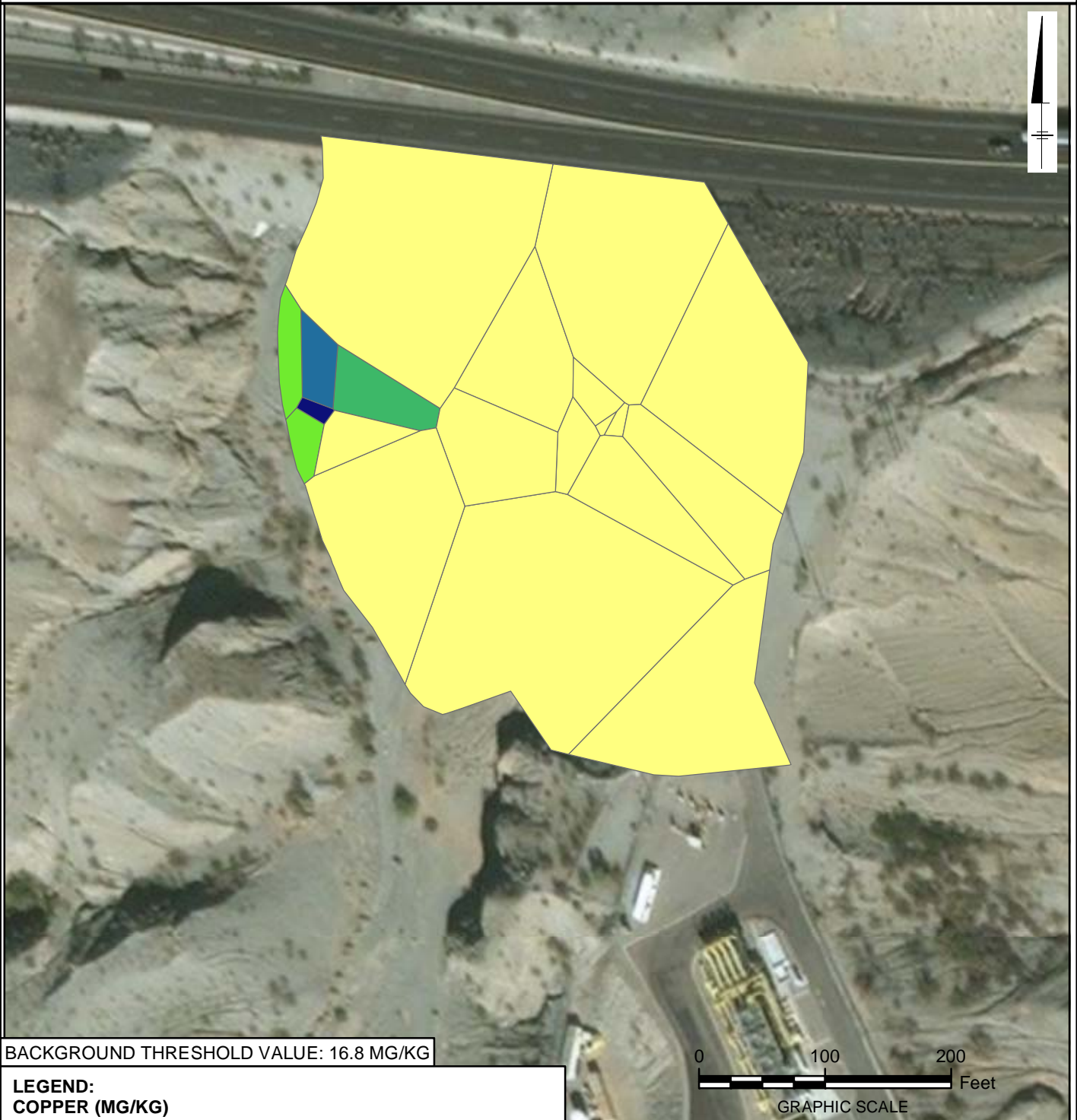
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FIGURE
AOC27-A3.71

AOC 27 0 - 6 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

	NOT DETECTED
	6.60 - 12.40
	≥12.40 - 26.70
	≥26.70 - 59.70
	≥59.70 - 208.00
	≥208.00 - 695.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

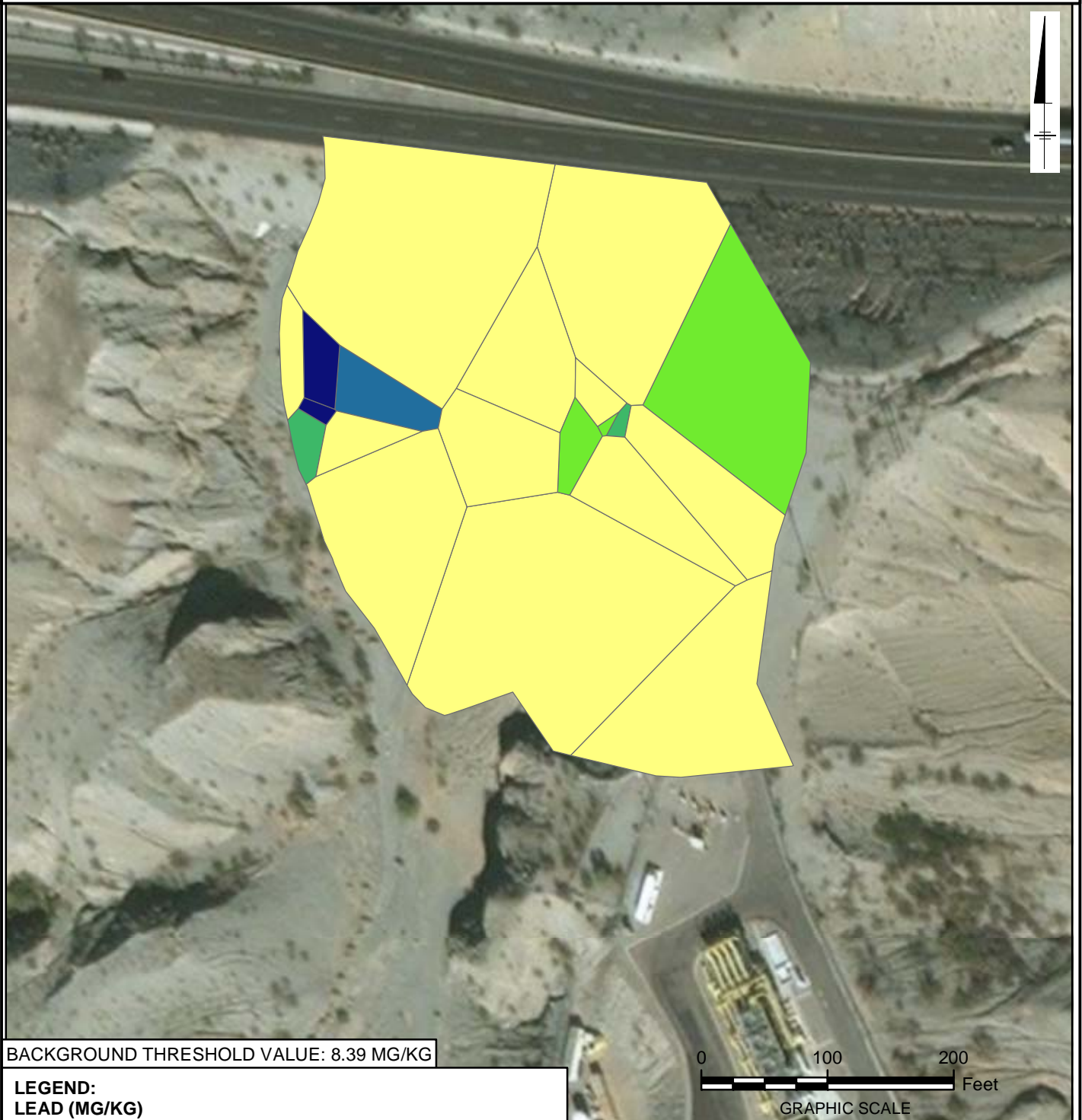
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FIGURE
AOC27-A3.72

AOC 27 0 - 6 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:
LEAD (MG/KG)

	NOT DETECTED
	4.27 - 7.60
	≥7.60 - 12.50
	≥12.50 - 21.70
	≥21.70 - 120.00
	≥120.00 - 342.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

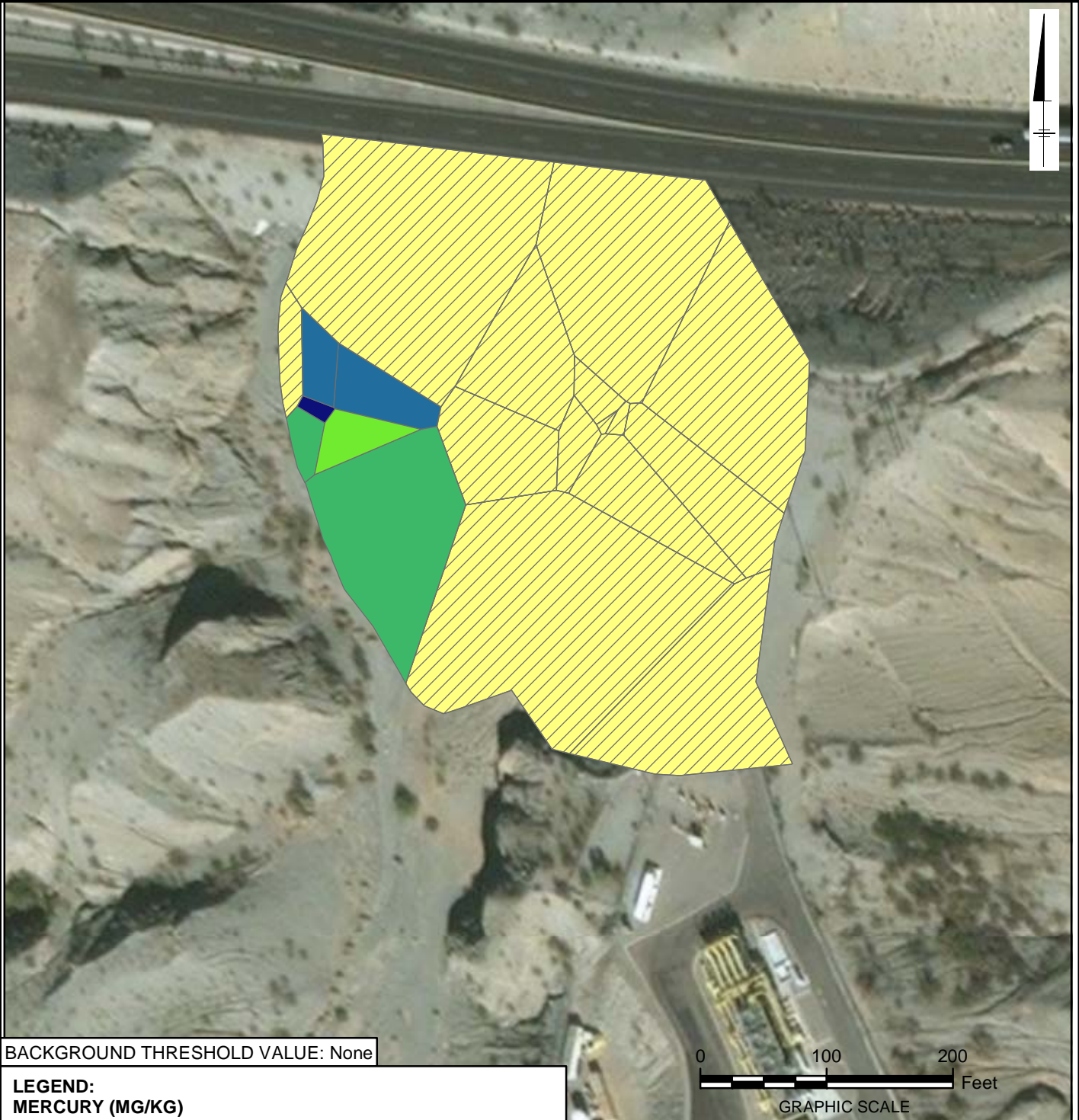
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**FIGURE
AOC27-A3.73**

AOC 27 0 - 6 FEET BELOW GROUND SURFACE MERCURY



BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

	NOT DETECTED
	0.05 - 0.05
	≥0.05 - 0.06
	≥0.06 - 0.15
	≥0.15 - 0.32
	≥0.32 - 0.59

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

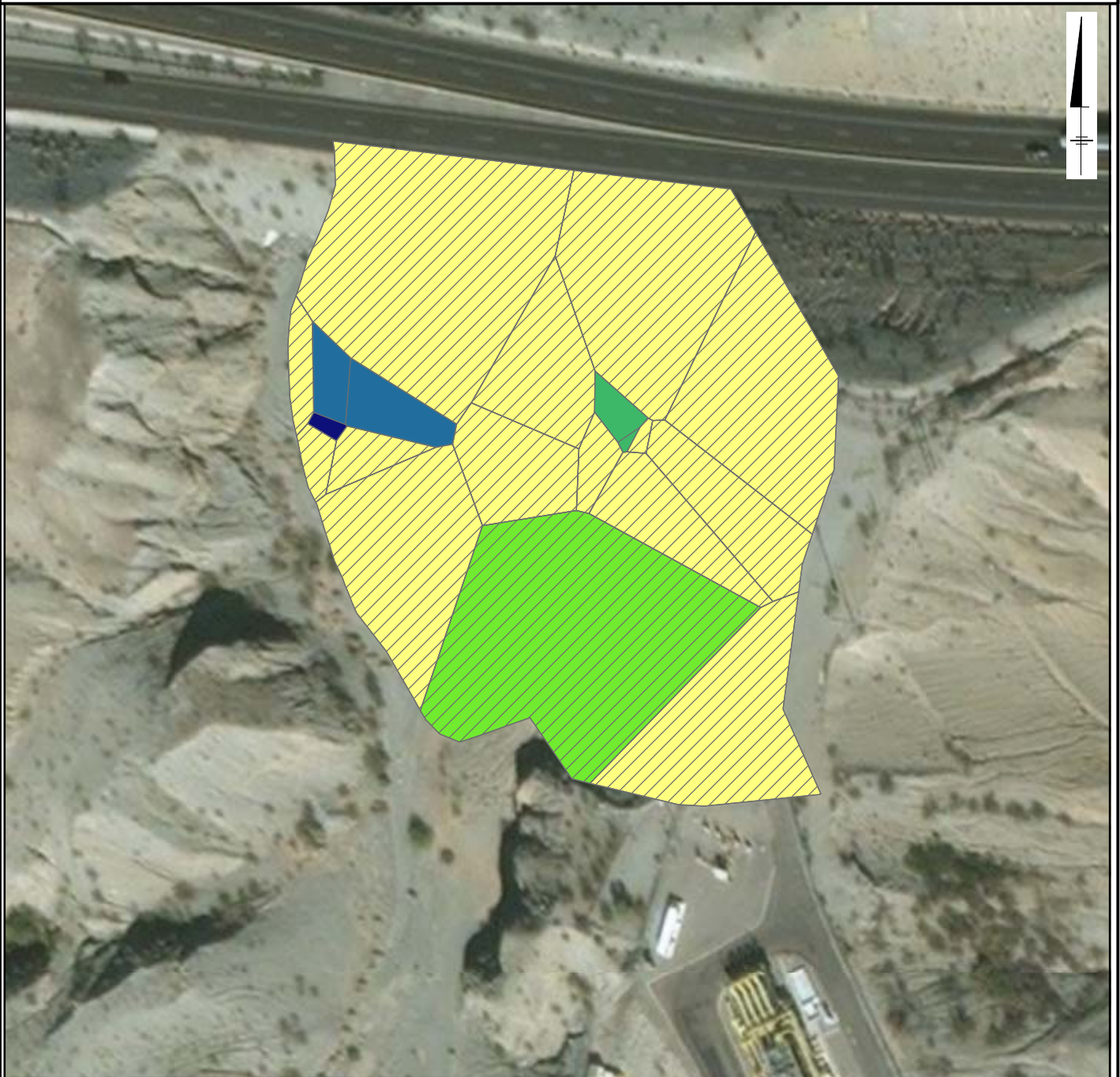
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FIGURE
AOC27-A3.74

AOC 27 0 - 6 FEET BELOW GROUND SURFACE MOLYBDENUM

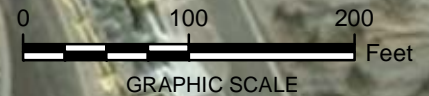


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

- NOT DETECTED
- 0.50 - 0.50
- $\geq 0.50 - 0.51$
- $\geq 0.51 - 0.70$
- $\geq 0.70 - 3.10$
- $\geq 3.10 - 16.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



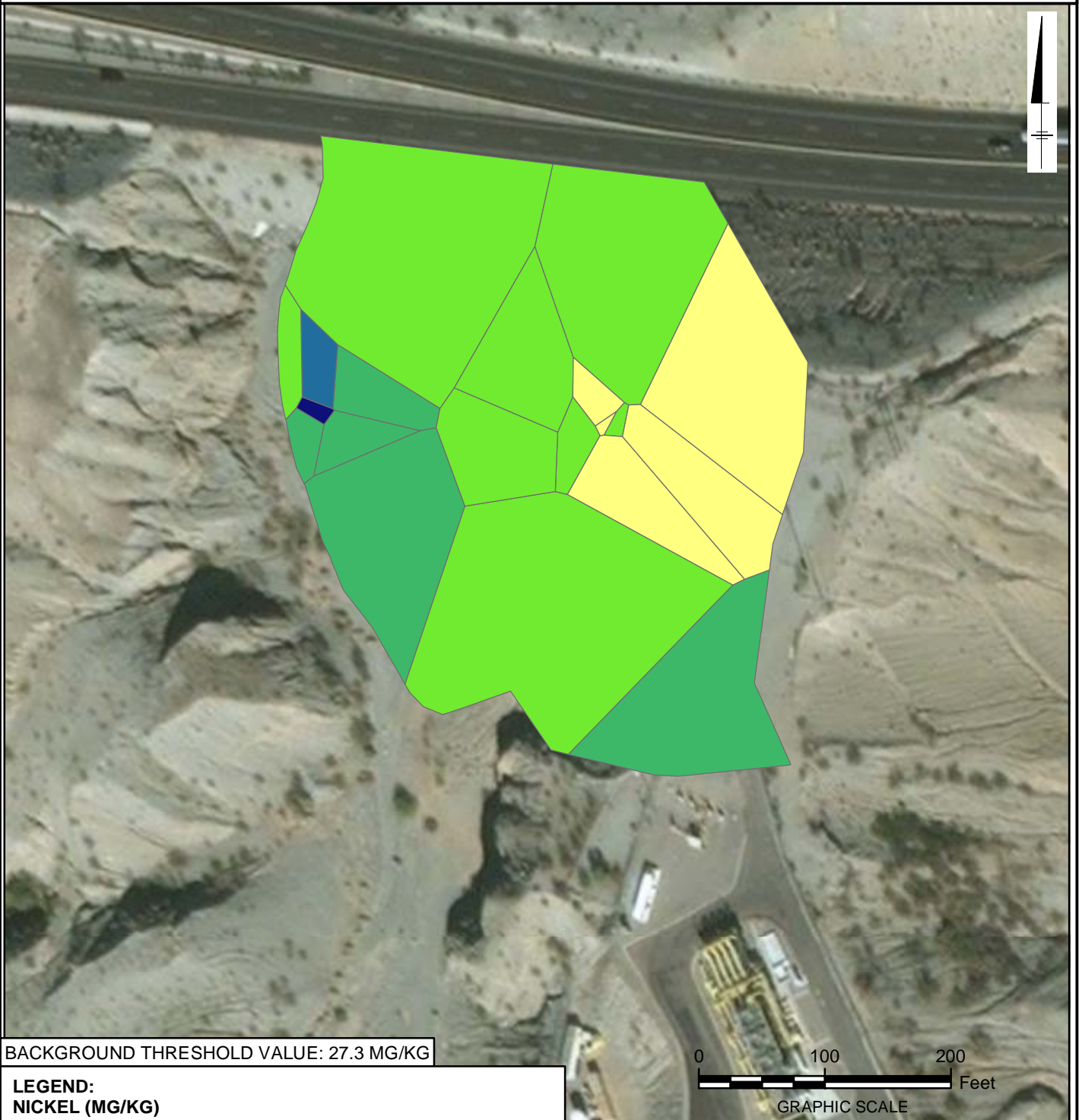
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FIGURE
AOC27-A3.75

AOC 27 0 - 6 FEET BELOW GROUND SURFACE NICKEL



LEGEND:
NICKEL (MG/KG)

	NOT DETECTED
	5.90 - 7.97
	≥7.97 - 9.82
	≥9.82 - 14.70
	≥14.70 - 19.70
	≥19.70 - 62.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

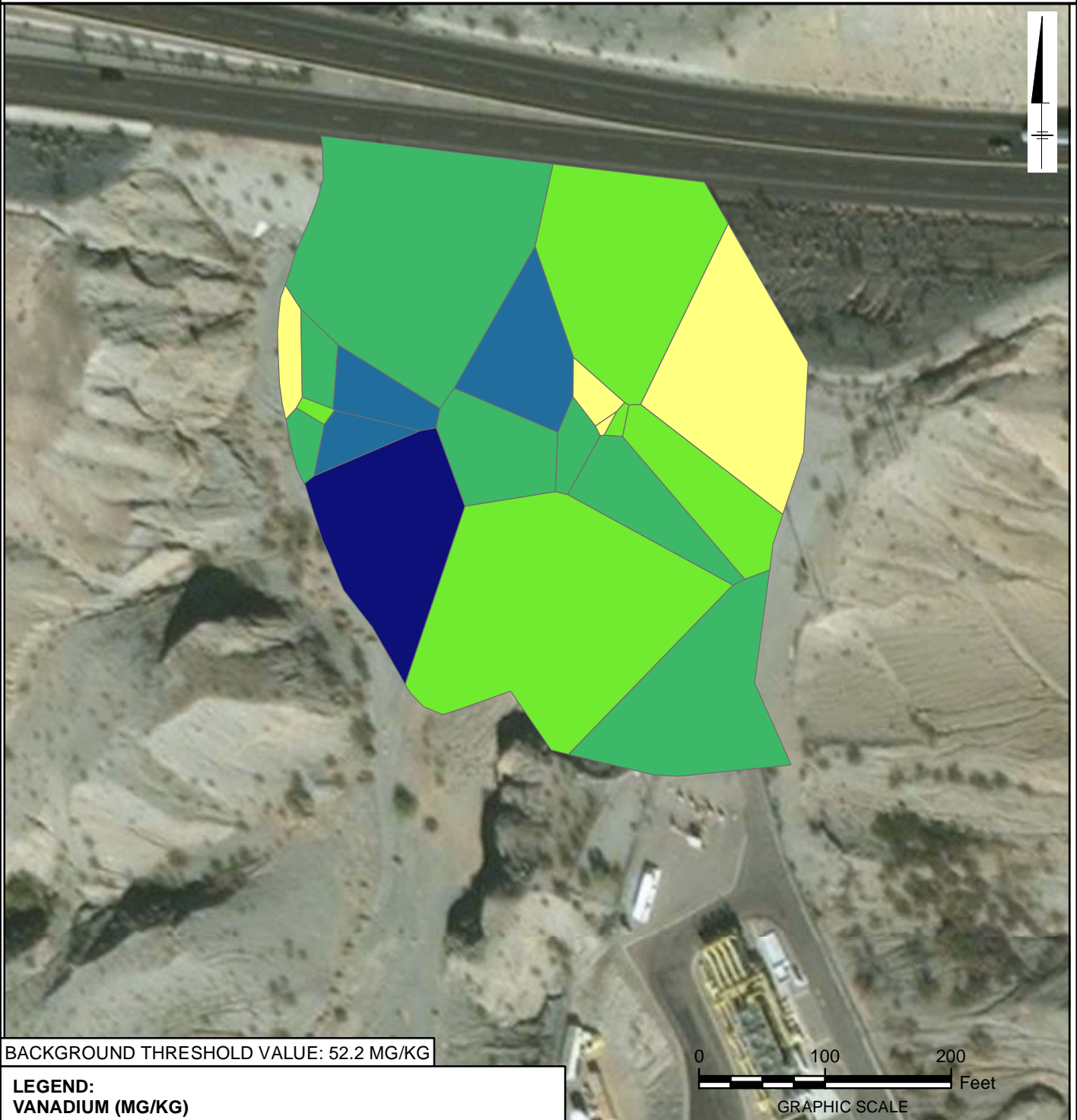
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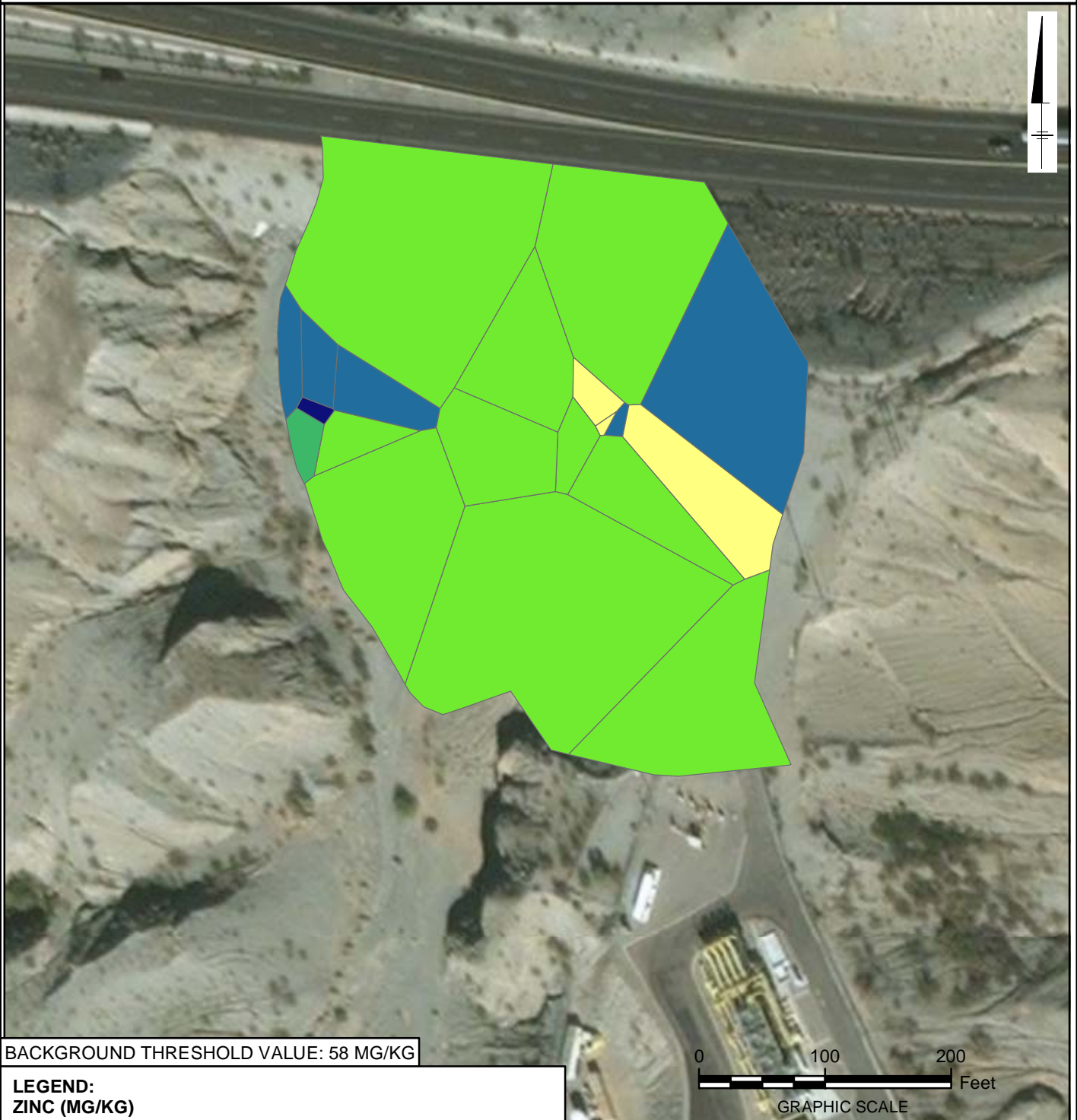
**FIGURE
AOC27-A3.76**

AOC 27 0 - 6 FEET BELOW GROUND SURFACE VANADIUM



SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

AOC 27 0 - 6 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	16.00 - 25.00
	≥25.00 - 46.00
	≥46.00 - 85.00
	≥85.00 - 419.00
	≥419.00 - 796.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

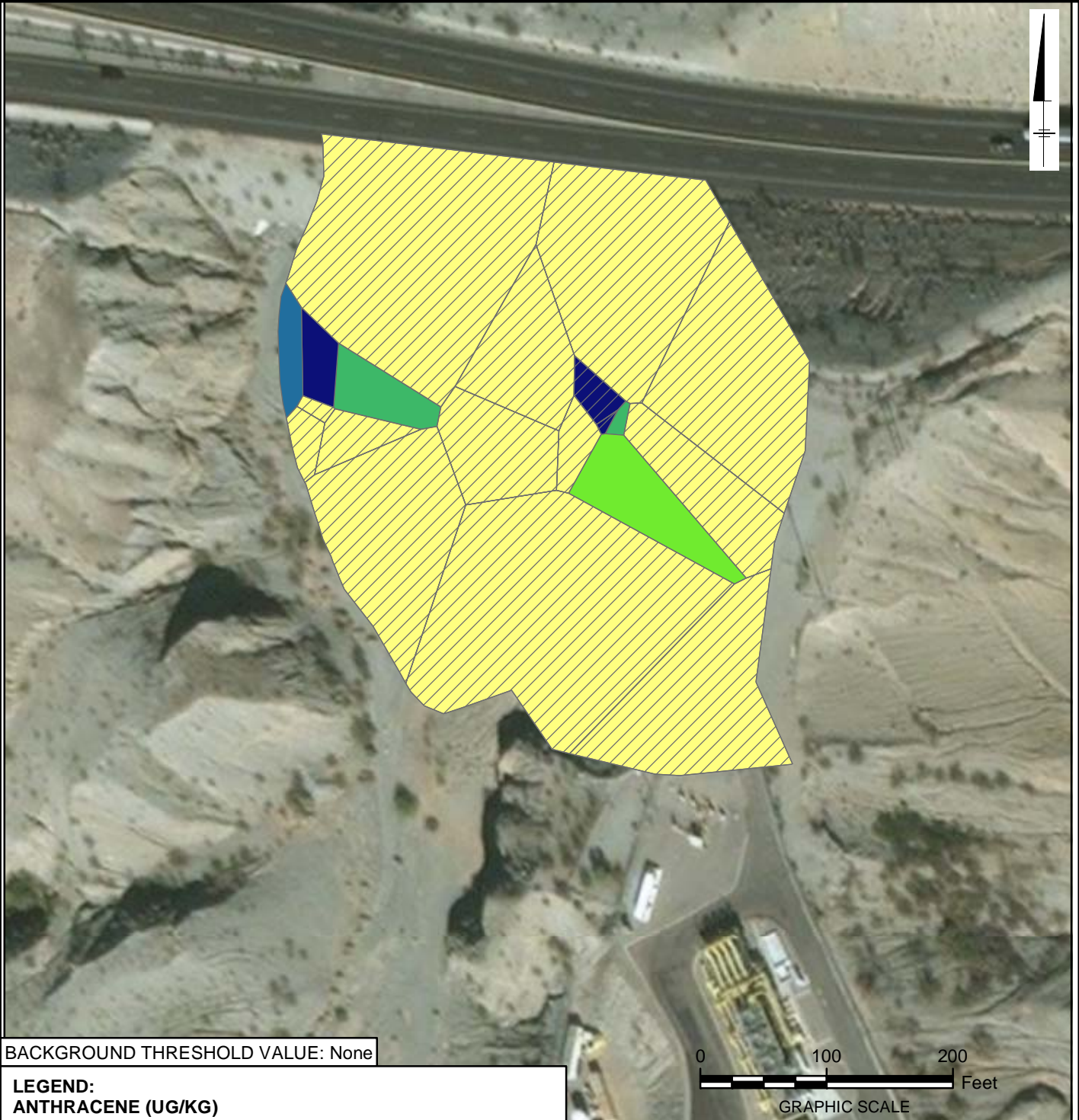
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FIGURE
AOC27-A3.78

AOC 27 0 - 6 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.55 - 2.70
-  $\geq 2.70 - 3.96$
-  $\geq 3.96 - 18.00$
-  $\geq 18.00 - 20.00$
-  $\geq 20.00 - 241.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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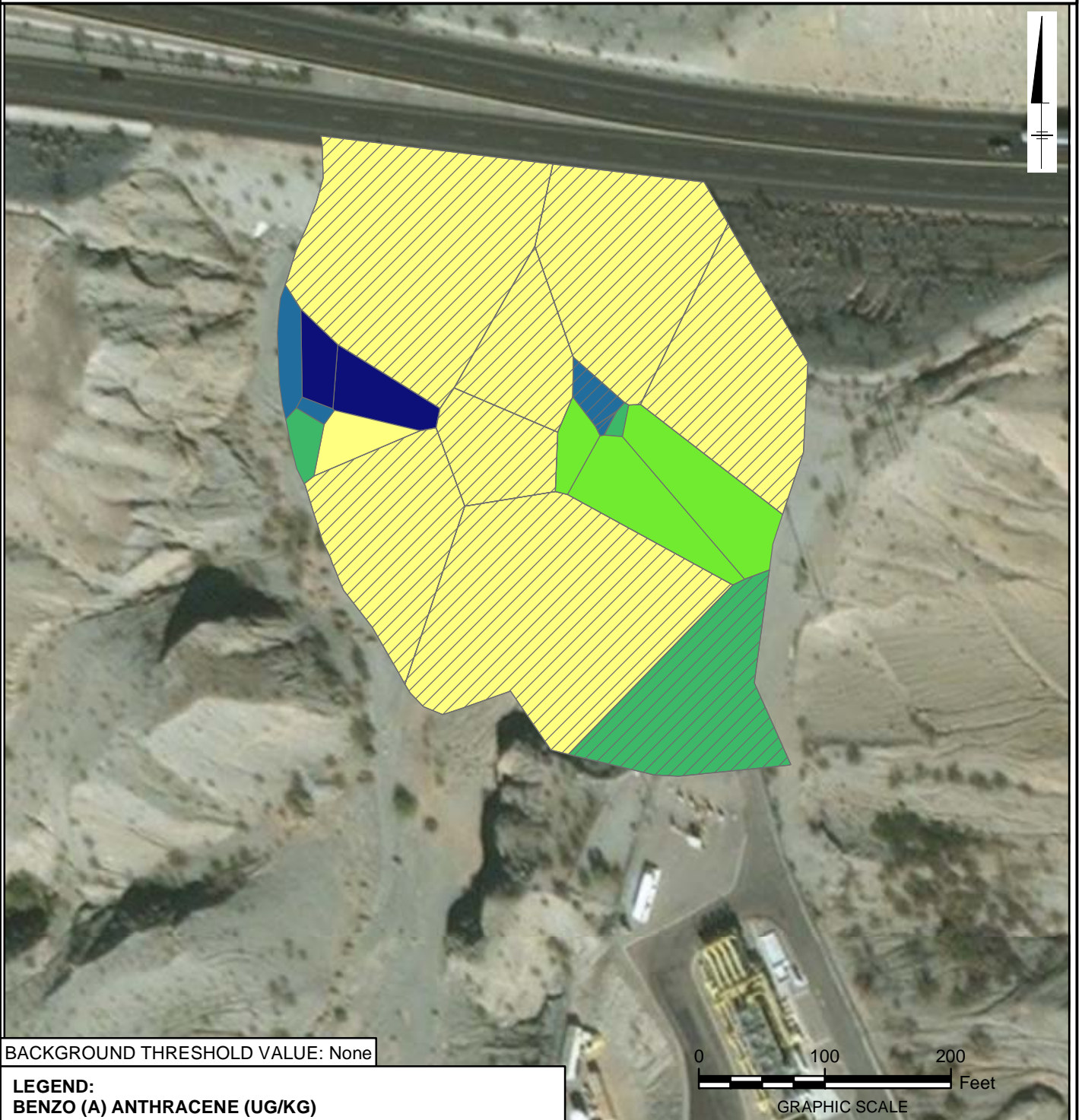


FIGURE
AOC27-A3.79

AOC 27







0 - 6 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.55 - 3.87
-  ≥ 3.87 - 6.78
-  ≥ 6.78 - 26.00
-  ≥ 26.00 - 191.00
-  ≥ 191.00 - 1410.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

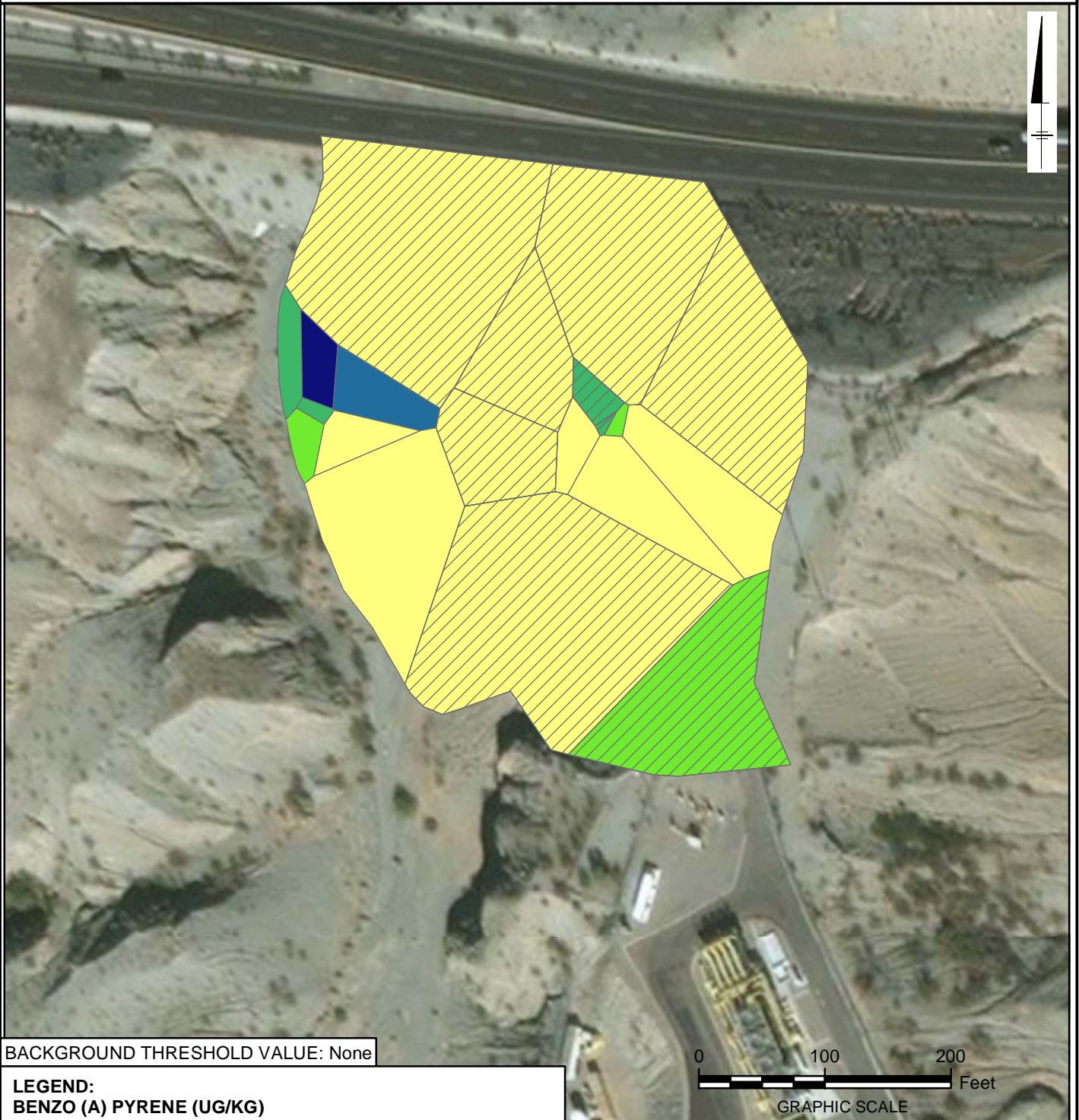
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FIGURE
AOC27-A3.80

AOC 27 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

- NOT DETECTED
- 2.55 - 14.30
- ≥14.30 - 34.80
- ≥34.80 - 165.00
- ≥165.00 - 555.00
- ≥555.00 - 1130.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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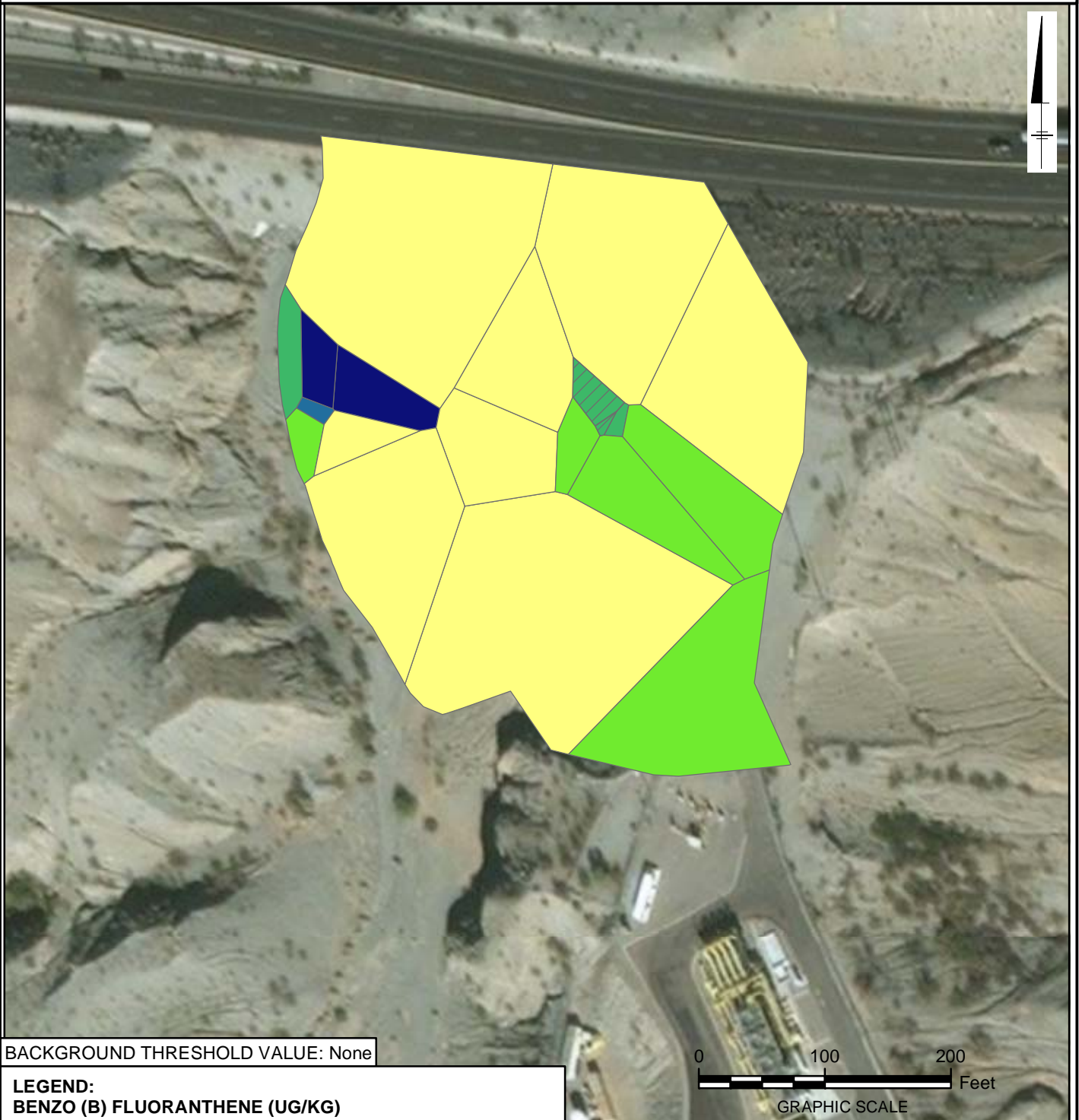


FIGURE
AOC27-A3.81

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

	NOT DETECTED
	4.20 - 12.20
	≥12.20 - 90.00
	≥90.00 - 188.00
	≥188.00 - 377.00
	≥377.00 - 2040.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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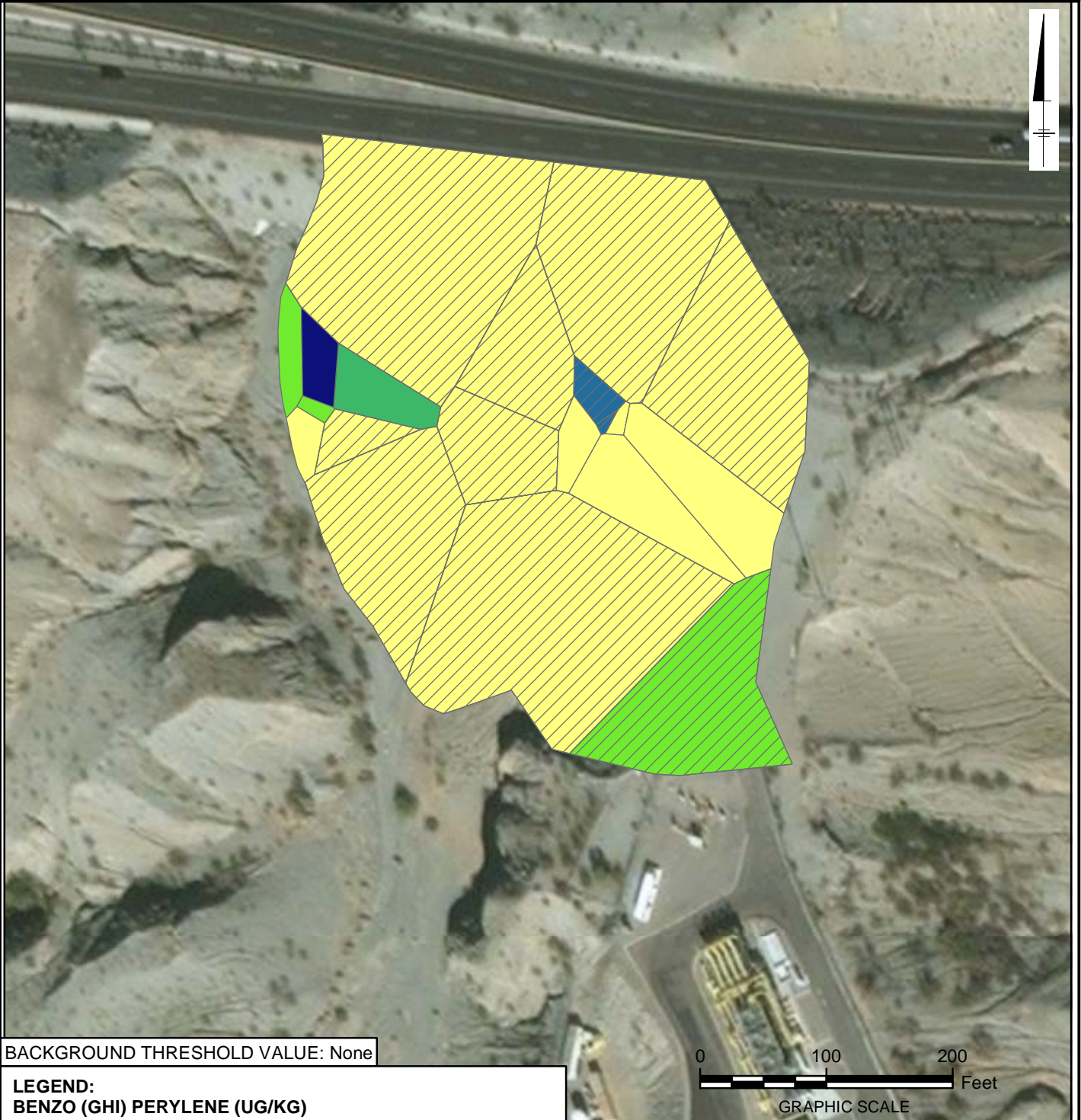


FIGURE
AOC27-A3.82

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.55 - 16.10
	≥16.10 - 48.40
	≥48.40 - 91.80
	≥91.80 - 165.00
	≥165.00 - 512.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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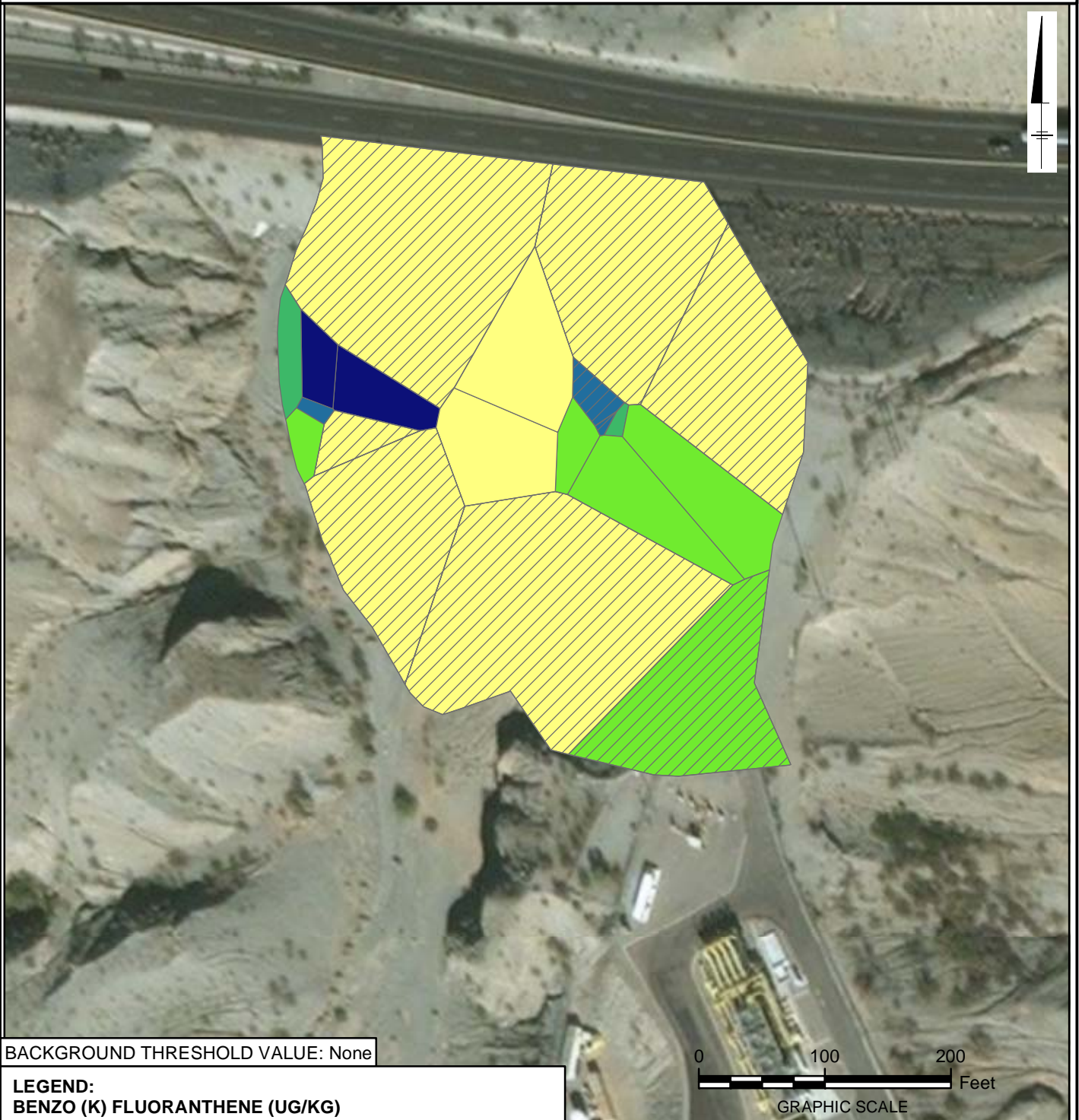


FIGURE
AOC27-A3.83

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 4.53
- ≥4.53 - 26.00
- ≥26.00 - 45.00
- ≥45.00 - 184.00
- ≥184.00 - 765.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

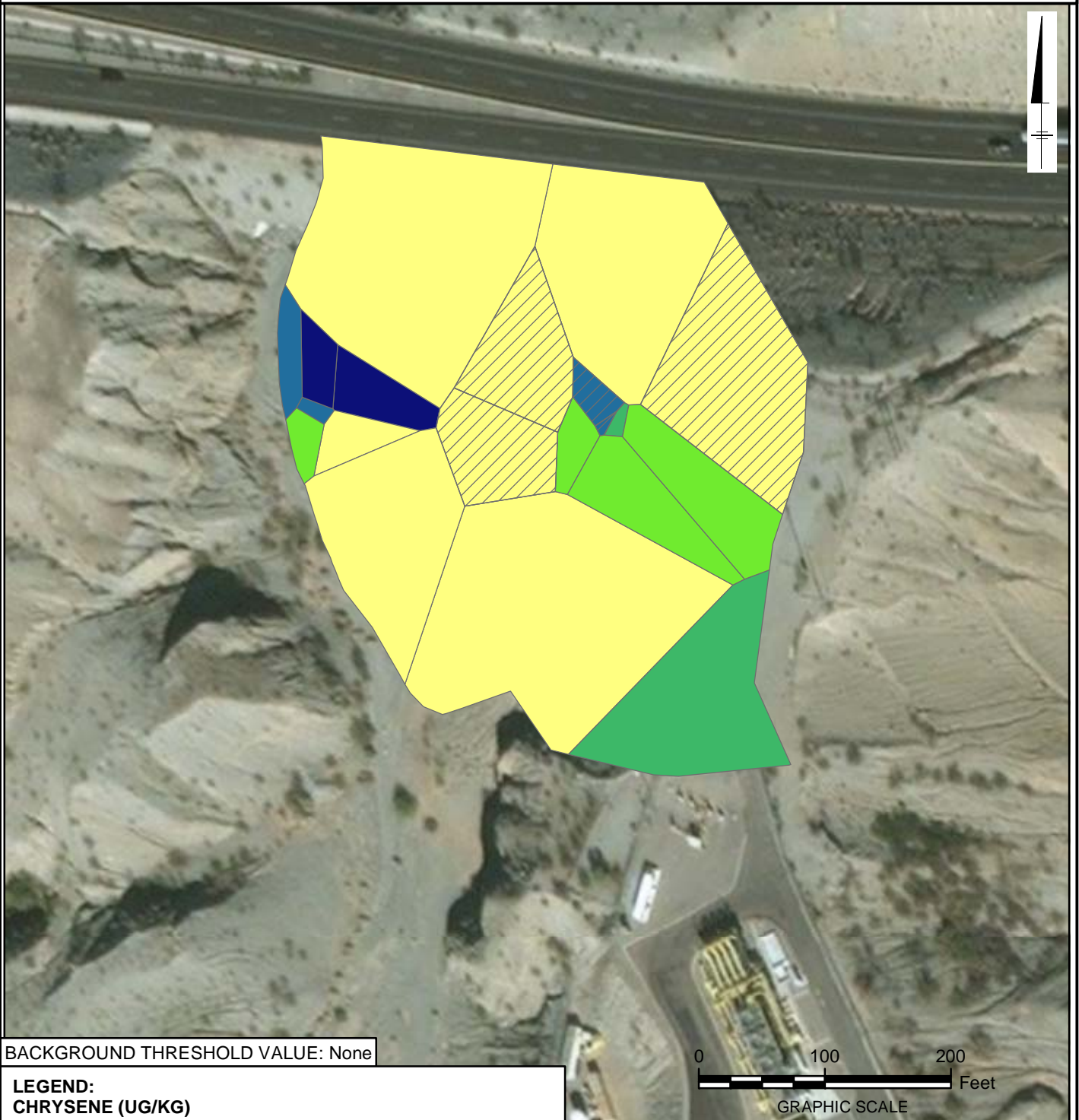
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FIGURE
AOC27-A3.84

AOC 27 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.55 - 5.07
- ≥5.07 - 26.30
- ≥26.30 - 54.90
- ≥54.90 - 184.00
- ≥184.00 - 1290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

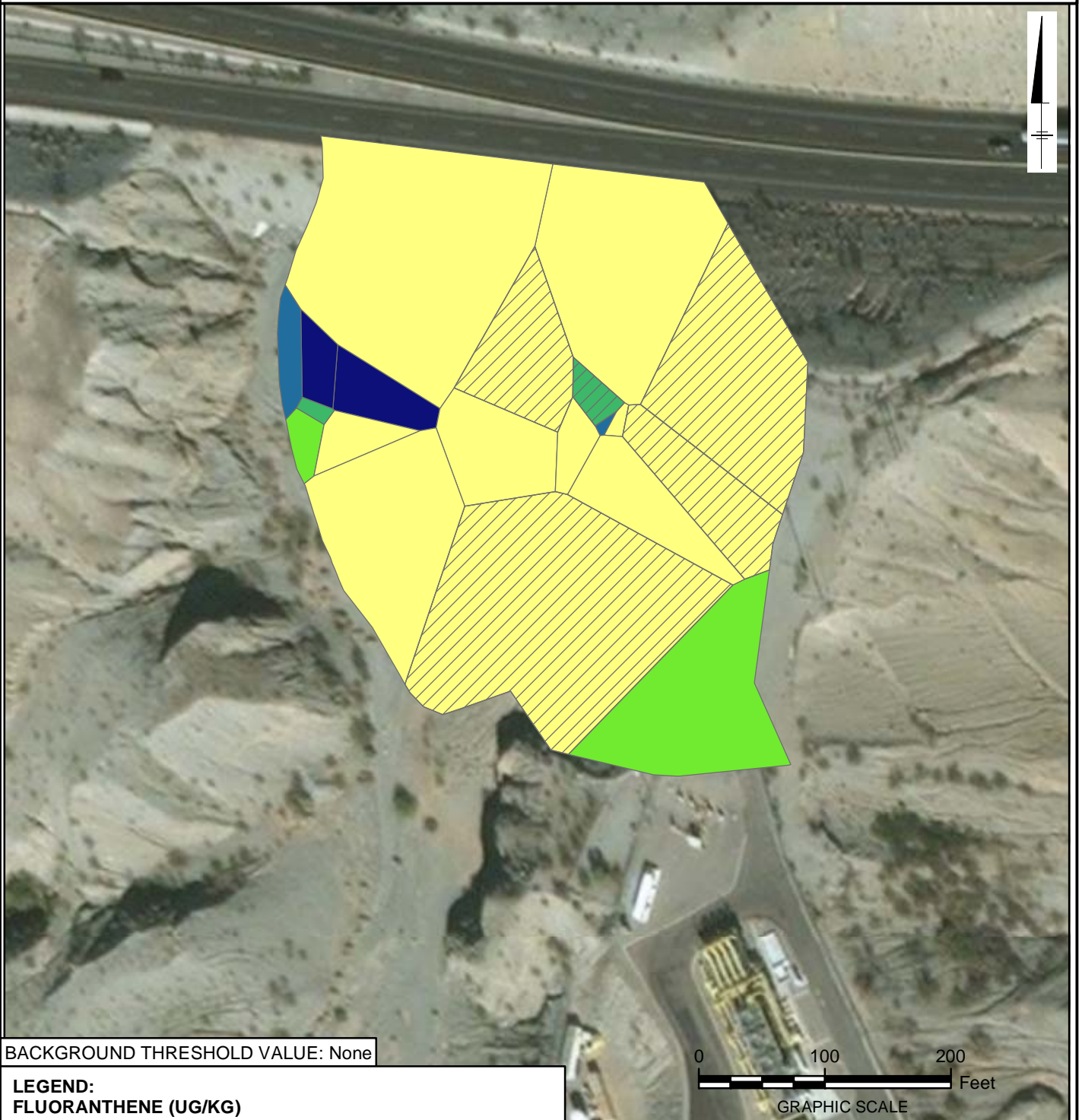
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FIGURE
AOC27-A3.85

AOC 27 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 14.40
- ≥14.40 - 56.00
- ≥56.00 - 230.00
- ≥230.00 - 370.00
- ≥370.00 - 3200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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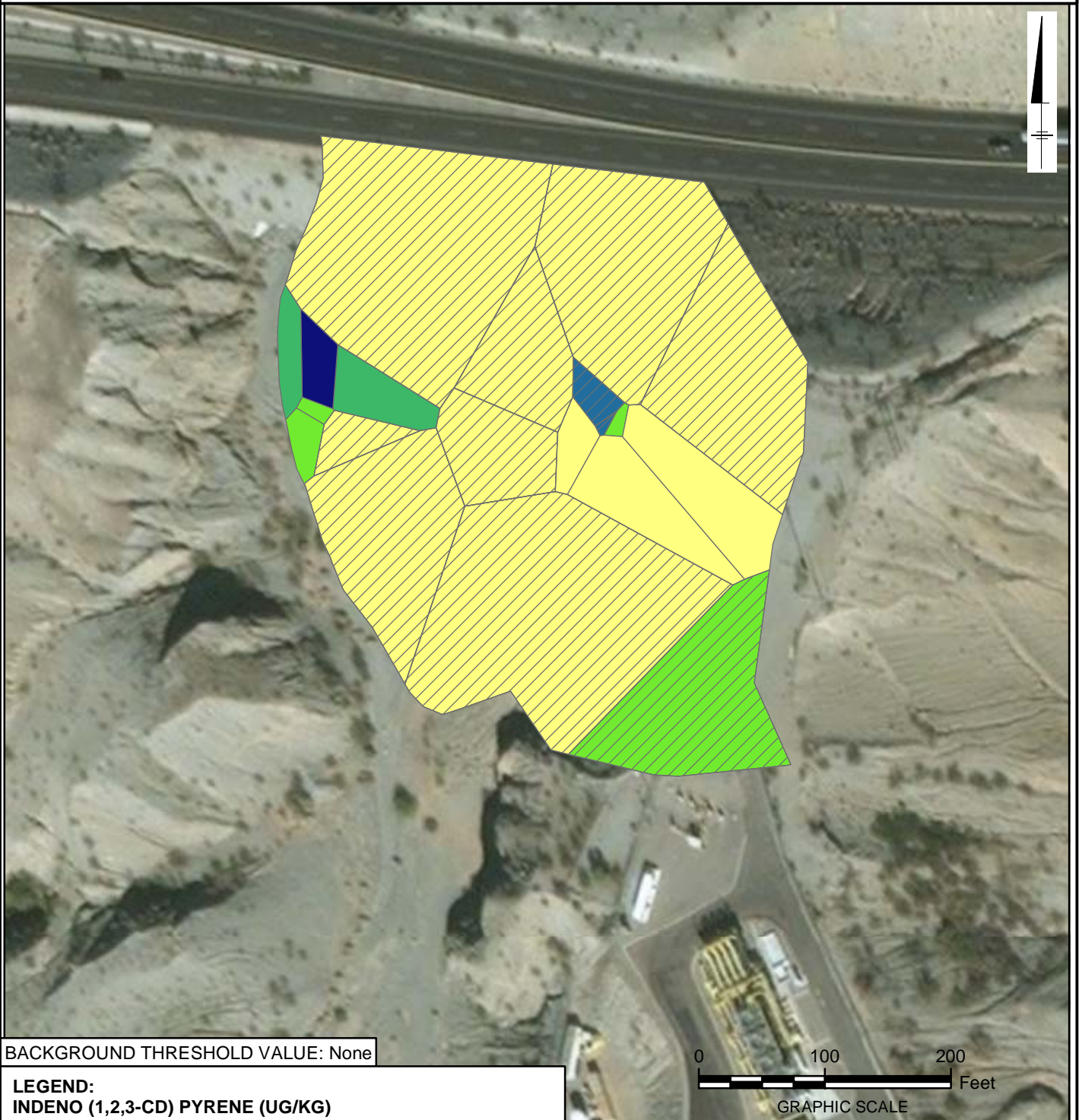


FIGURE
AOC27-A3.86

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

INDENO (1,2,3-CD) PYRENE



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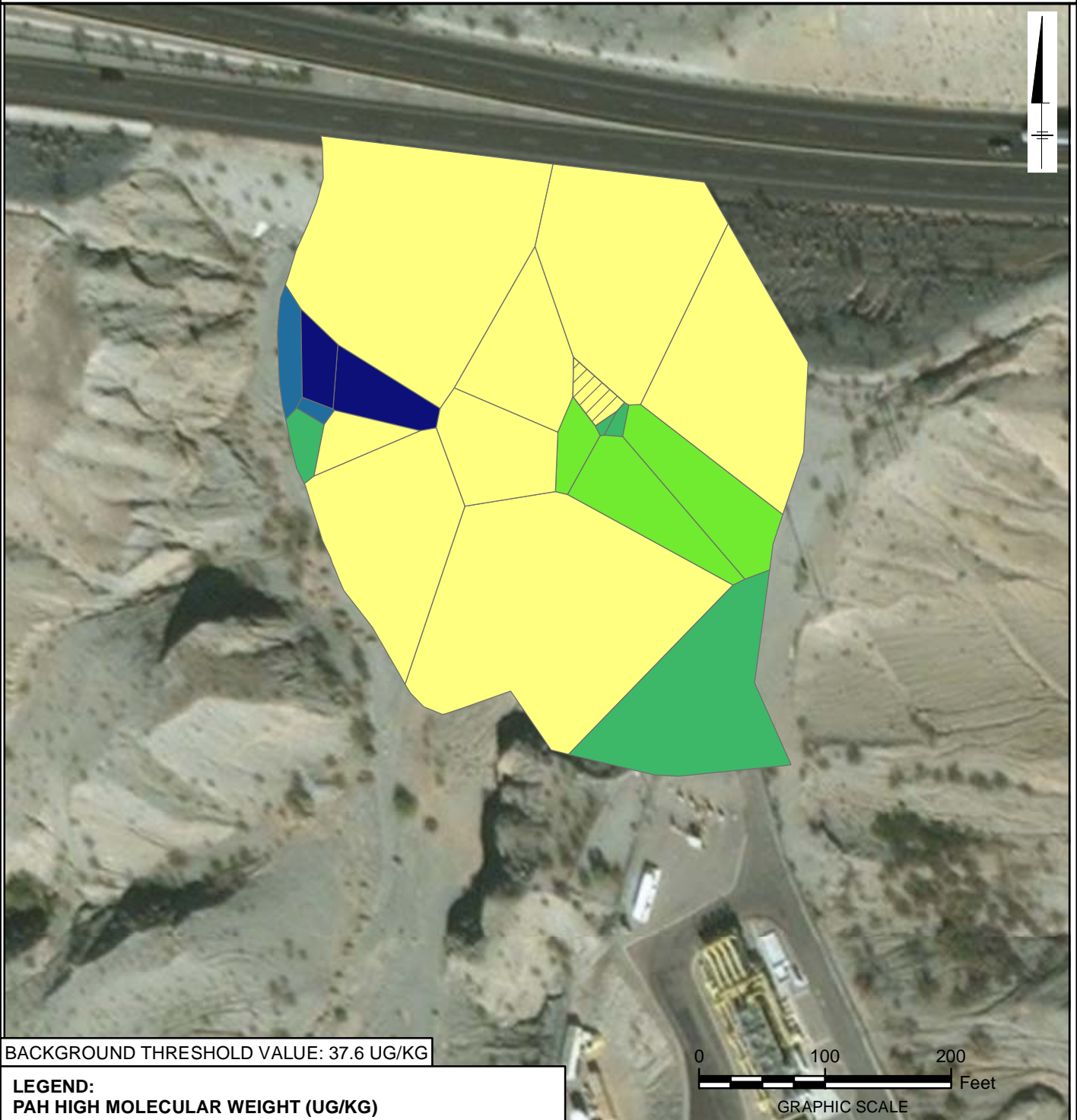
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**FIGURE
 AOC27-A3.87**

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 21.40
- ≥ 21.40 - 102.00
- ≥ 102.00 - 370.00
- ≥ 370.00 - 1500.00
- ≥ 1500.00 - 13400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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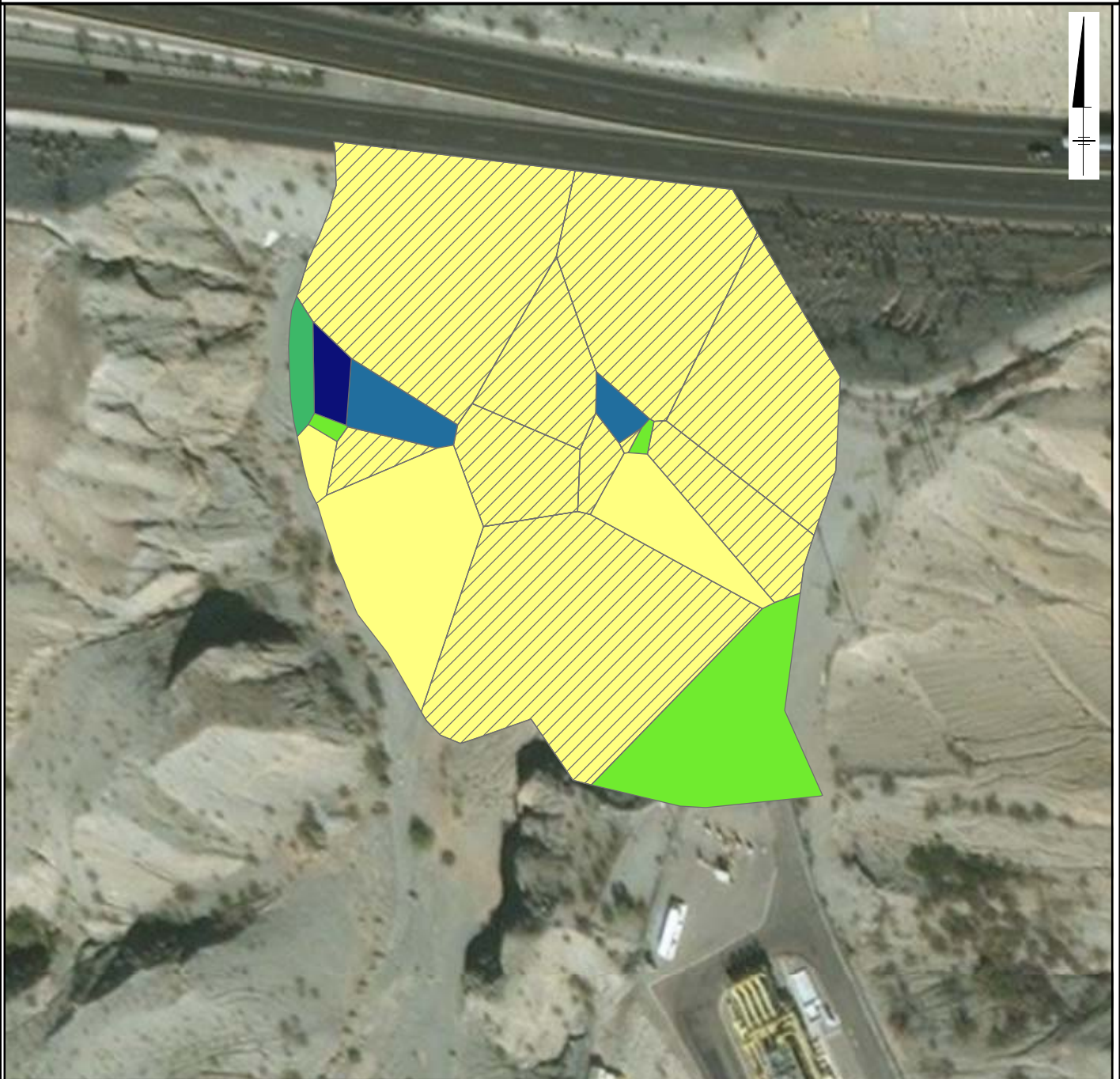


FIGURE
AOC27-A3.88

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

PAH LOW MOLECULAR WEIGHT

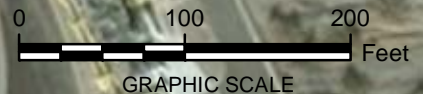


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 7.67
- ≥ 7.67 - 38.30
- ≥ 38.30 - 181.00
- ≥ 181.00 - 543.00
- ≥ 543.00 - 1310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



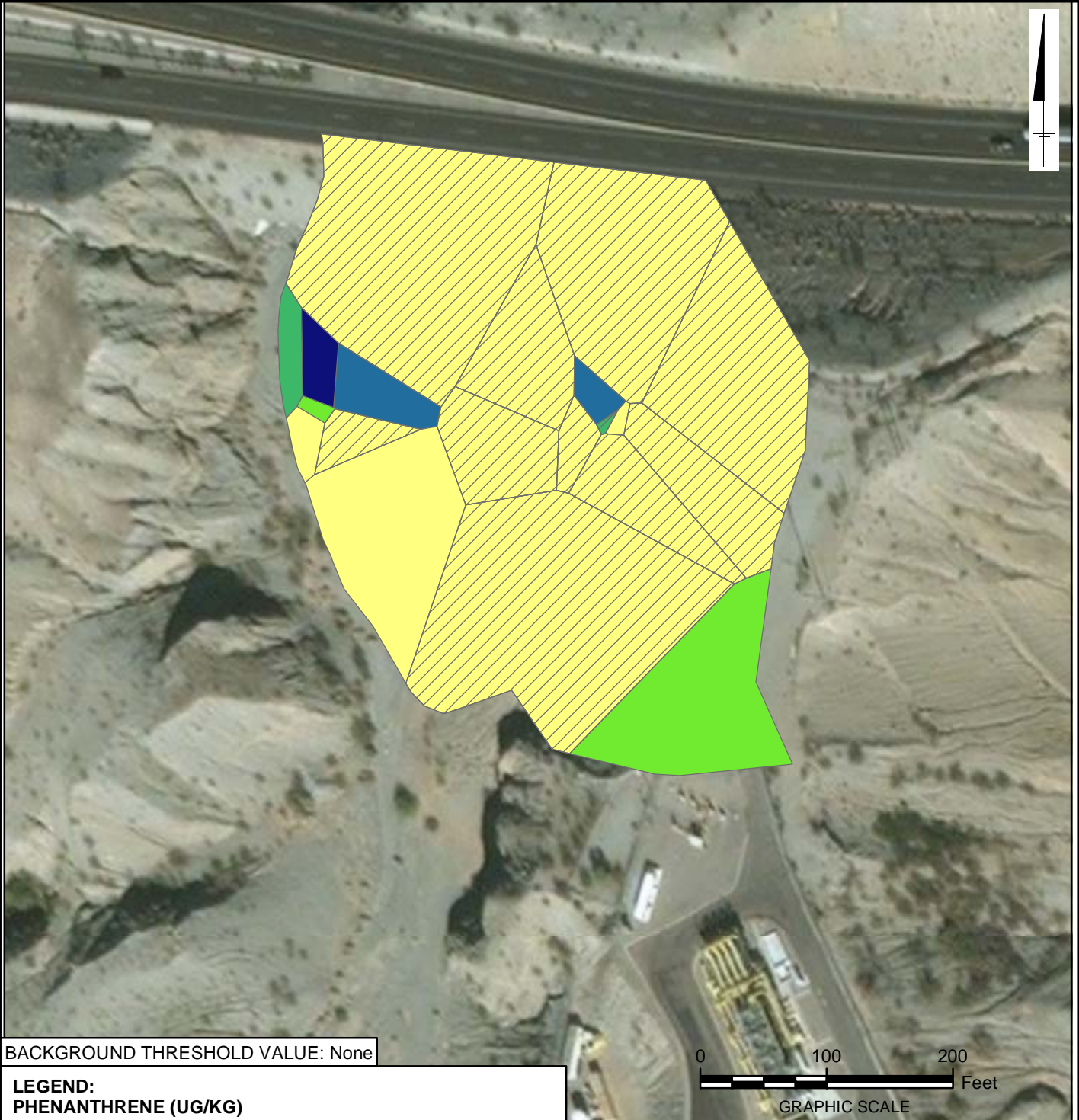
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FIGURE
AOC27-A3.89

AOC 27 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

-  NOT DETECTED
-  2.54 - 8.09
-  ≥ 8.09 - 38.80
-  ≥ 38.80 - 165.00
-  ≥ 165.00 - 525.00
-  ≥ 525.00 - 1050.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

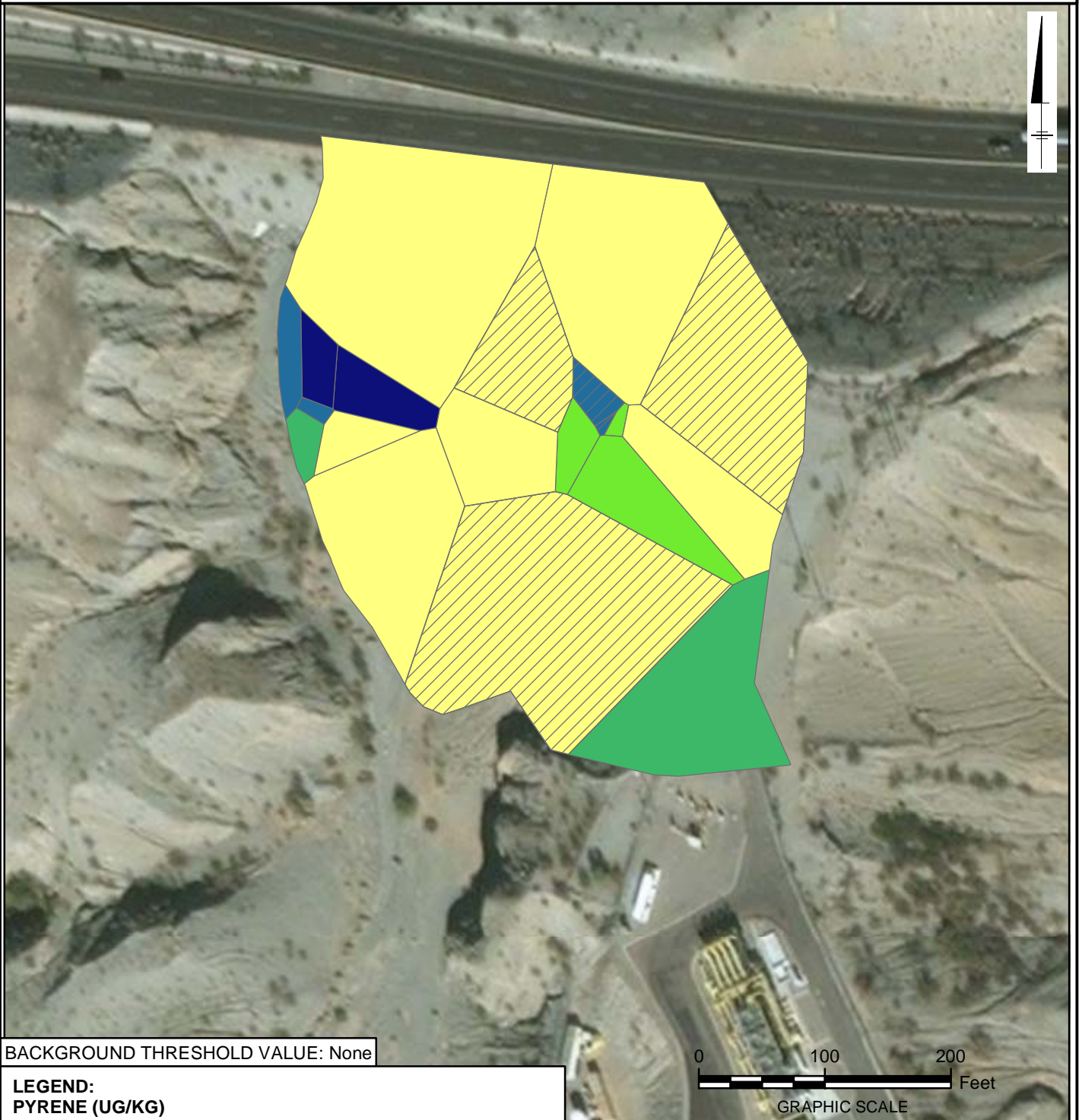
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FIGURE
AOC27-A3.90

AOC 27 0 - 6 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.55 - 6.40
- ≥6.40 - 14.10
- ≥14.10 - 43.00
- ≥43.00 - 248.00
- ≥248.00 - 2500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

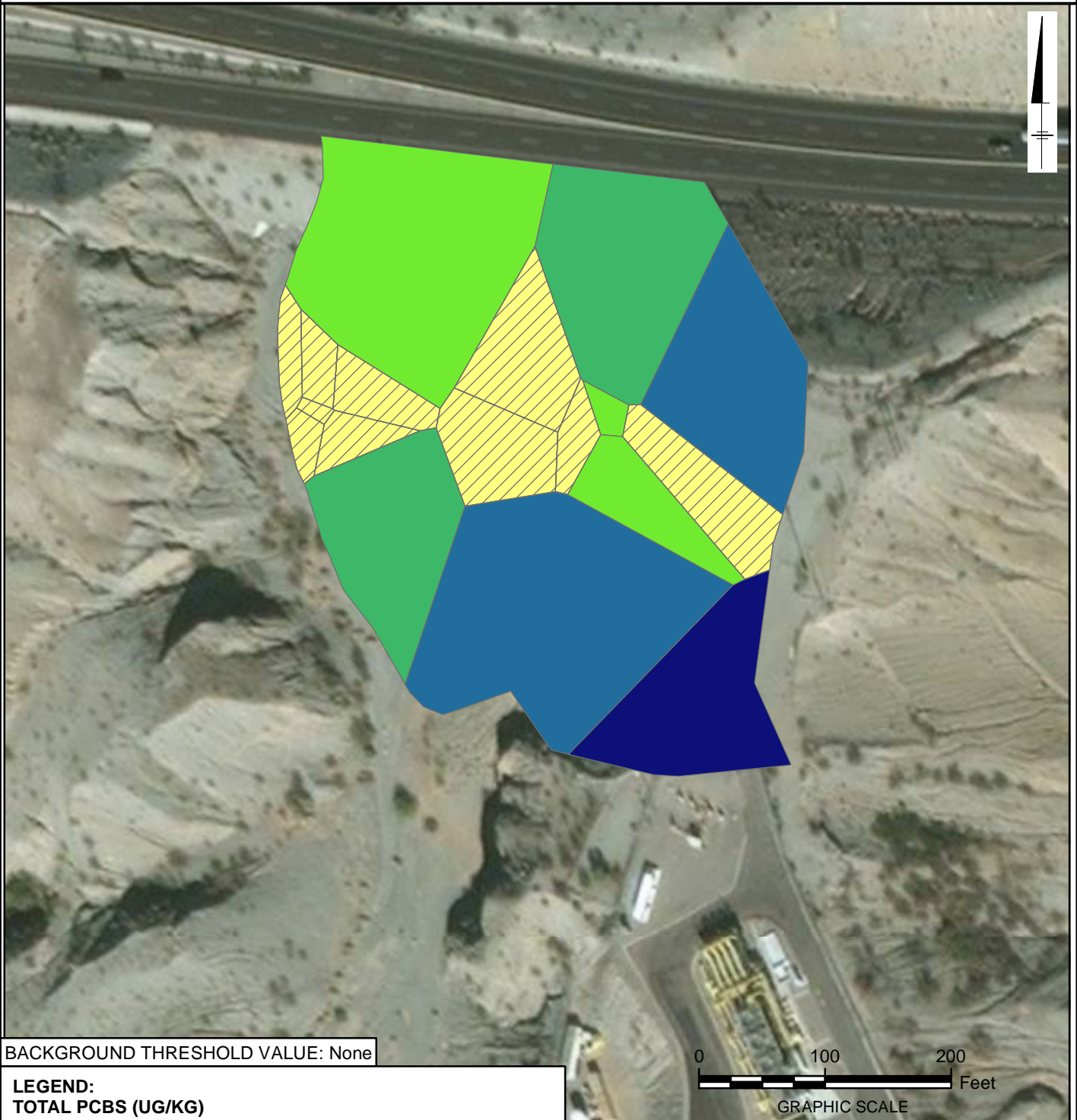
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FIGURE
AOC27-A3.91

AOC 27 0 - 6 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

-  NOT DETECTED
-  8.50 - 9.00
-  ≥9.00 - 12.70
-  ≥12.70 - 16.30
-  ≥16.30 - 35.00
-  ≥35.00 - 47.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

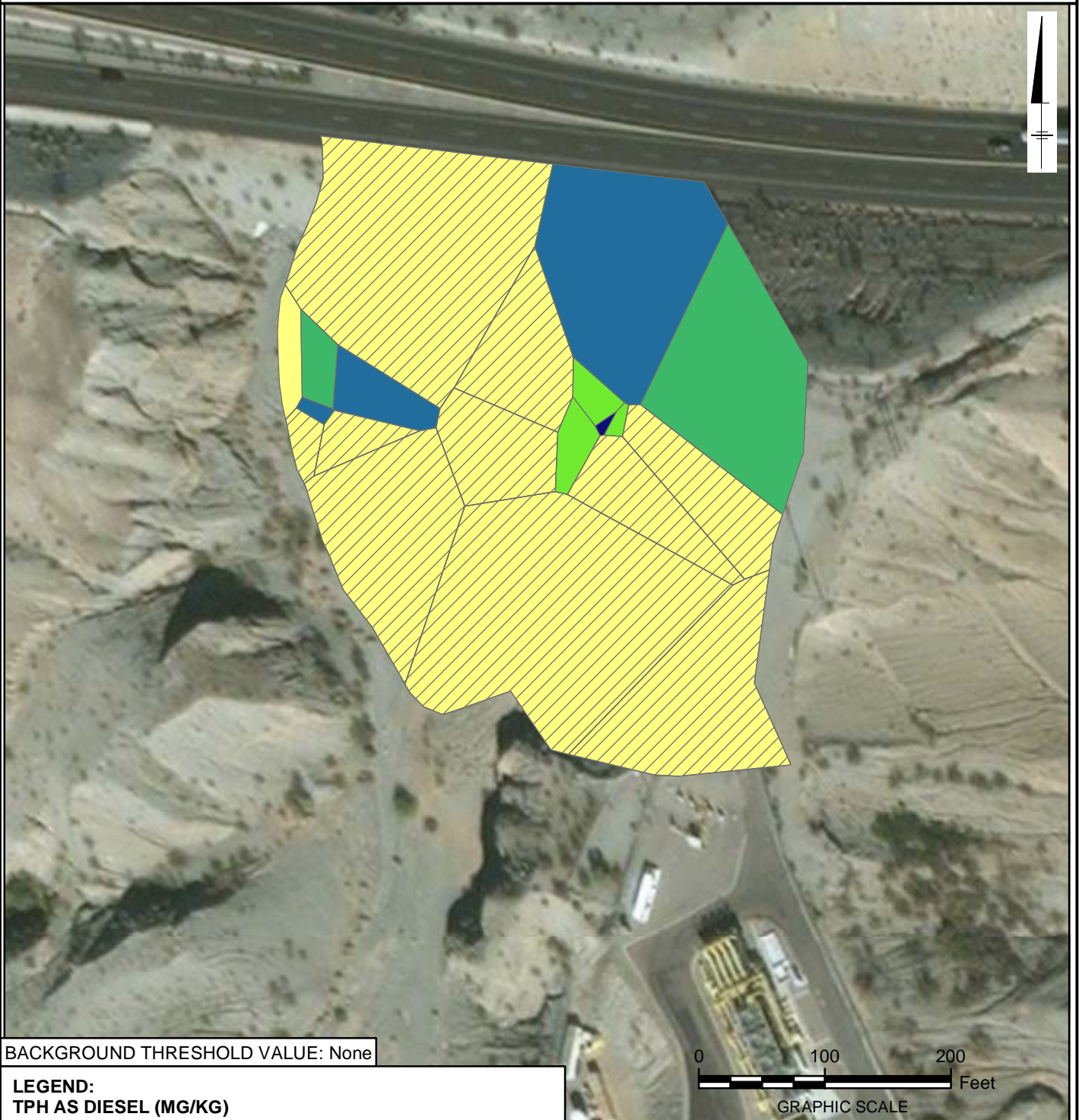
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FIGURE
AOC27-A3.92

AOC 27 0 - 6 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 7.33
- ≥7.33 - 13.00
- ≥13.00 - 49.00
- ≥49.00 - 89.00
- ≥89.00 - 160.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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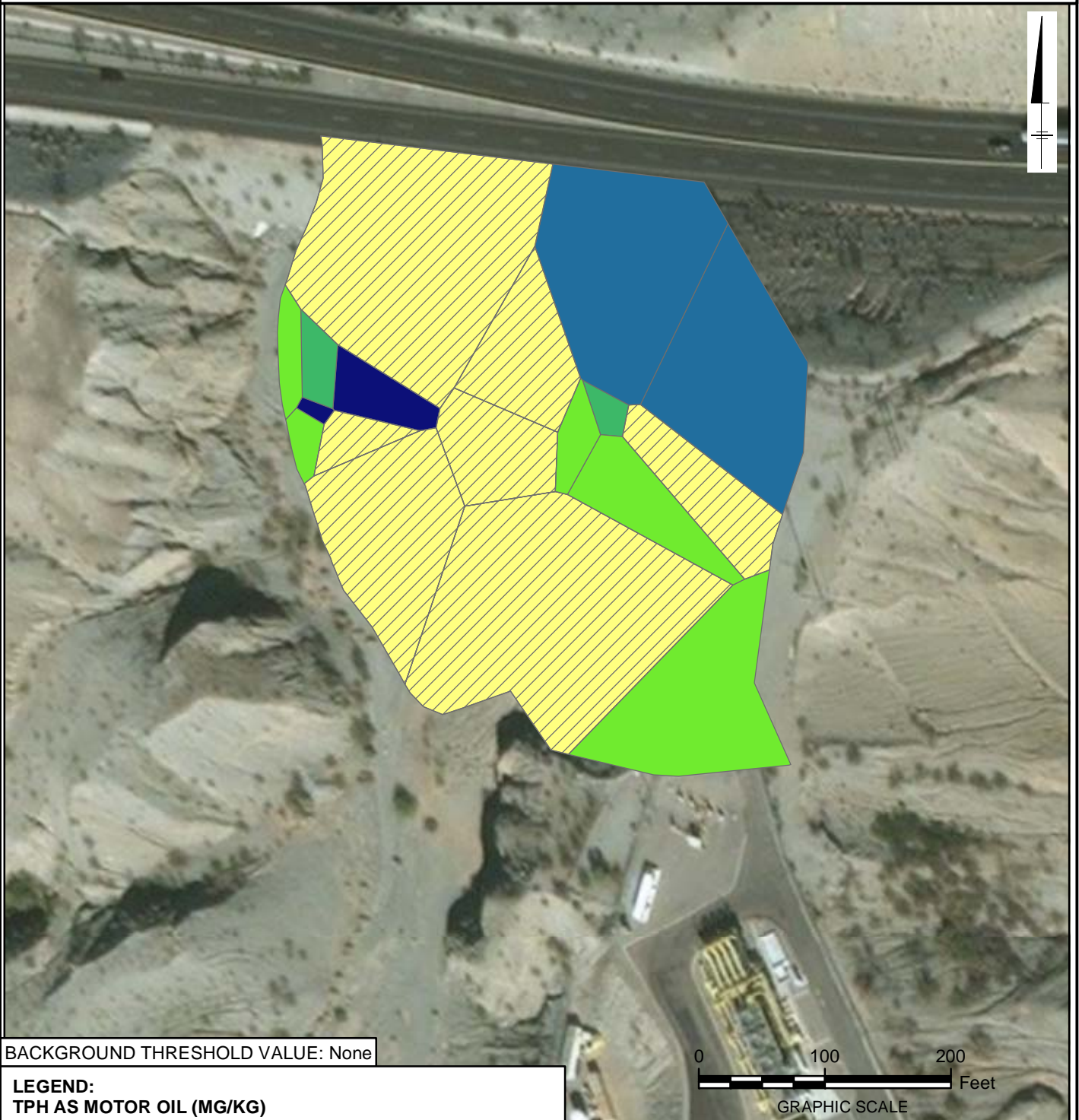


FIGURE
AOC27-A3.93

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

- NOT DETECTED
- 5.00 - 5.08
- ≥5.08 - 48.70
- ≥48.70 - 89.50
- ≥89.50 - 313.00
- ≥313.00 - 491.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

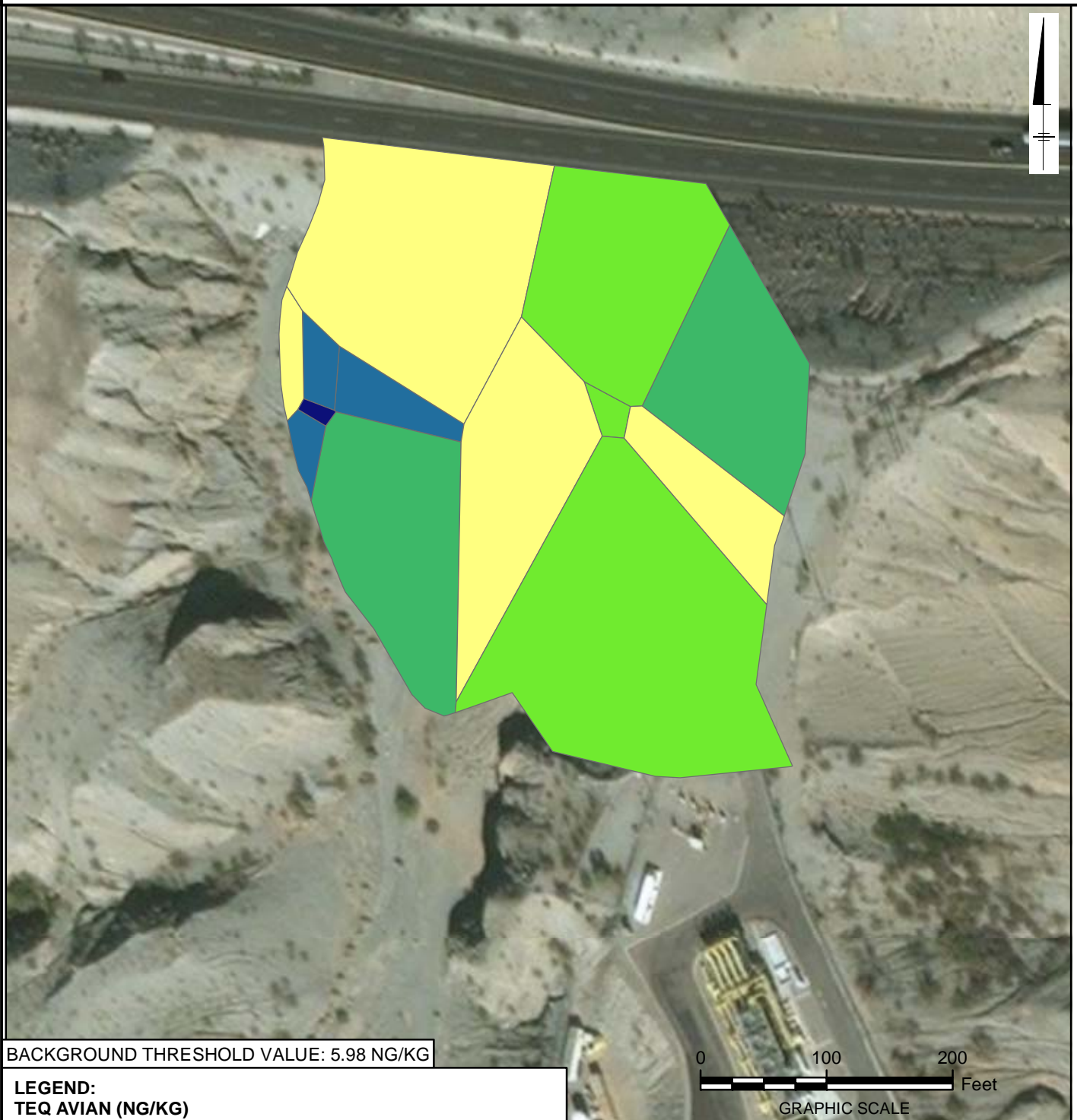
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FIGURE
AOC27-A3.94

AOC 27 0 - 10 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.20 - 2.61
	≥2.61 - 4.80
	≥4.80 - 7.80
	≥7.80 - 36.70
	≥36.70 - 102.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

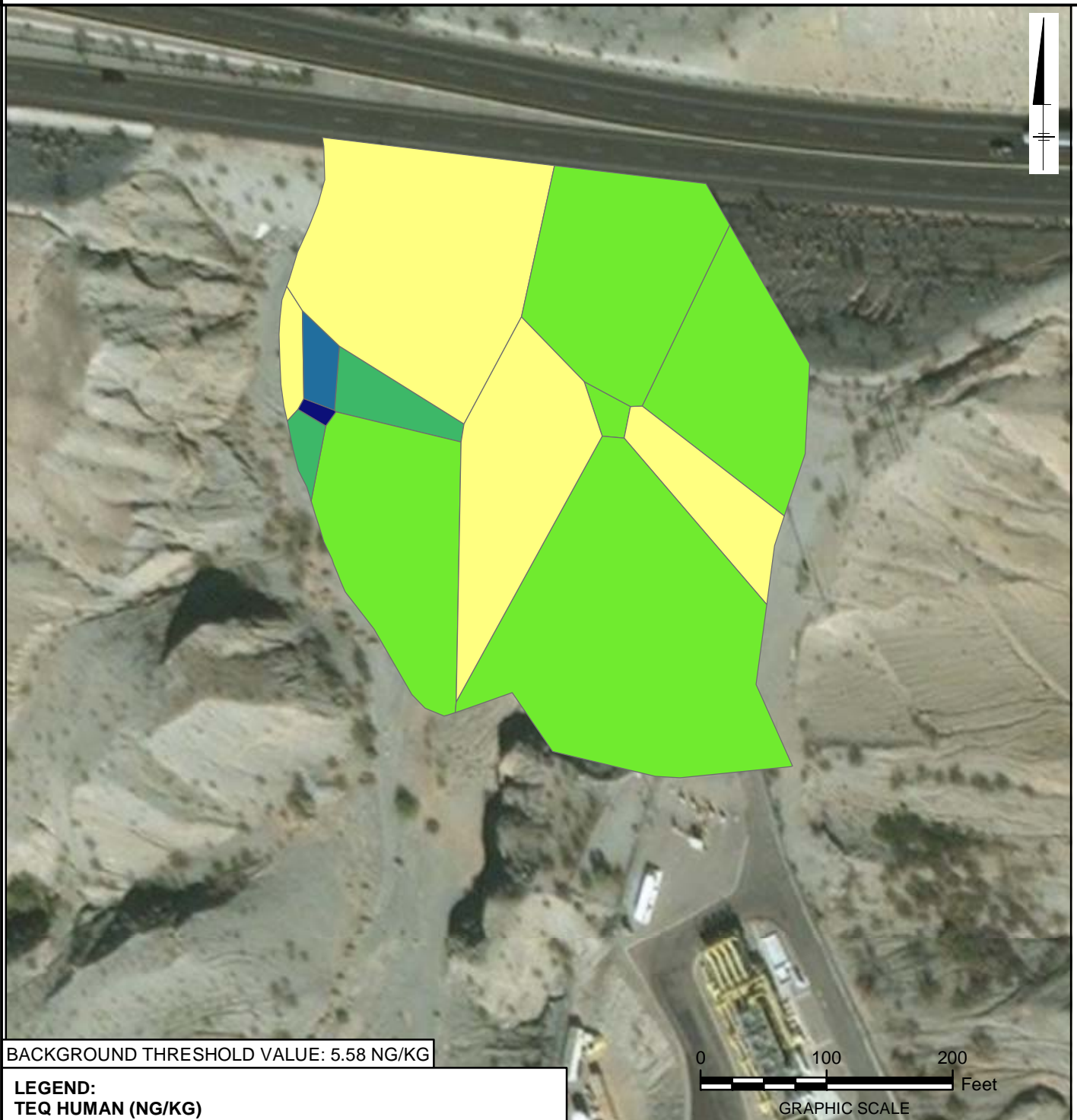
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FIGURE
AOC27-A3.95

AOC 27 0 - 10 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.12 - 2.16
- ≥2.16 - 11.00
- ≥11.00 - 19.70
- ≥19.70 - 37.10
- ≥37.10 - 93.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

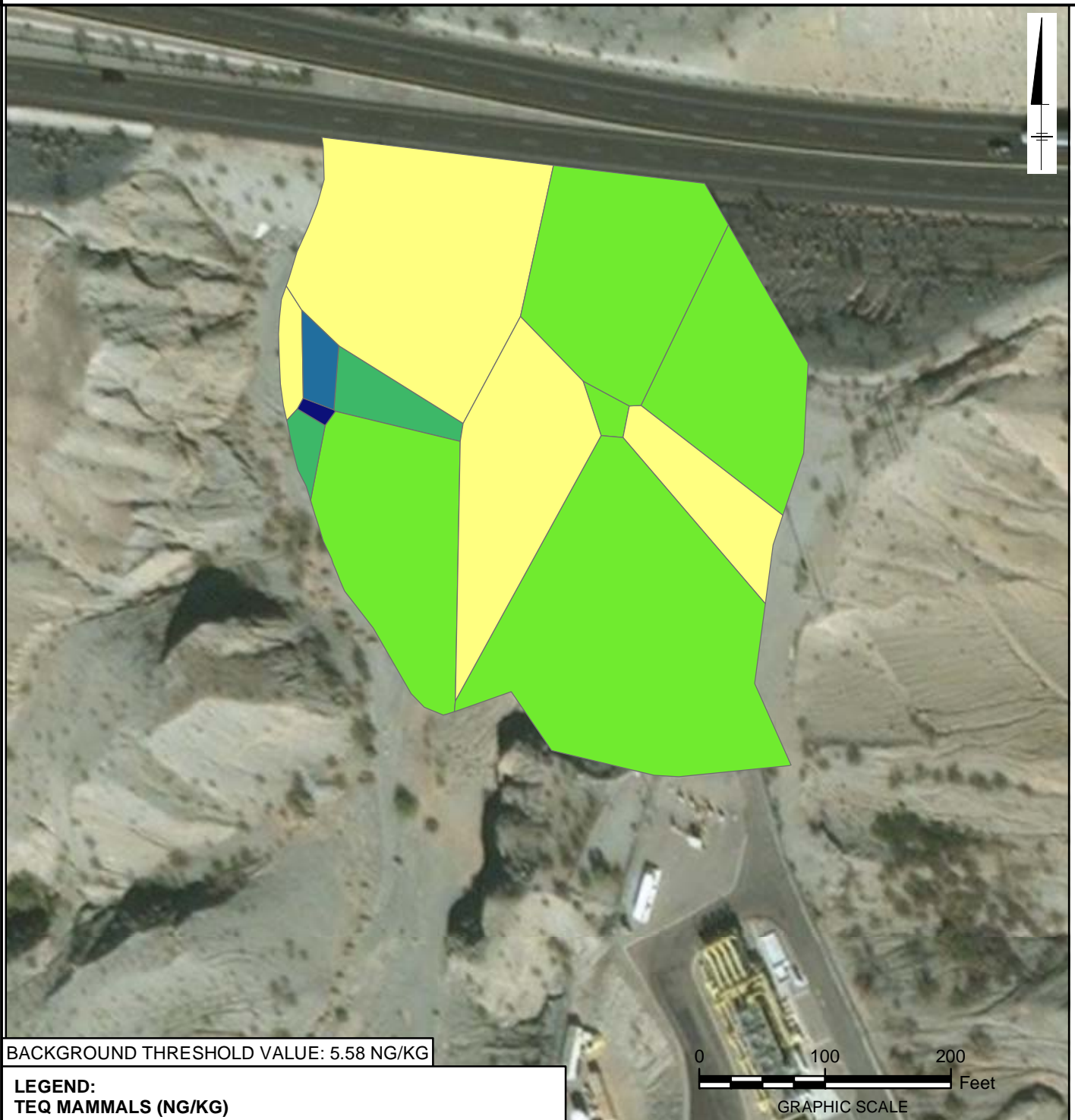
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FIGURE
AOC27-A3.96

AOC 27 0 - 10 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.12 - 2.16
- ≥ 2.16 - 11.00
- ≥ 11.00 - 19.70
- ≥ 19.70 - 37.10
- ≥ 37.10 - 93.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC27-A3.97

AOC 27 0 - 10 FEET BELOW GROUND SURFACE ARSENIC



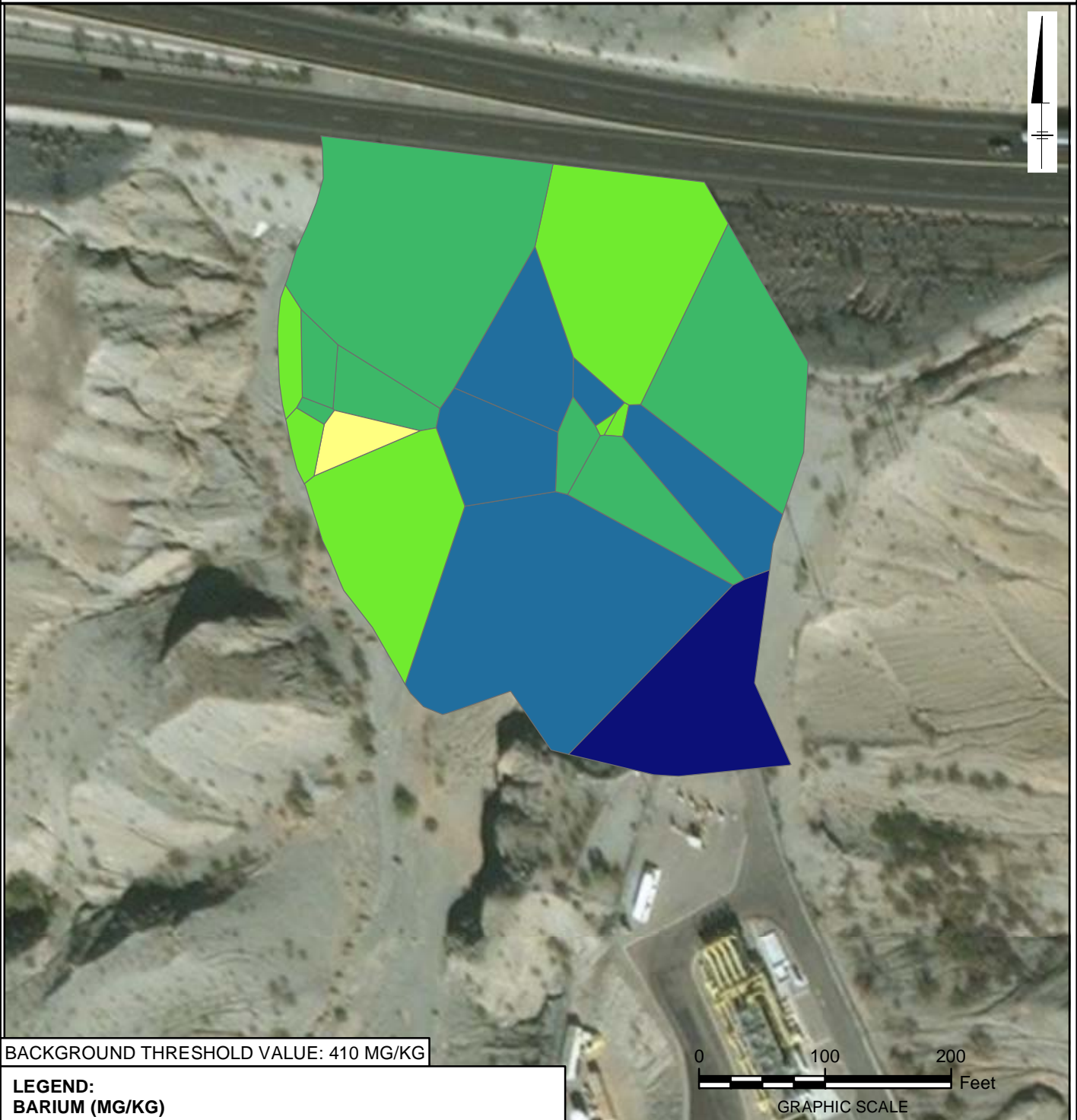
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**FIGURE
AOC27-A3.98**

AOC 27 0 - 10 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

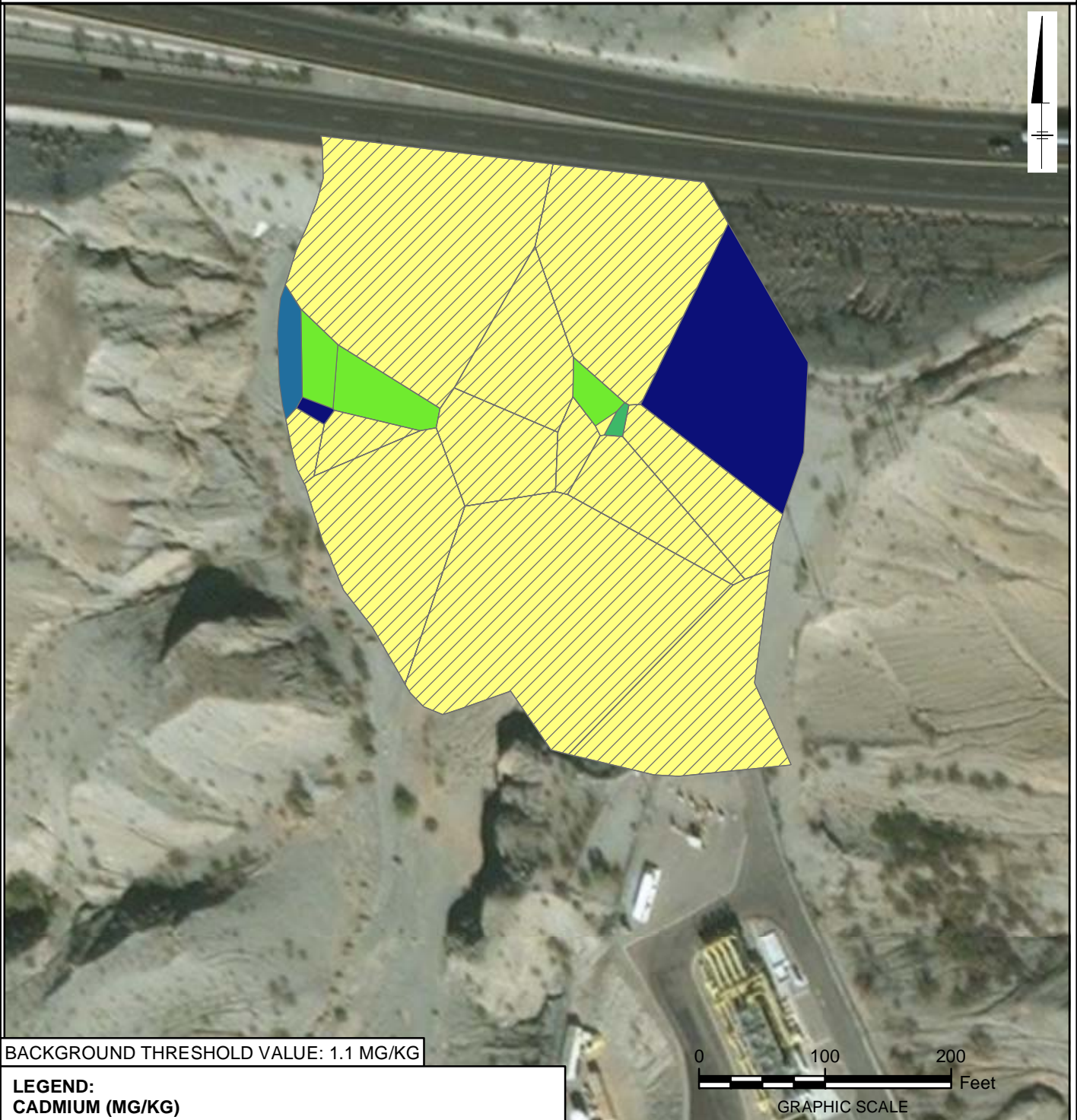
	NOT DETECTED
	67.00 - 67.00
	≥67.00 - 100.00
	≥100.00 - 122.00
	≥122.00 - 142.00
	≥142.00 - 200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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AOC 27 0 - 10 FEET BELOW GROUND SURFACE CADMIUM



BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

-  NOT DETECTED
-  0.30 - 0.53
-  $\geq 0.53 - 0.71$
-  $\geq 0.71 - 0.80$
-  $\geq 0.80 - 1.21$
-  $\geq 1.21 - 1.94$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

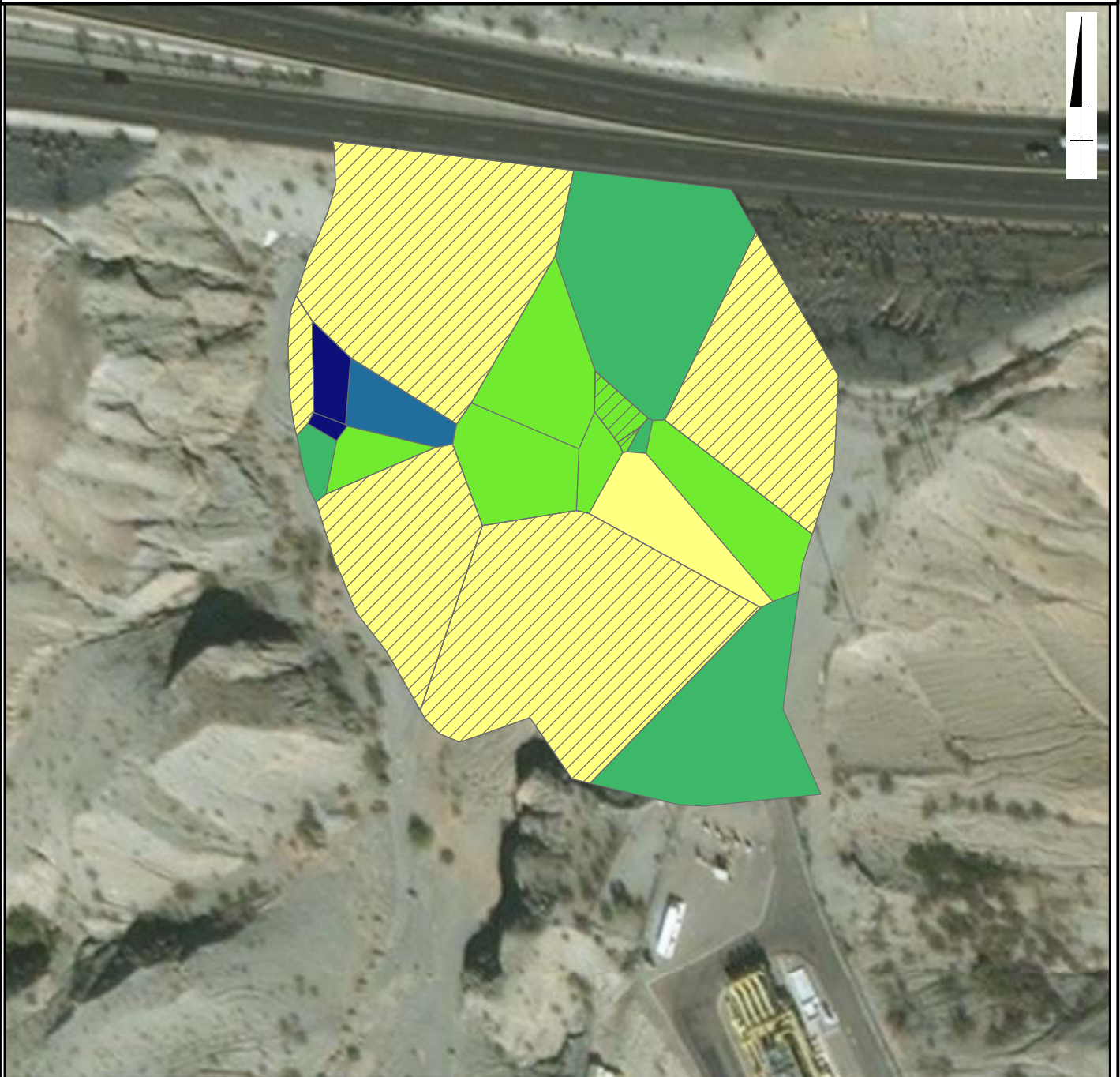
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FIGURE
AOC27-A3.100

AOC 27 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

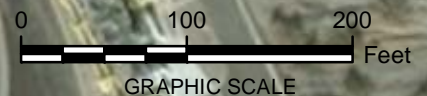


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 0.14
	≥0.14 - 0.20
	≥0.20 - 0.33
	≥0.33 - 0.50
	≥0.50 - 1.99

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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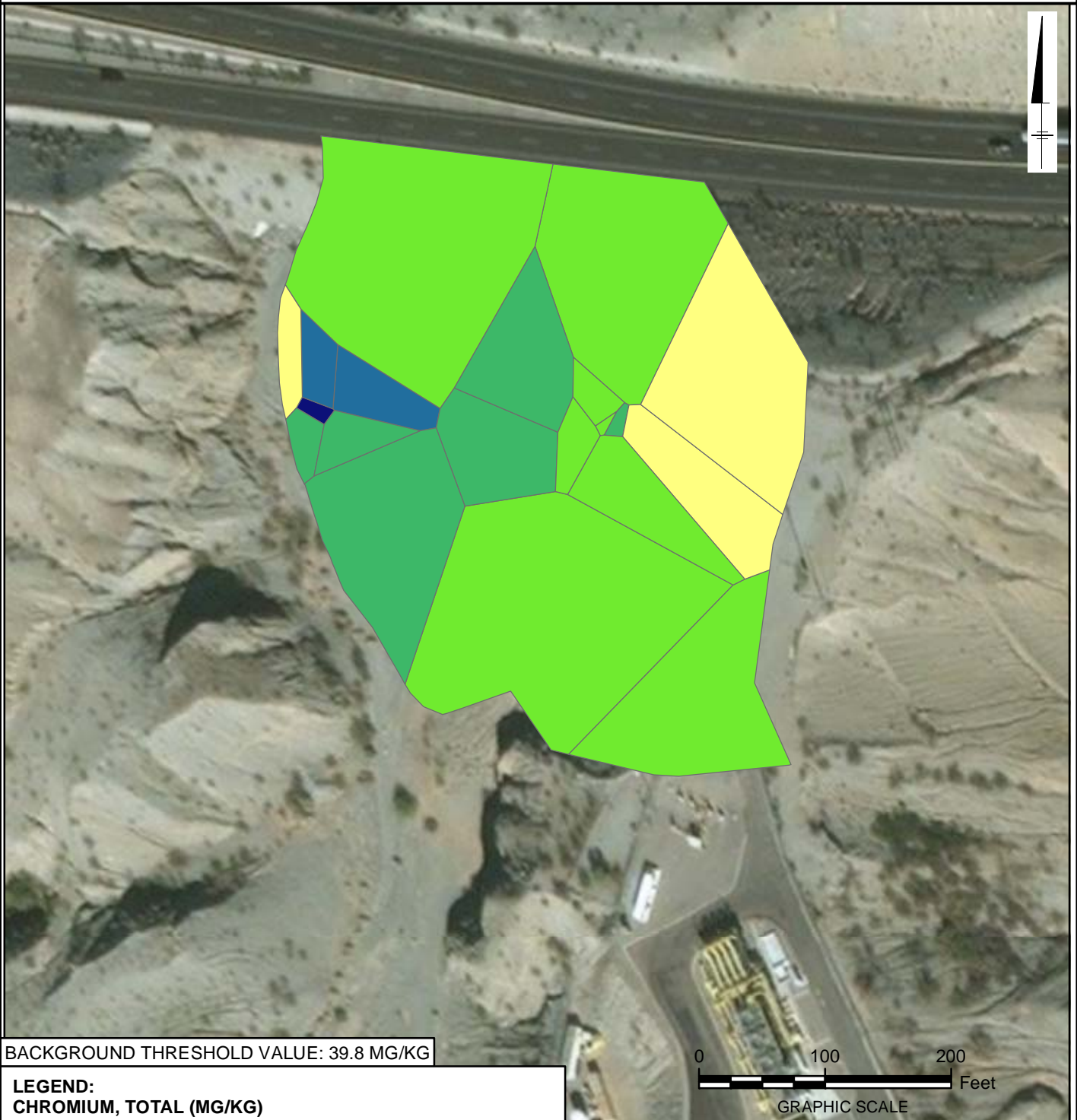
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FIGURE
AOC27-A3.101

AOC 27 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 11.00 - 13.50
- ≥13.50 - 16.20
- ≥16.20 - 19.10
- ≥19.10 - 35.30
- ≥35.30 - 125.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

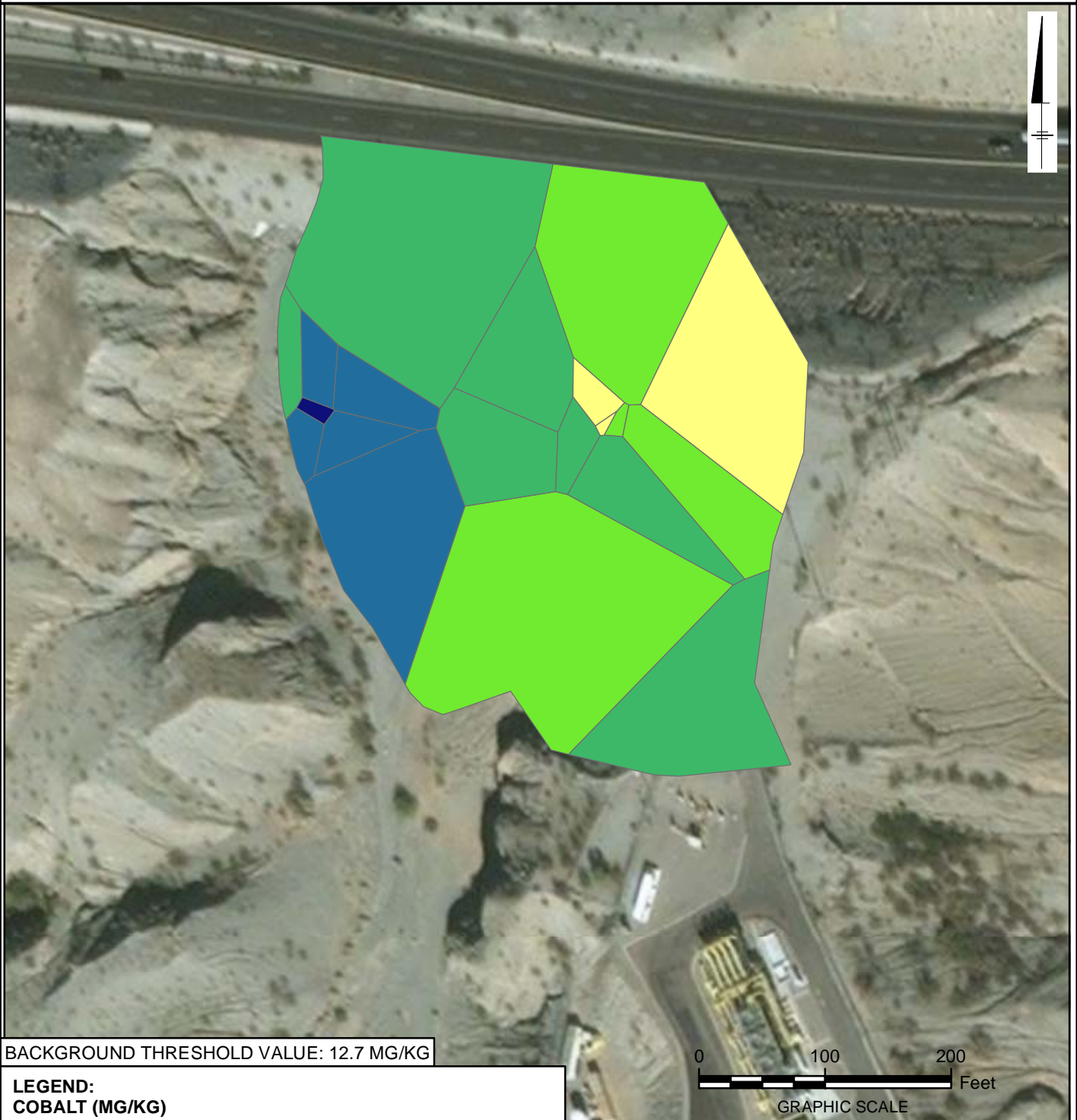
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FIGURE
AOC27-A3.102

AOC 27 0 - 10 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

-  NOT DETECTED
-  3.40 - 3.90
-  $\geq 3.90 - 5.54$
-  $\geq 5.54 - 6.74$
-  $\geq 6.74 - 7.91$
-  $\geq 7.91 - 10.90$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

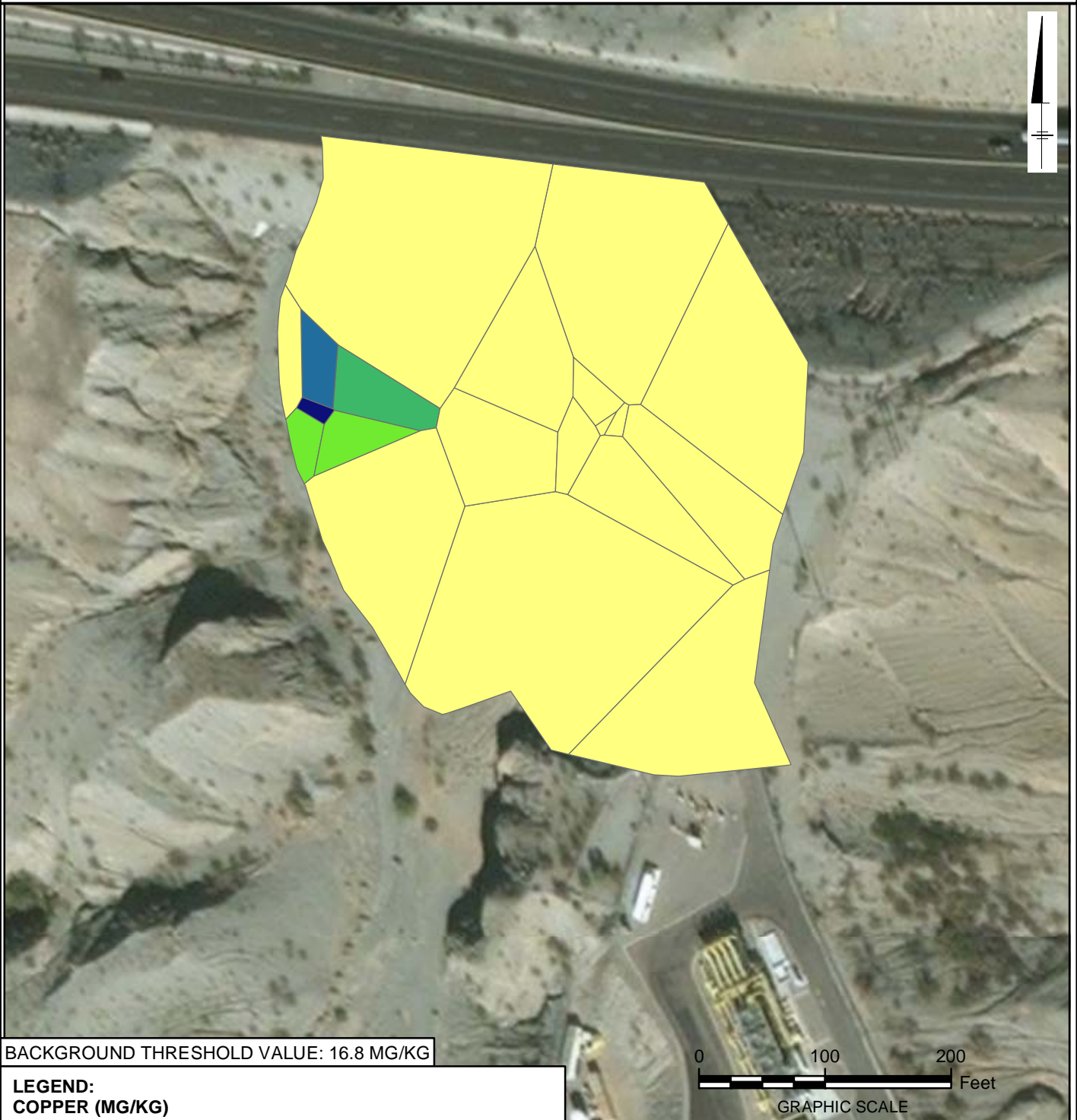
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FIGURE
AOC27-A3.103

AOC 27 0 - 10 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND:
COPPER (MG/KG)

	NOT DETECTED
	6.60 - 13.60
	≥13.60 - 22.00
	≥22.00 - 39.10
	≥39.10 - 132.00
	≥132.00 - 421.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

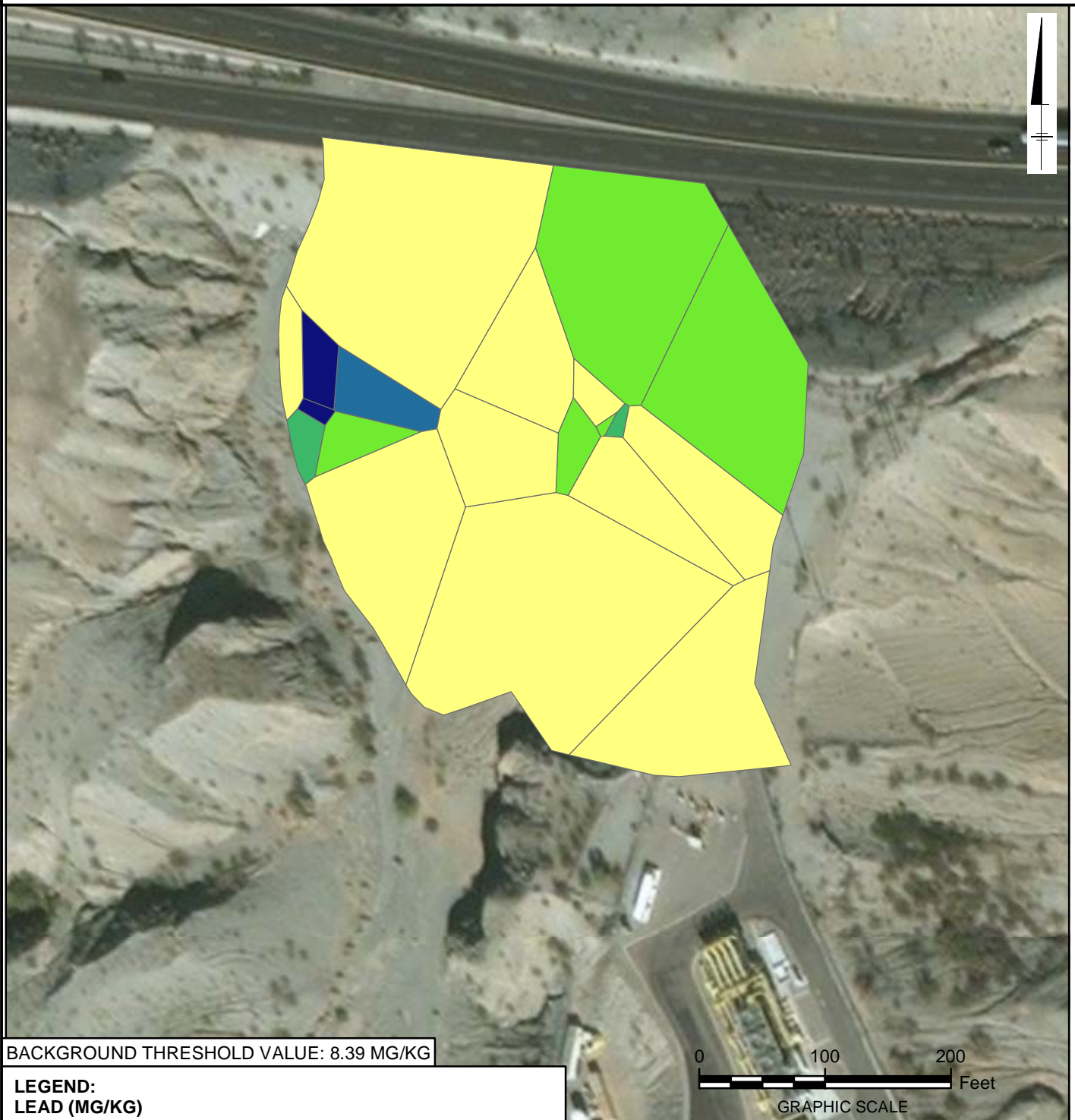
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**FIGURE
AOC27-A3.104**

AOC 27 0 - 10 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

- NOT DETECTED
- 3.53 - 6.40
- ≥6.40 - 10.00
- ≥10.00 - 15.10
- ≥15.10 - 72.70
- ≥72.70 - 206.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

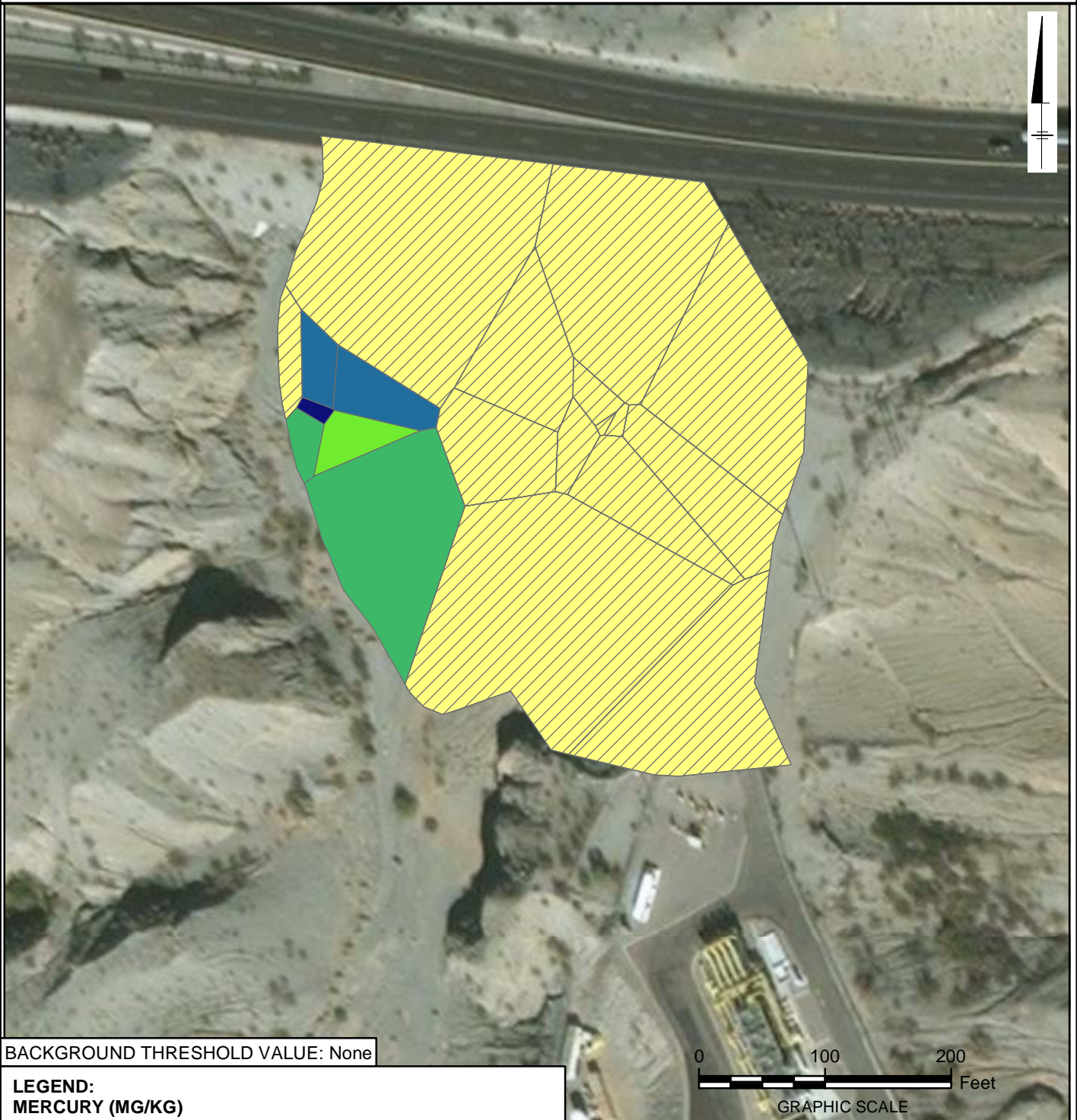
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FIGURE
AOC27-A3.105

AOC 27 0 - 10 FEET BELOW GROUND SURFACE MERCURY



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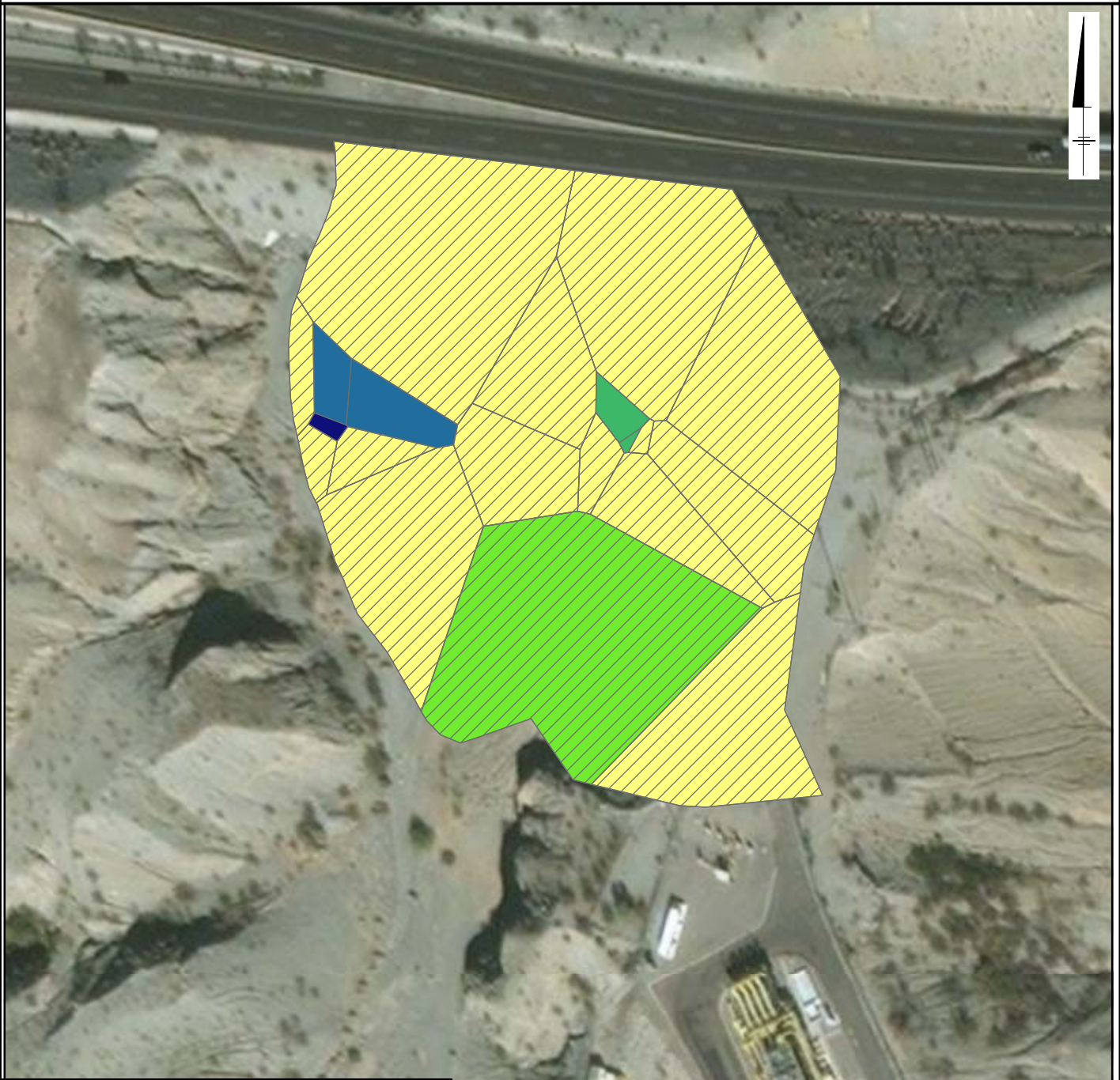
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FIGURE
AOC27-A3.106

AOC 27 0 - 10 FEET BELOW GROUND SURFACE MOLYBDENUM

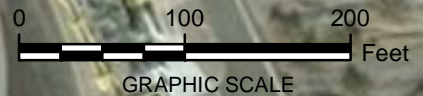


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

- NOT DETECTED
- 0.50 - 0.50
- $\geq 0.50 - 0.53$
- $\geq 0.53 - 0.70$
- $\geq 0.70 - 2.06$
- $\geq 2.06 - 10.30$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



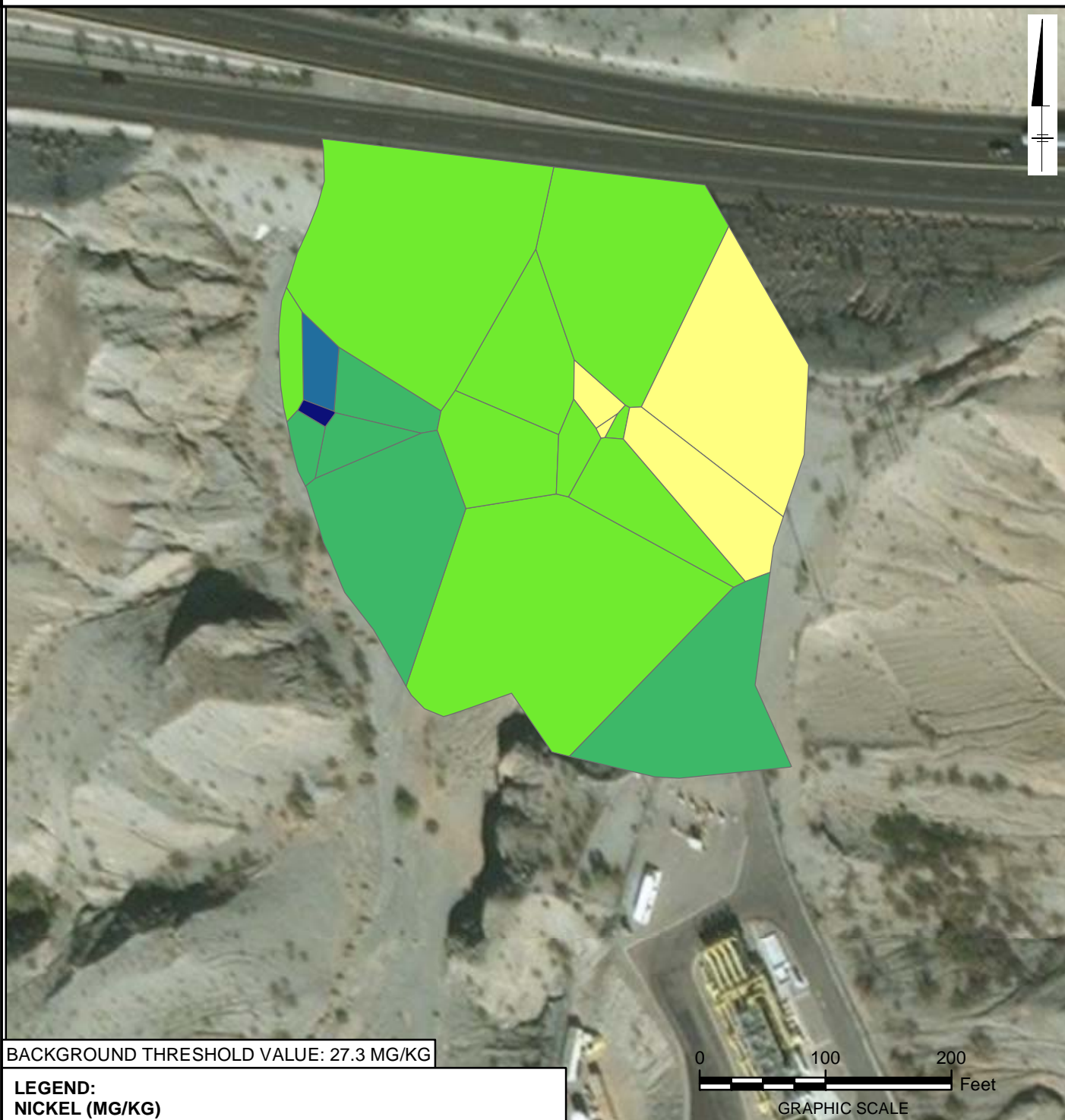
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FIGURE
AOC27-A3.107

AOC 27 0 - 10 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 6.70 - 7.20
- ≥7.20 - 10.10
- ≥10.10 - 14.30
- ≥14.30 - 22.20
- ≥22.20 - 42.10

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

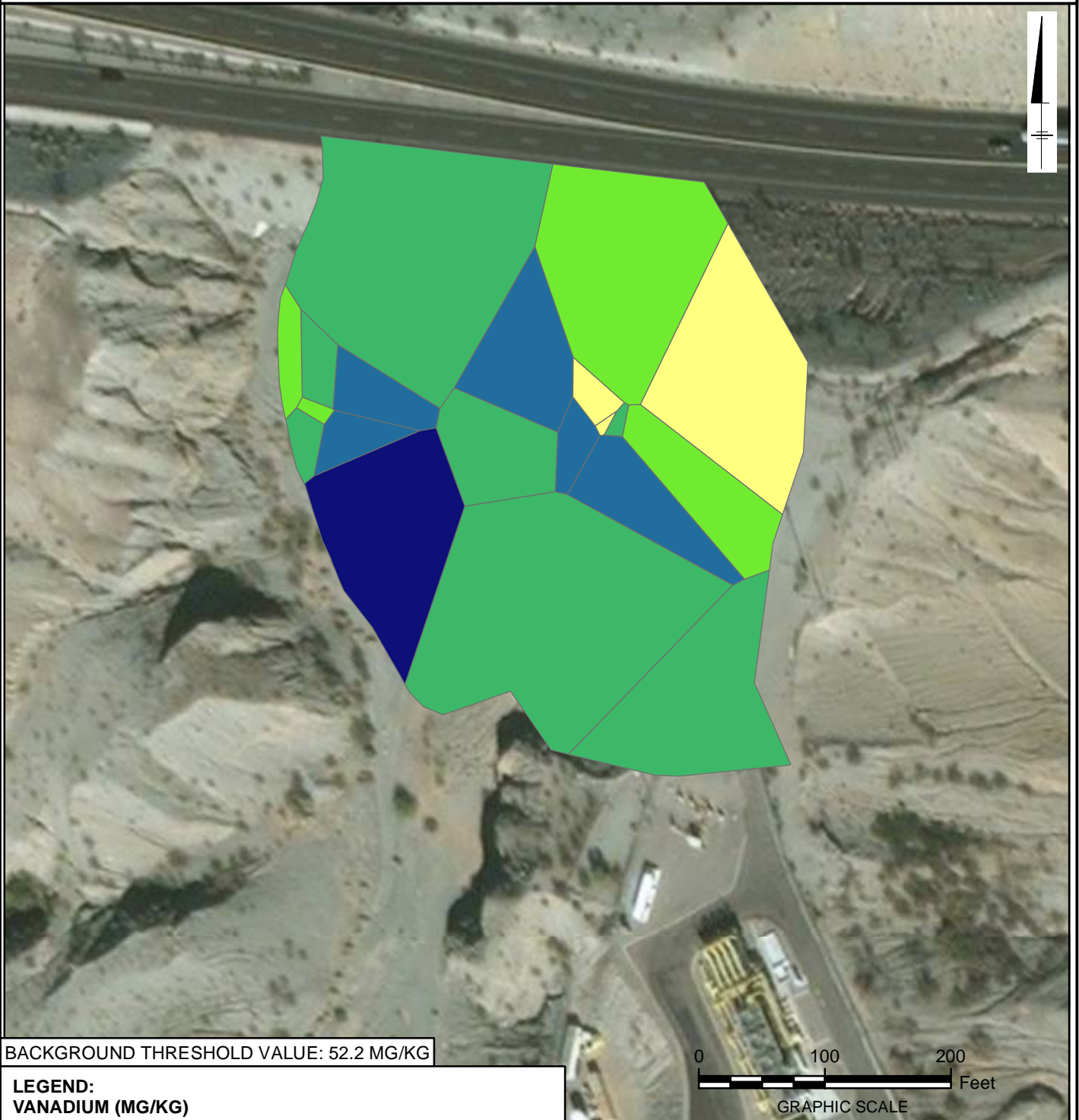
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FIGURE
AOC27-A3.108

AOC 27 0 - 10 FEET BELOW GROUND SURFACE VANADIUM



LEGEND: VANADIUM (MG/KG)

- NOT DETECTED
- 17.00 - 18.00
- ≥18.00 - 25.00
- ≥25.00 - 29.00
- ≥29.00 - 31.50
- ≥31.50 - 35.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

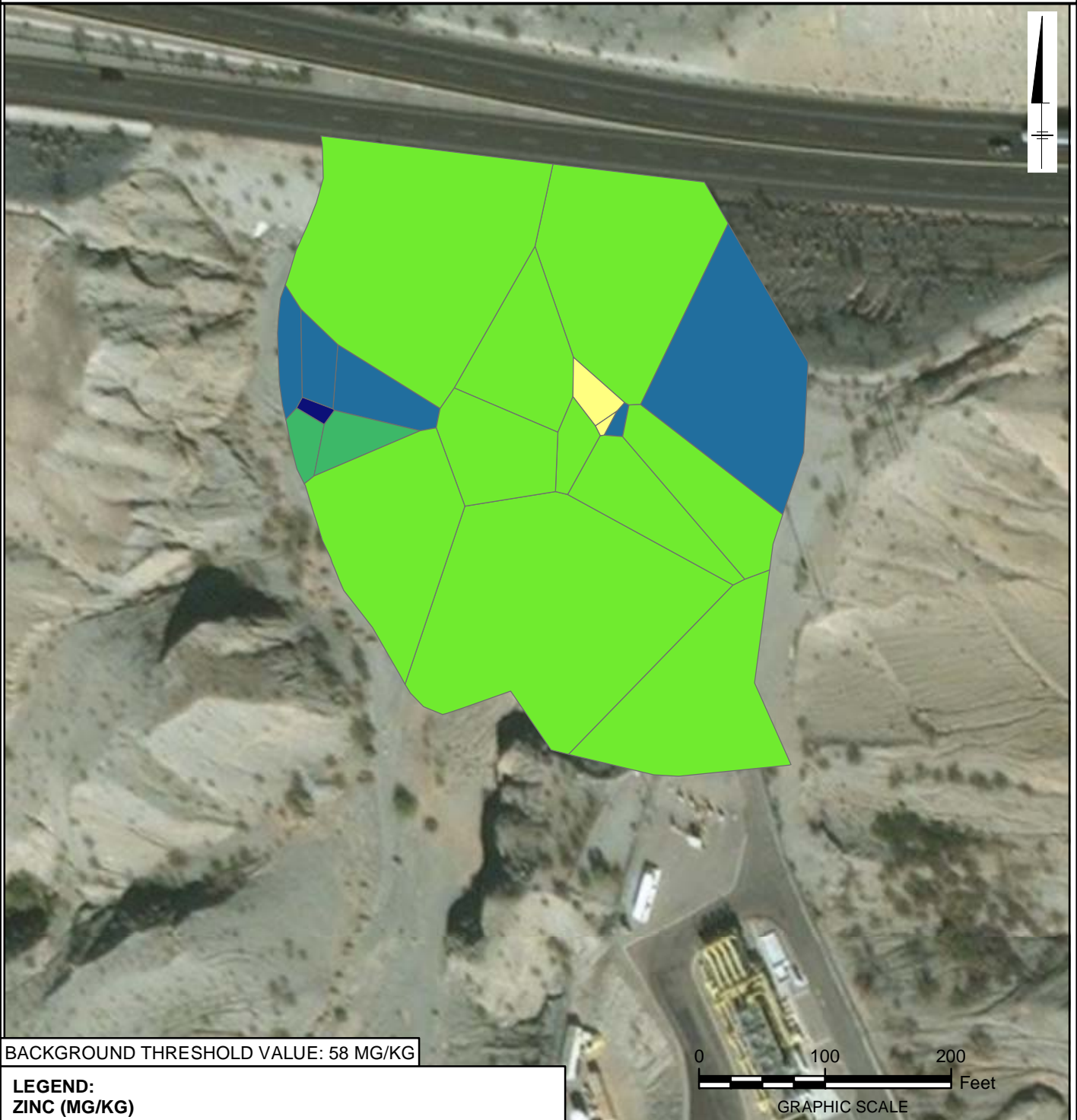
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FIGURE
AOC27-A3.109

AOC 27 0 - 10 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 16.00 - 17.00
- ≥ 17.00 - 45.00
- ≥ 45.00 - 69.00
- ≥ 69.00 - 263.00
- ≥ 263.00 - 493.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

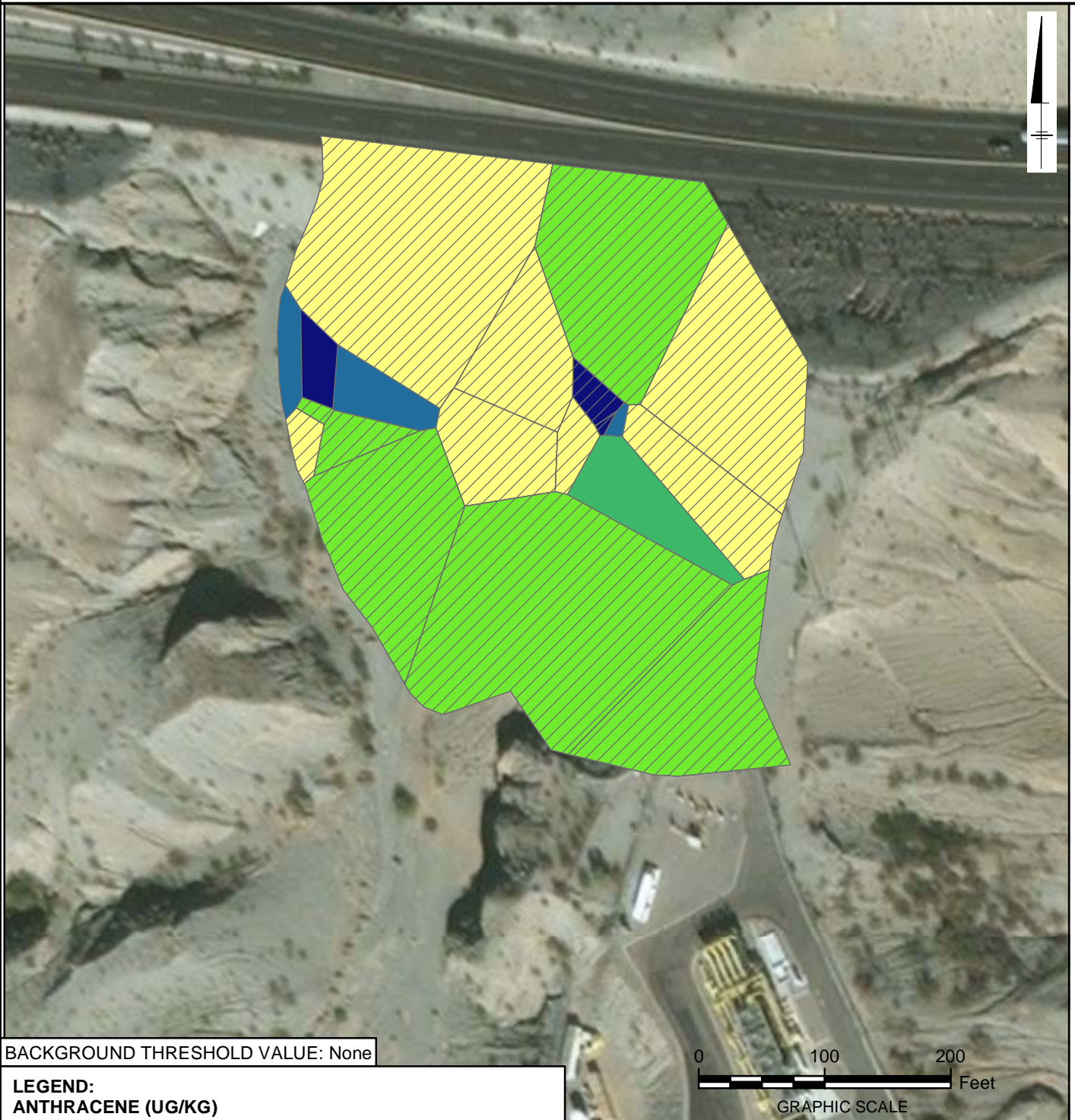
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FIGURE
AOC27-A3.110

AOC 27 0 - 10 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.55 - 2.57
- ≥2.57 - 2.64
- ≥2.64 - 3.38
- ≥3.38 - 13.00
- ≥13.00 - 165.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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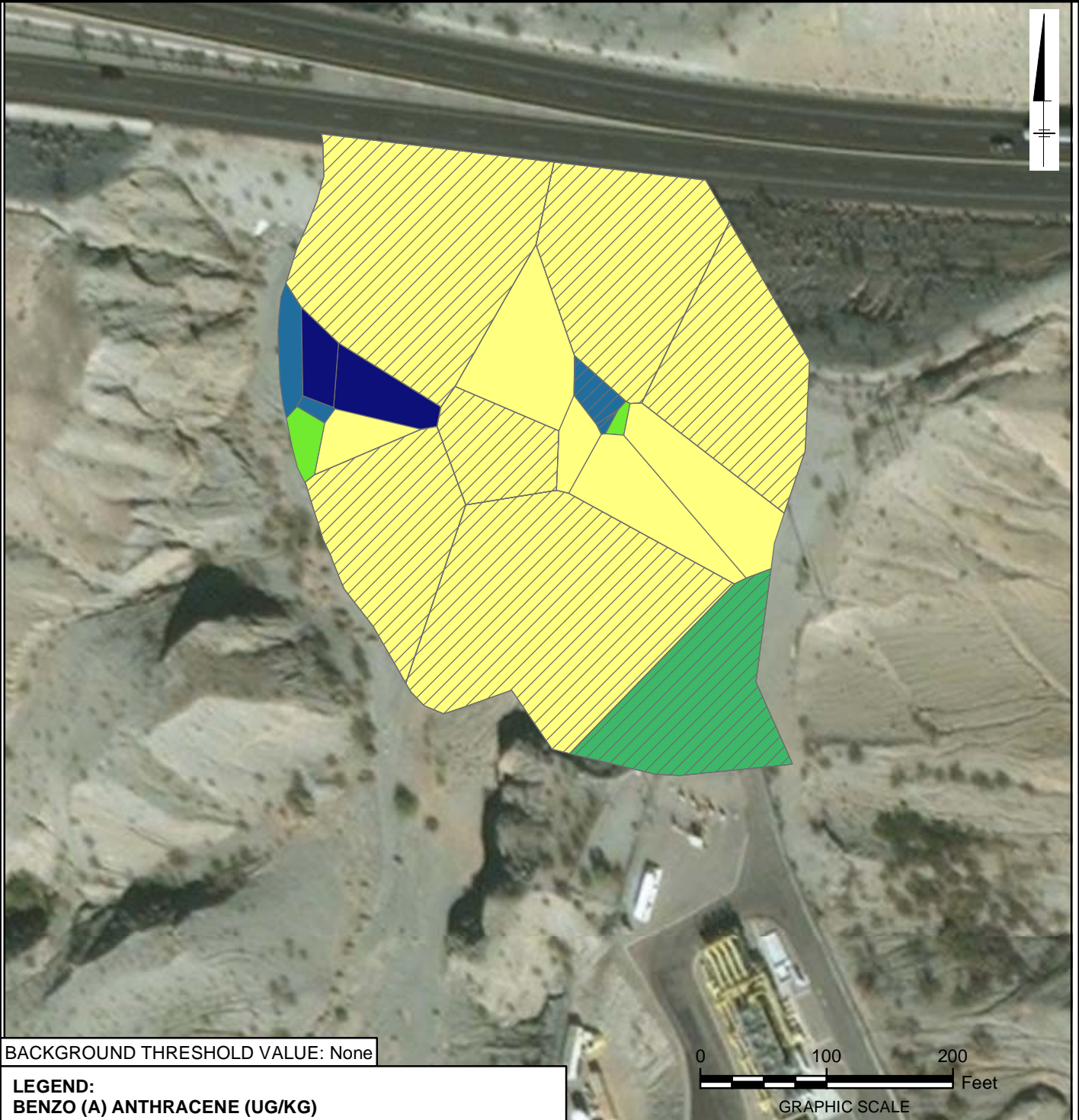


FIGURE
AOC27-A3.111

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

BENZO (A) ANTHRACENE



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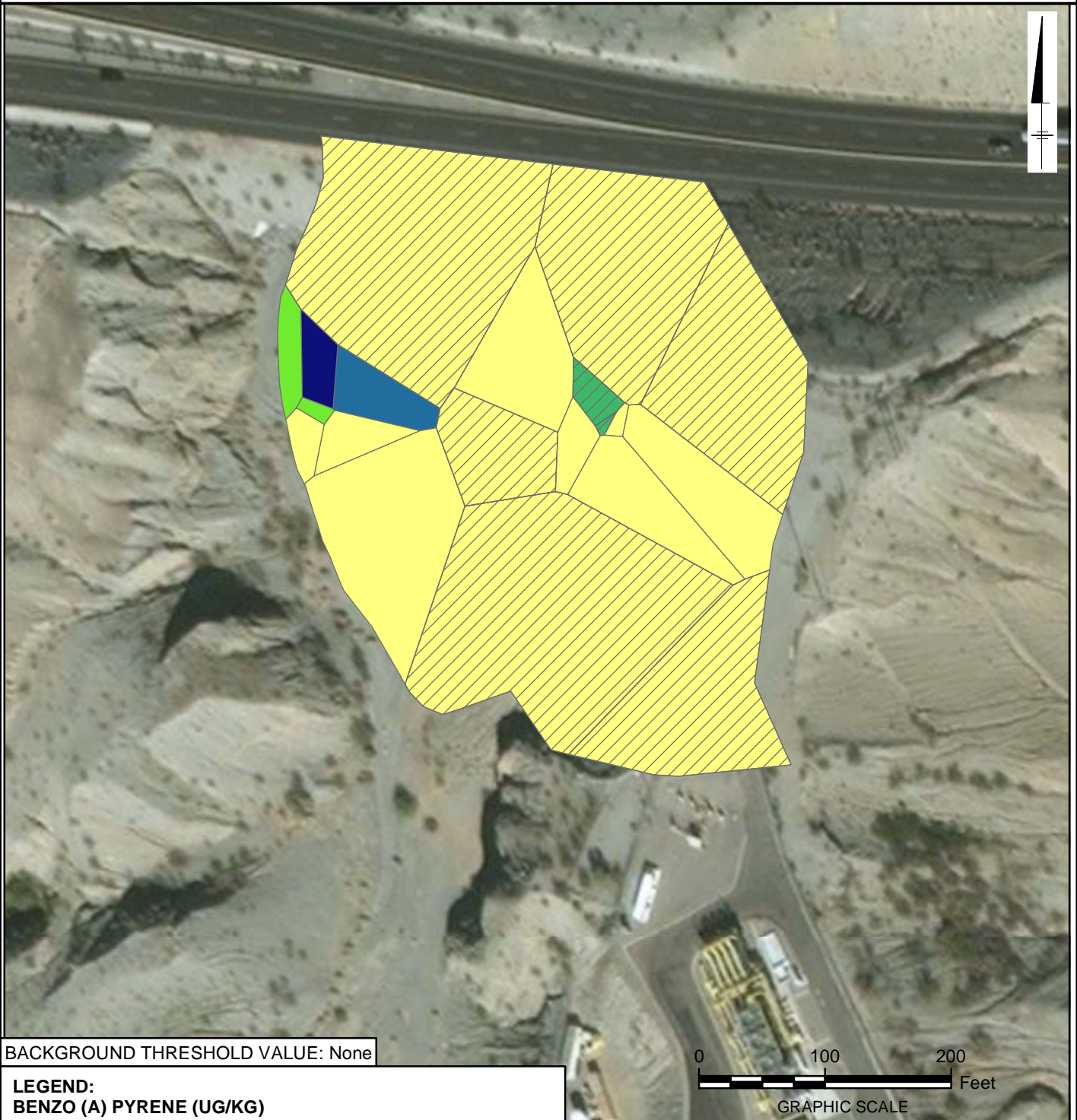
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FIGURE
AOC27-A3.112

AOC 27 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

- NOT DETECTED
- 2.55 - 26.00
- ≥ 26.00 - 77.80
- ≥ 77.80 - 165.00
- ≥ 165.00 - 334.00
- ≥ 334.00 - 686.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

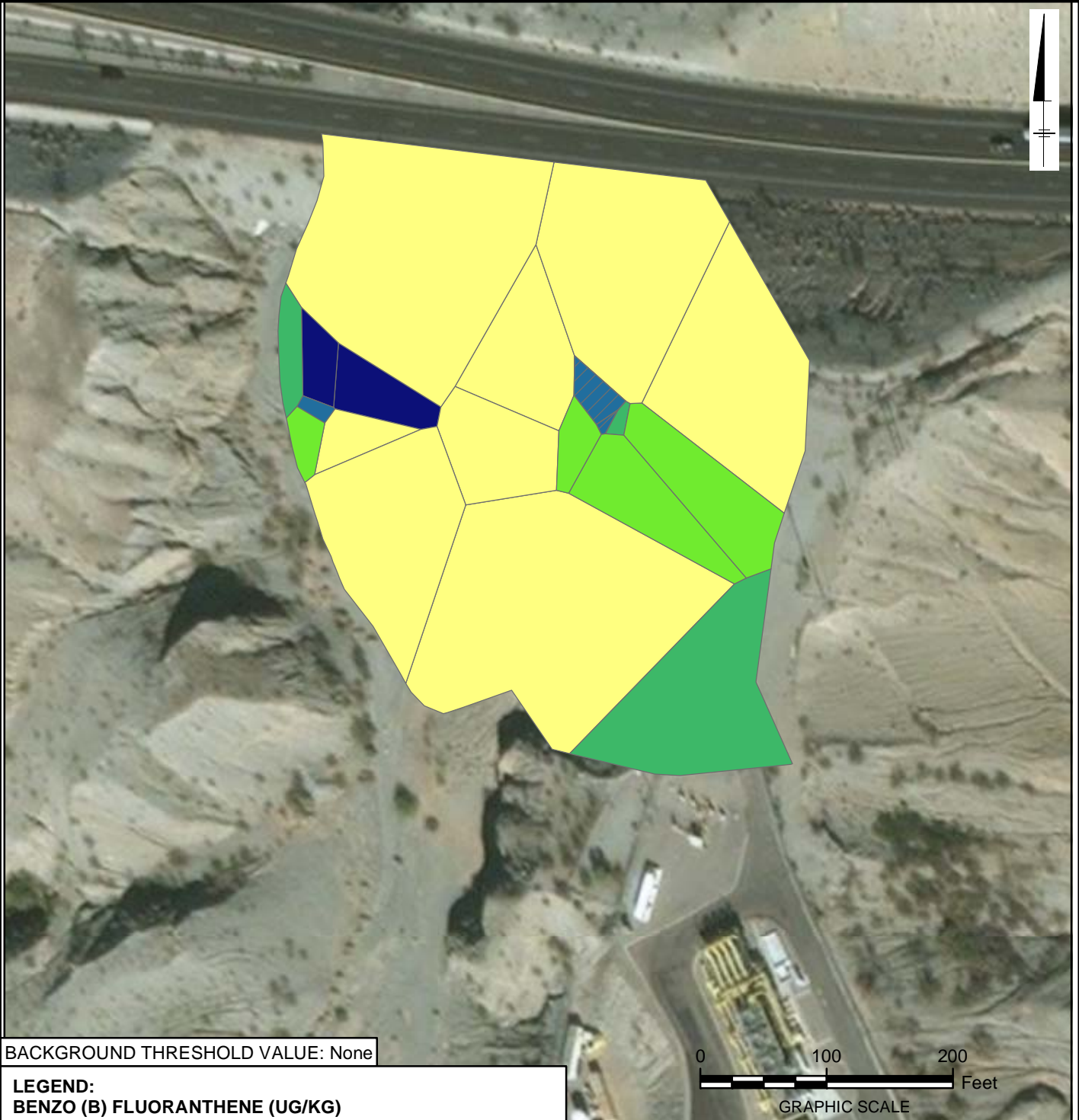
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FIGURE
AOC27-A3.113

AOC 27 0 - 10 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 3.54 - 11.80
- ≥11.80 - 24.80
- ≥24.80 - 114.00
- ≥114.00 - 227.00
- ≥227.00 - 1230.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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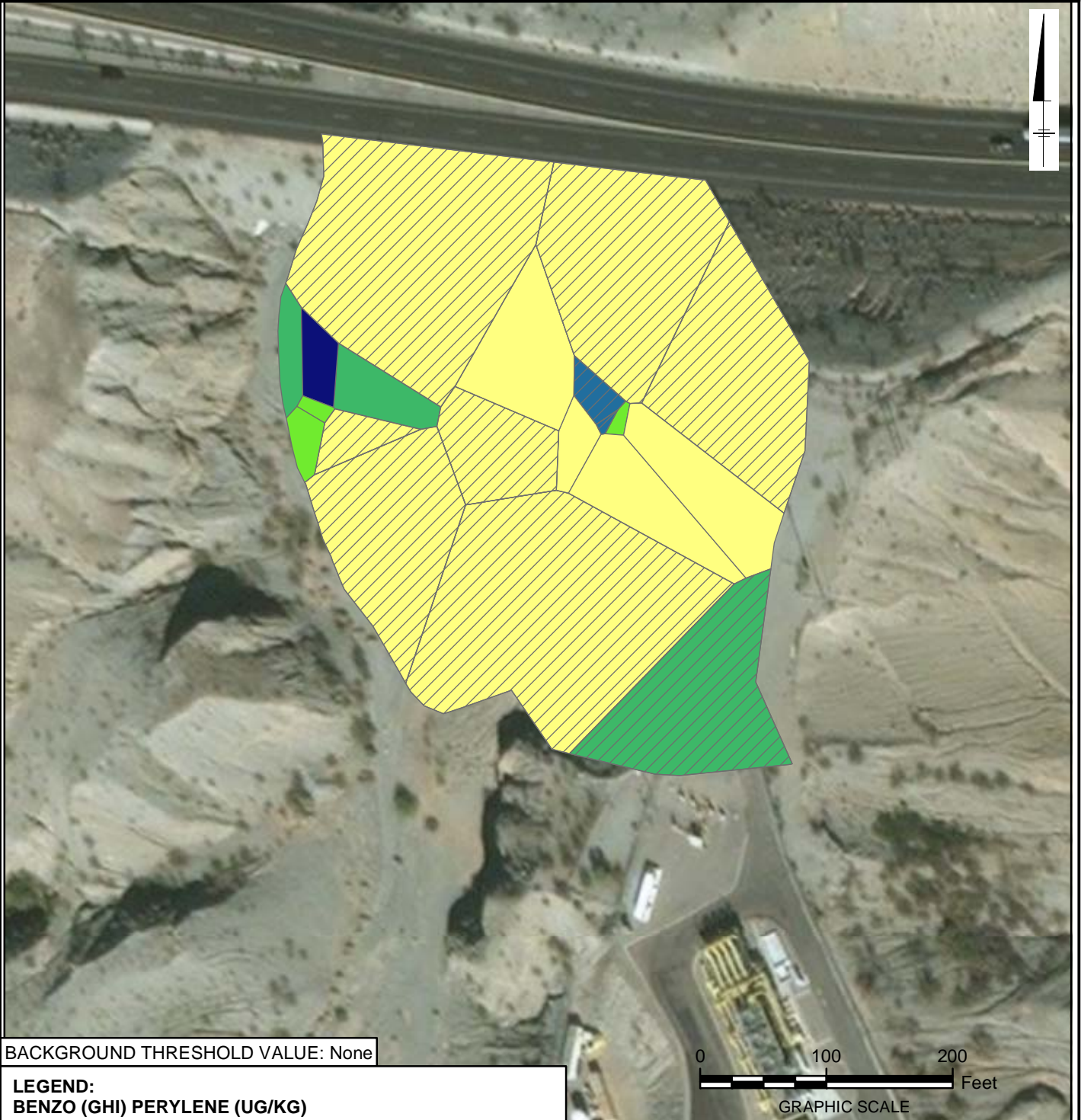


FIGURE
AOC27-A3.114

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

- NOT DETECTED
- 2.55 - 6.29
- ≥6.29 - 14.80
- ≥14.80 - 56.10
- ≥56.10 - 165.00
- ≥165.00 - 310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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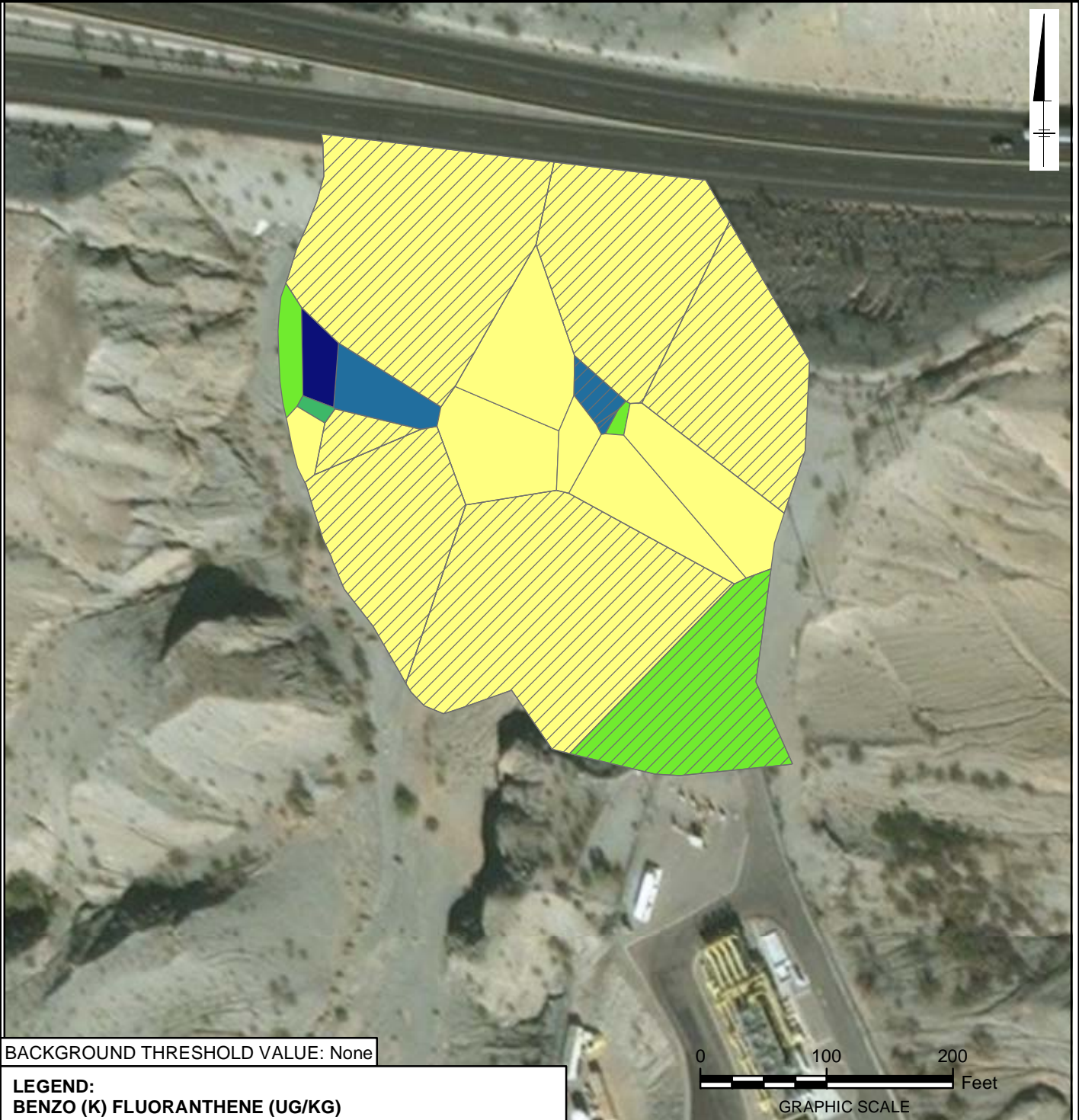


FIGURE
AOC27-A3.115

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

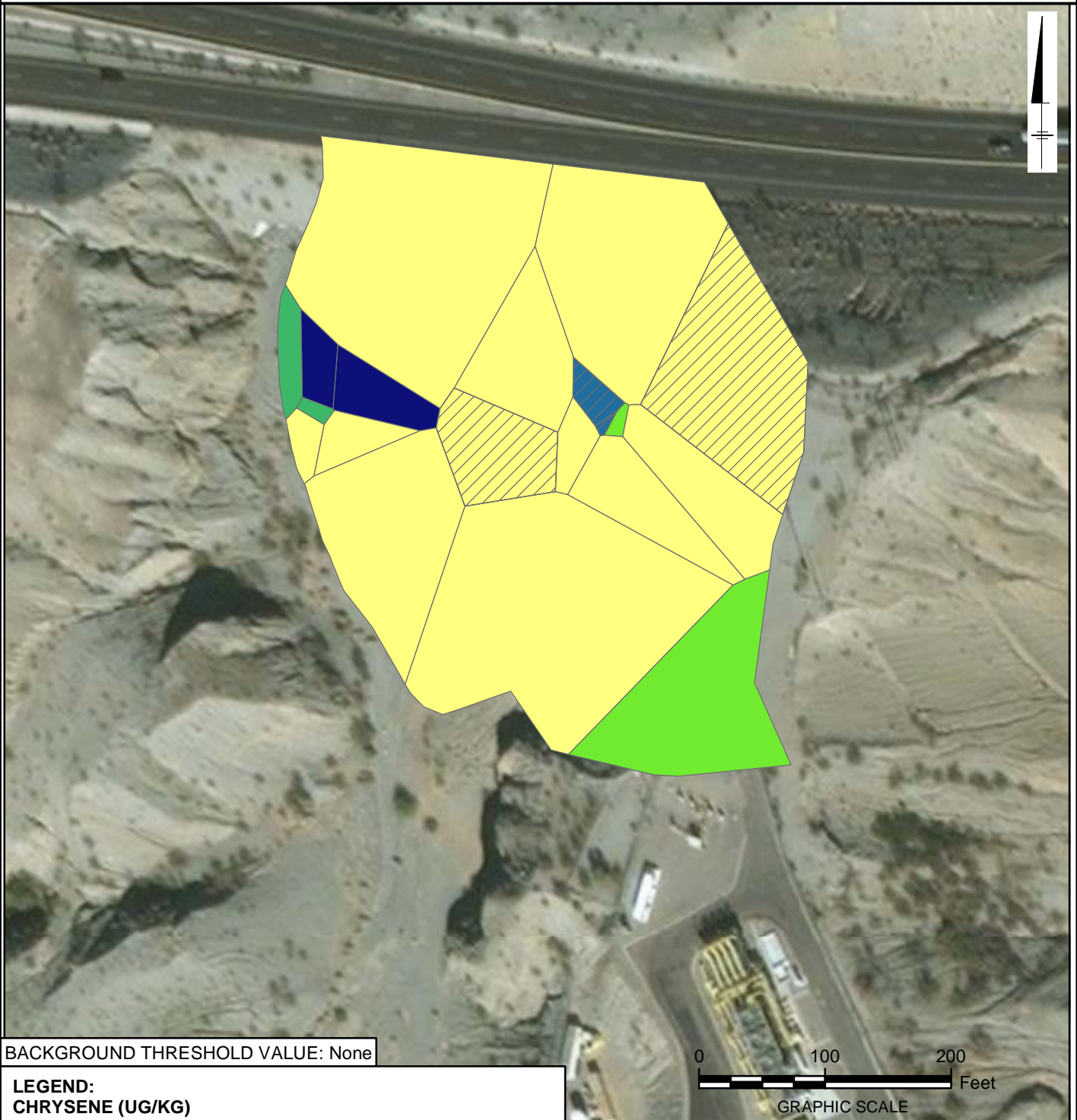
BENZO (K) FLUORANTHENE



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THIESSEN POLYGONS FOR AREA WEIGHTING

AOC 27 0 - 10 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

-  NOT DETECTED
-  2.55 - 16.80
-  ≥16.80 - 52.00
-  ≥52.00 - 111.00
-  ≥111.00 - 165.00
-  ≥165.00 - 779.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

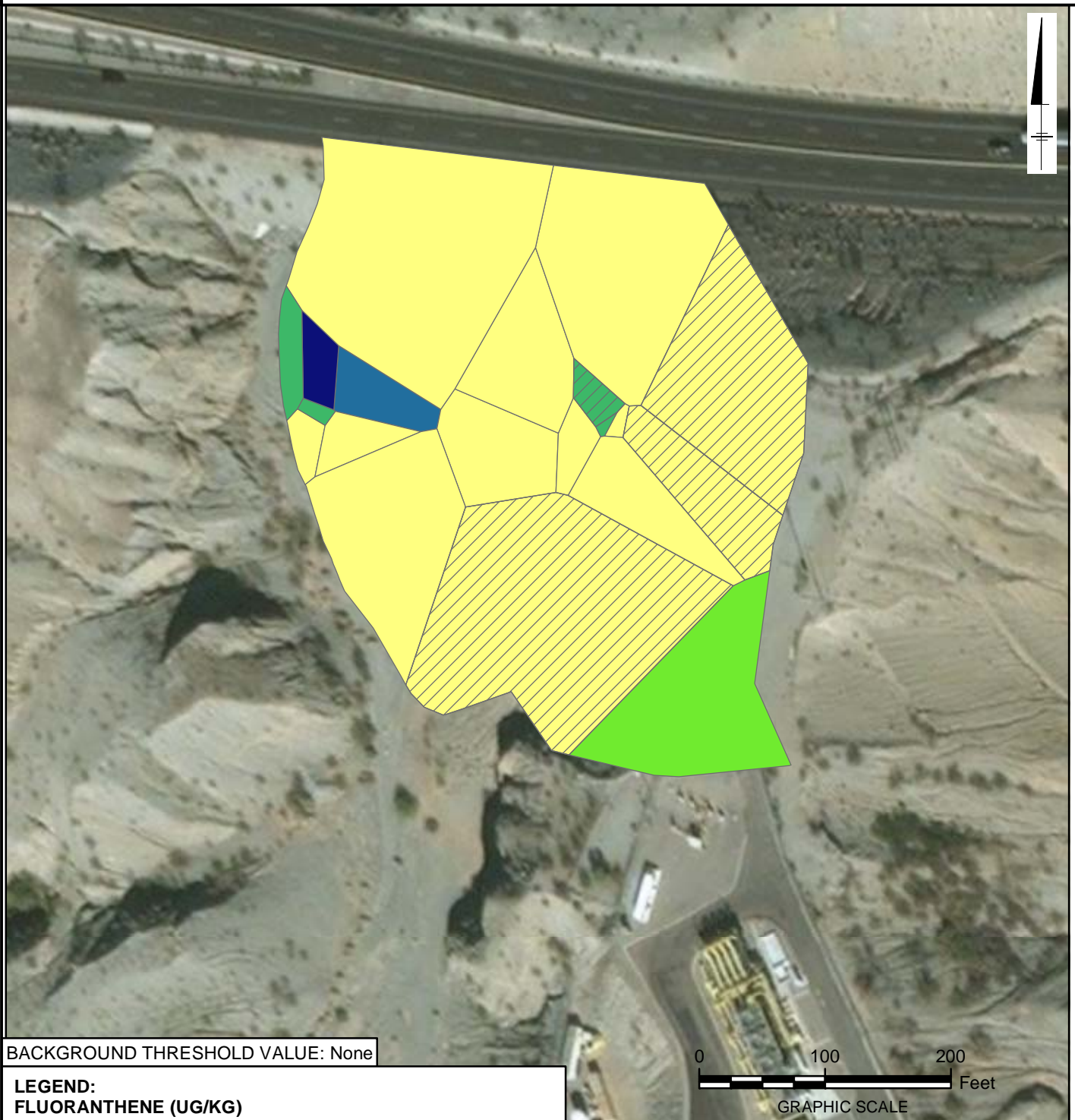
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FIGURE
AOC27-A3.117

AOC 27 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.55 - 17.80
- ≥17.80 - 56.00
- ≥56.00 - 370.00
- ≥370.00 - 1060.00
- ≥1060.00 - 1920.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

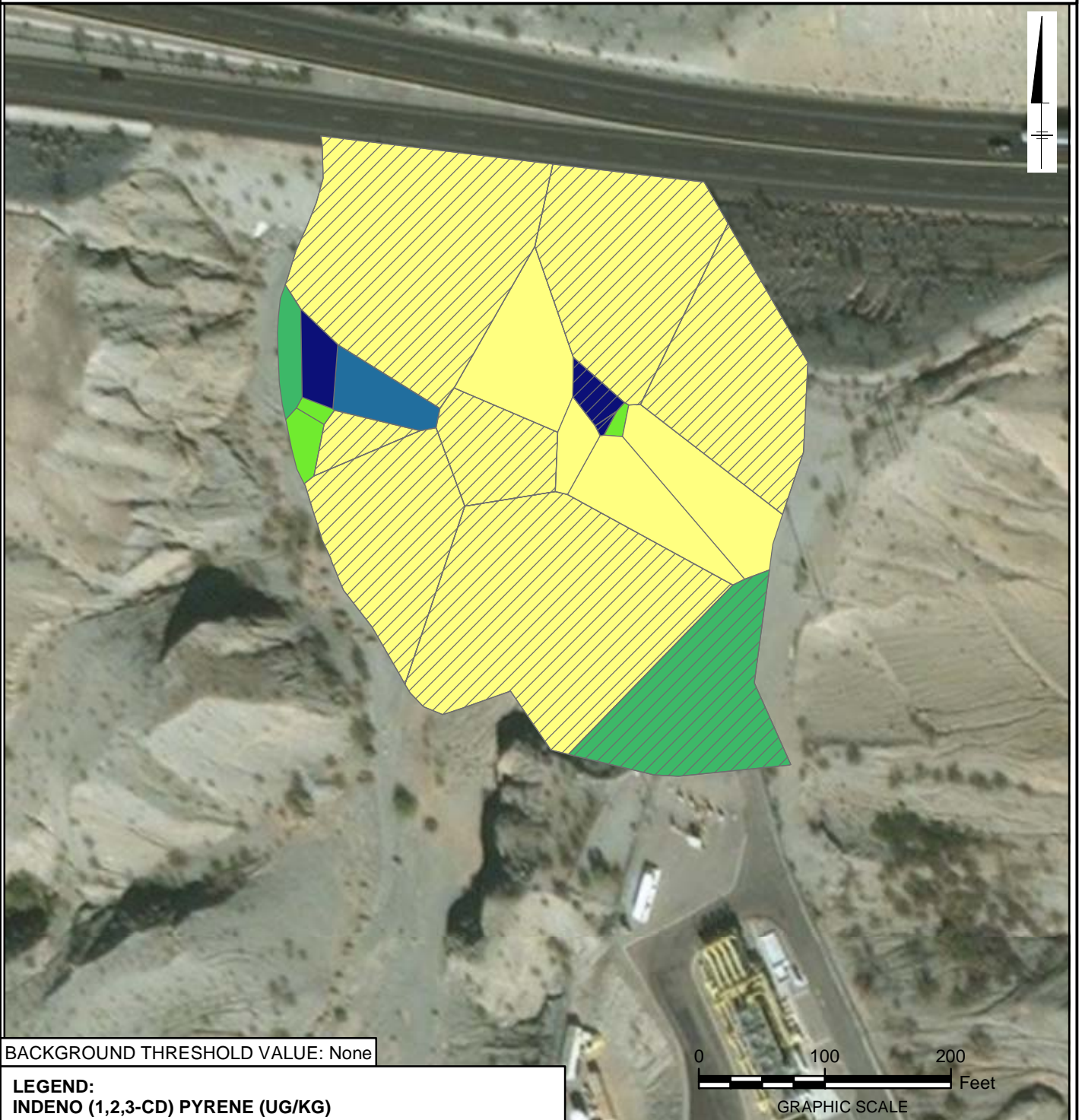
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FIGURE
AOC27-A3.118

AOC 27 0 - 10 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



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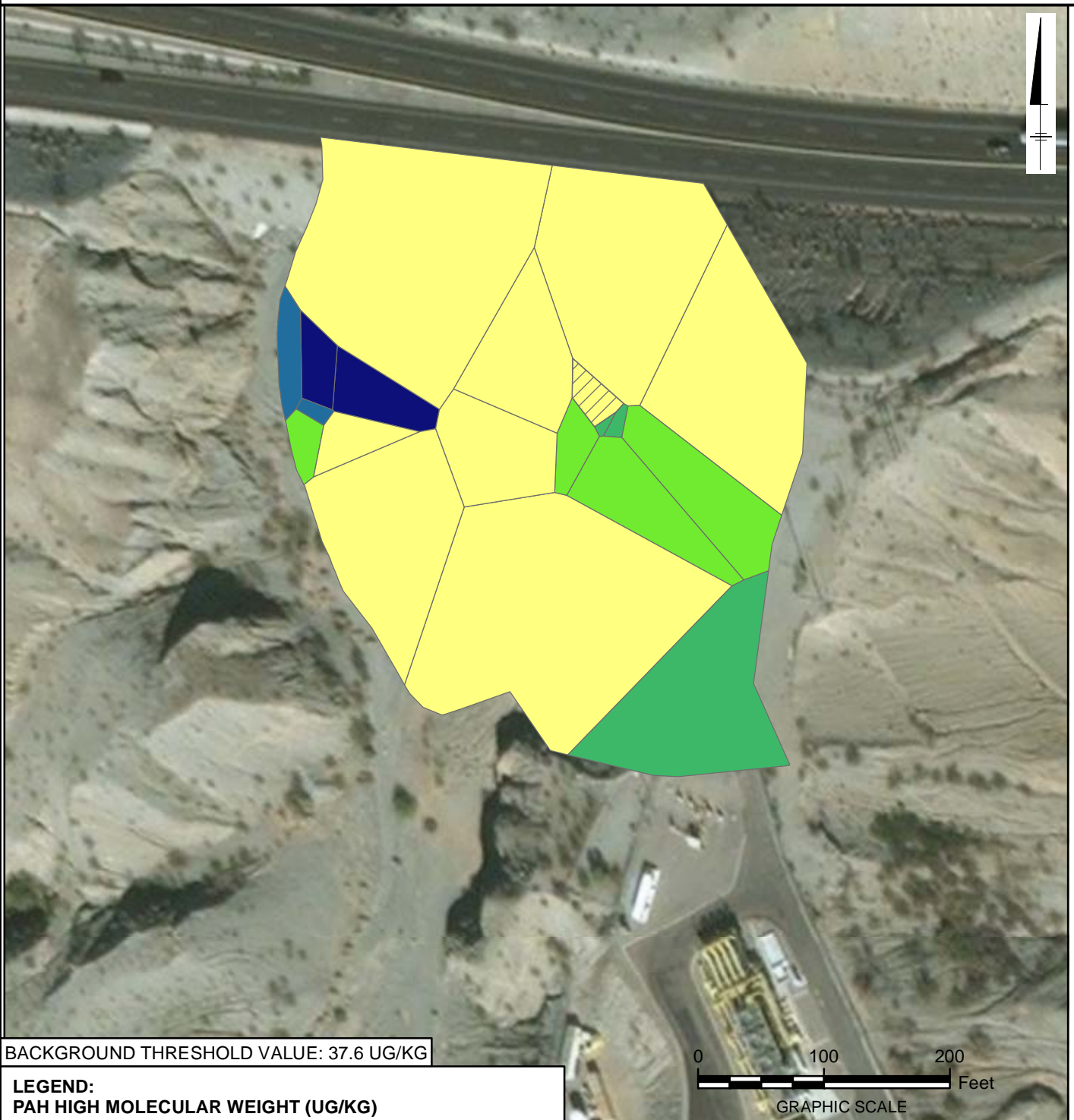
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FIGURE
AOC27-A3.119

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

PAH HIGH MOLECULAR WEIGHT



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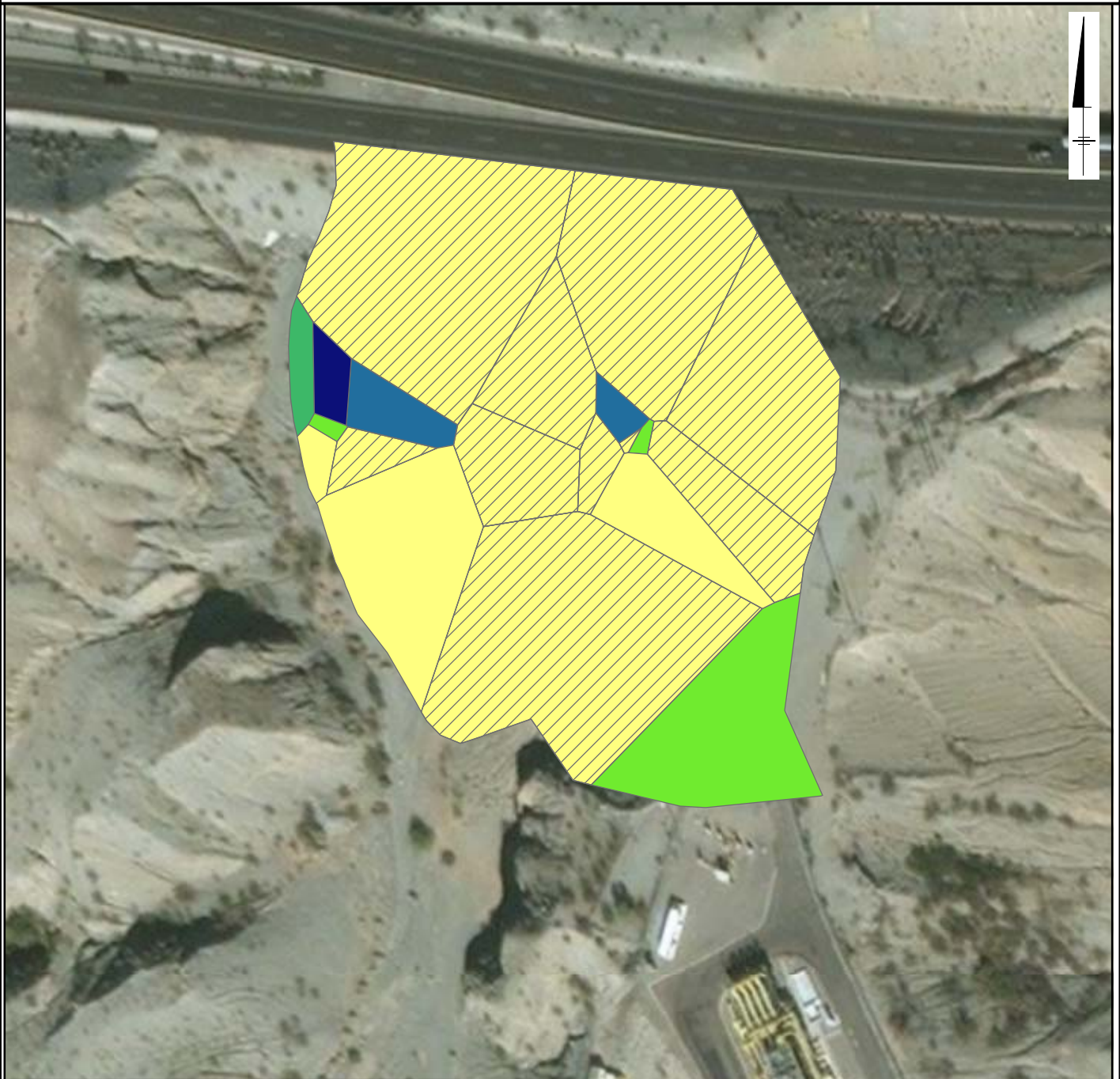
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FIGURE
AOC27-A3.120

AOC 27 0 - 10 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

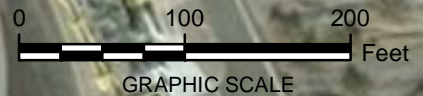


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 4.60
- ≥ 4.60 - 23.00
- ≥ 23.00 - 109.00
- ≥ 109.00 - 450.00
- ≥ 450.00 - 788.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



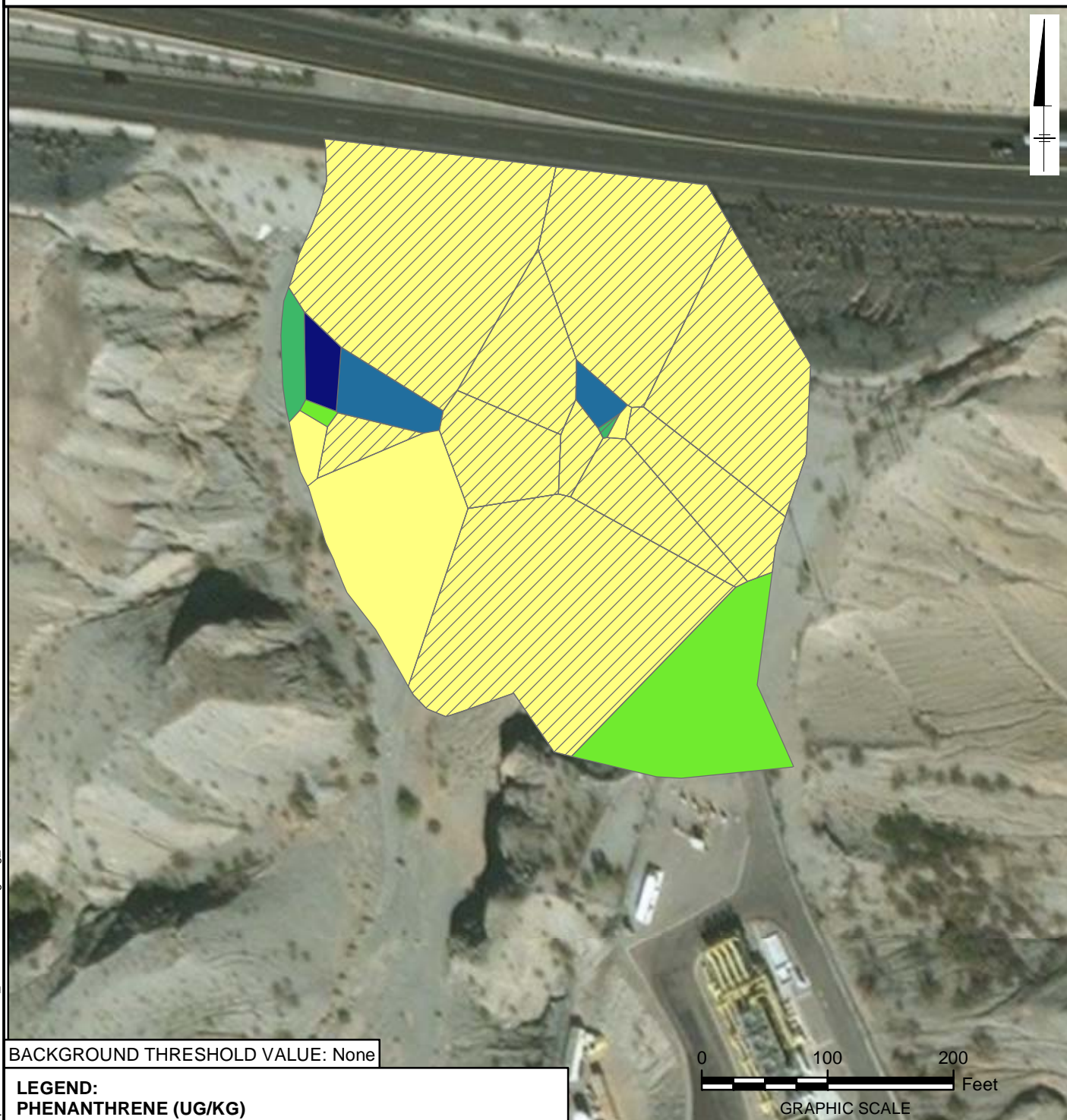
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FIGURE
AOC27-A3.121

AOC 27 0 - 10 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.53 - 5.88
	≥5.88 - 24.30
	≥24.30 - 165.00
	≥165.00 - 450.00
	≥450.00 - 631.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

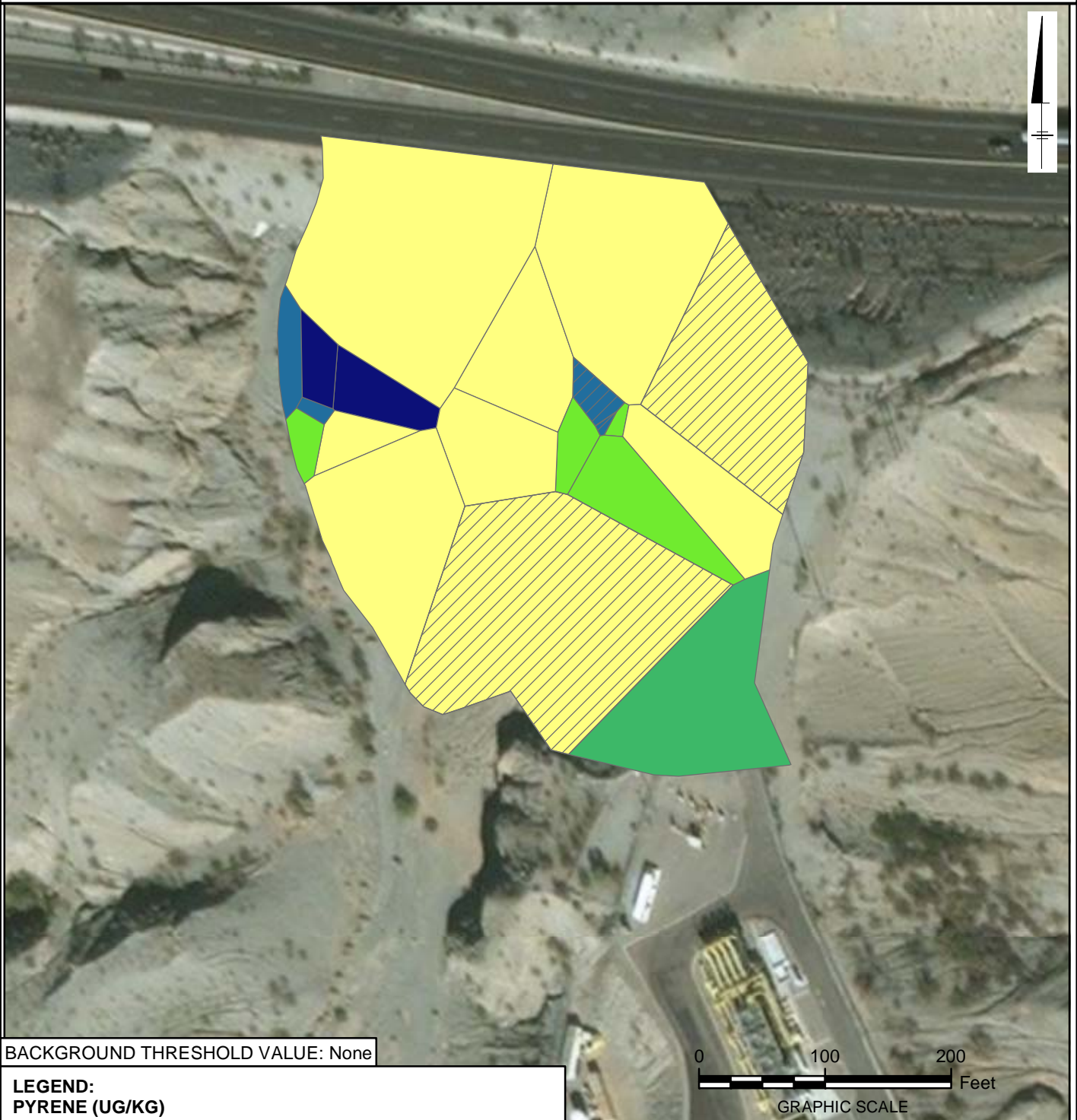
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FIGURE
AOC27-A3.122

AOC 27 0 - 10 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

- LEGEND:**
PYRENE (UG/KG)
- NOT DETECTED
 - 2.55 - 5.52
 - ≥5.52 - 18.80
 - ≥18.80 - 43.00
 - ≥43.00 - 165.00
 - ≥165.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

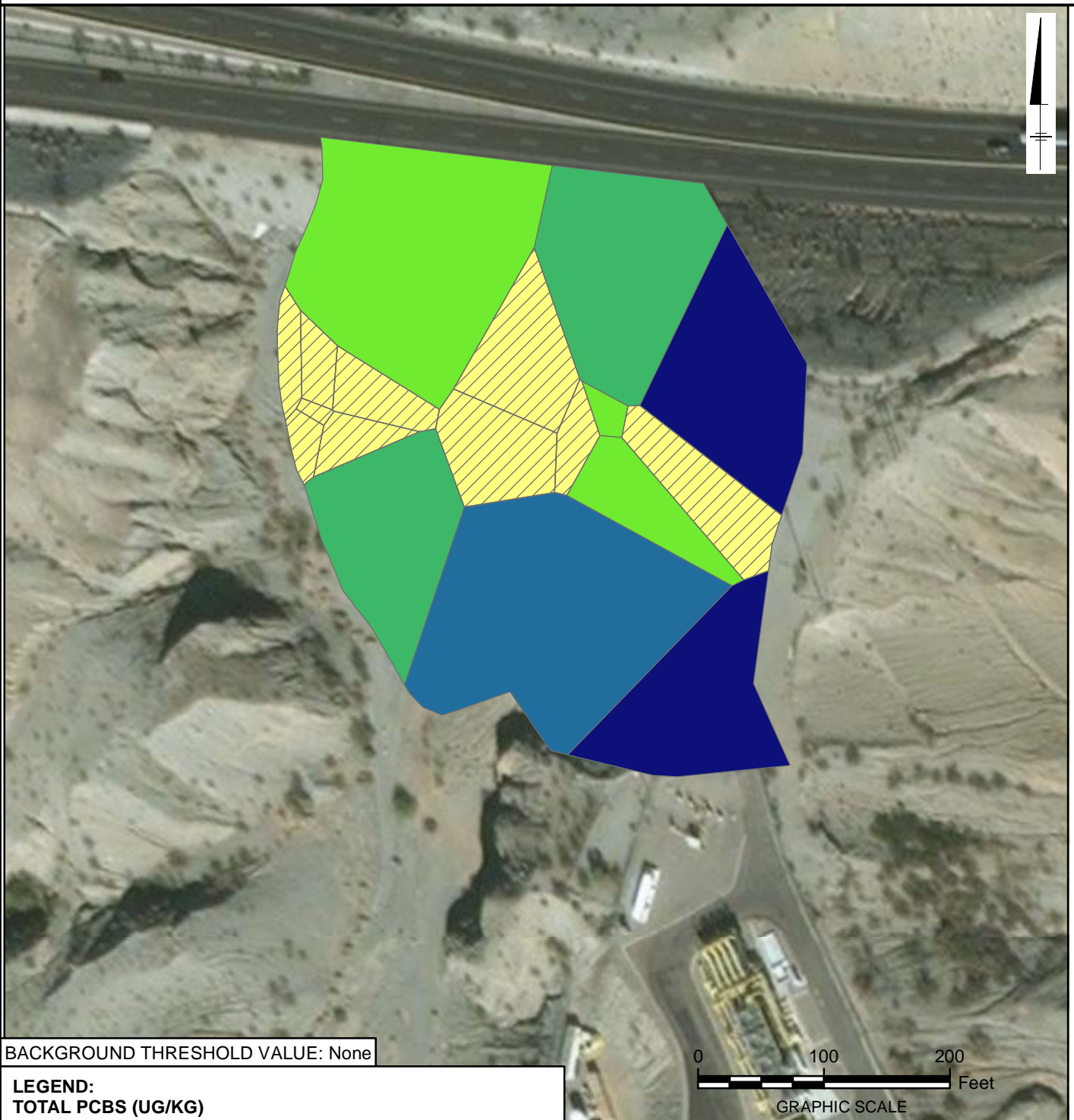
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**FIGURE
AOC27-A3.123**

AOC 27 0 - 10 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

- NOT DETECTED
- 8.50 - 8.80
- ≥8.80 - 11.00
- ≥11.00 - 13.20
- ≥13.20 - 20.30
- ≥20.30 - 47.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

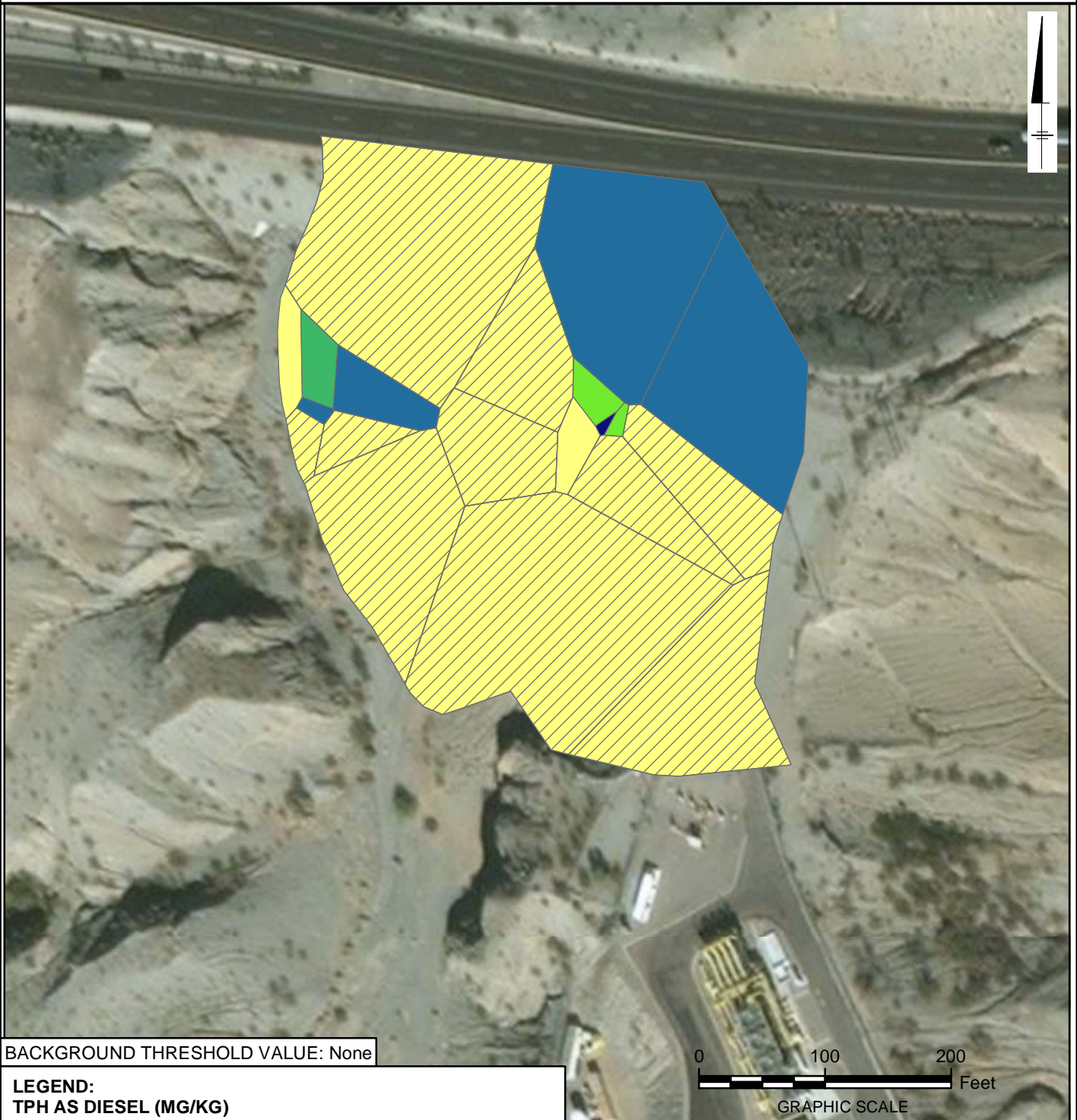
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FIGURE
AOC27-A3.124

AOC 27 0 - 10 FEET BELOW GROUND SURFACE TPH AS DIESEL



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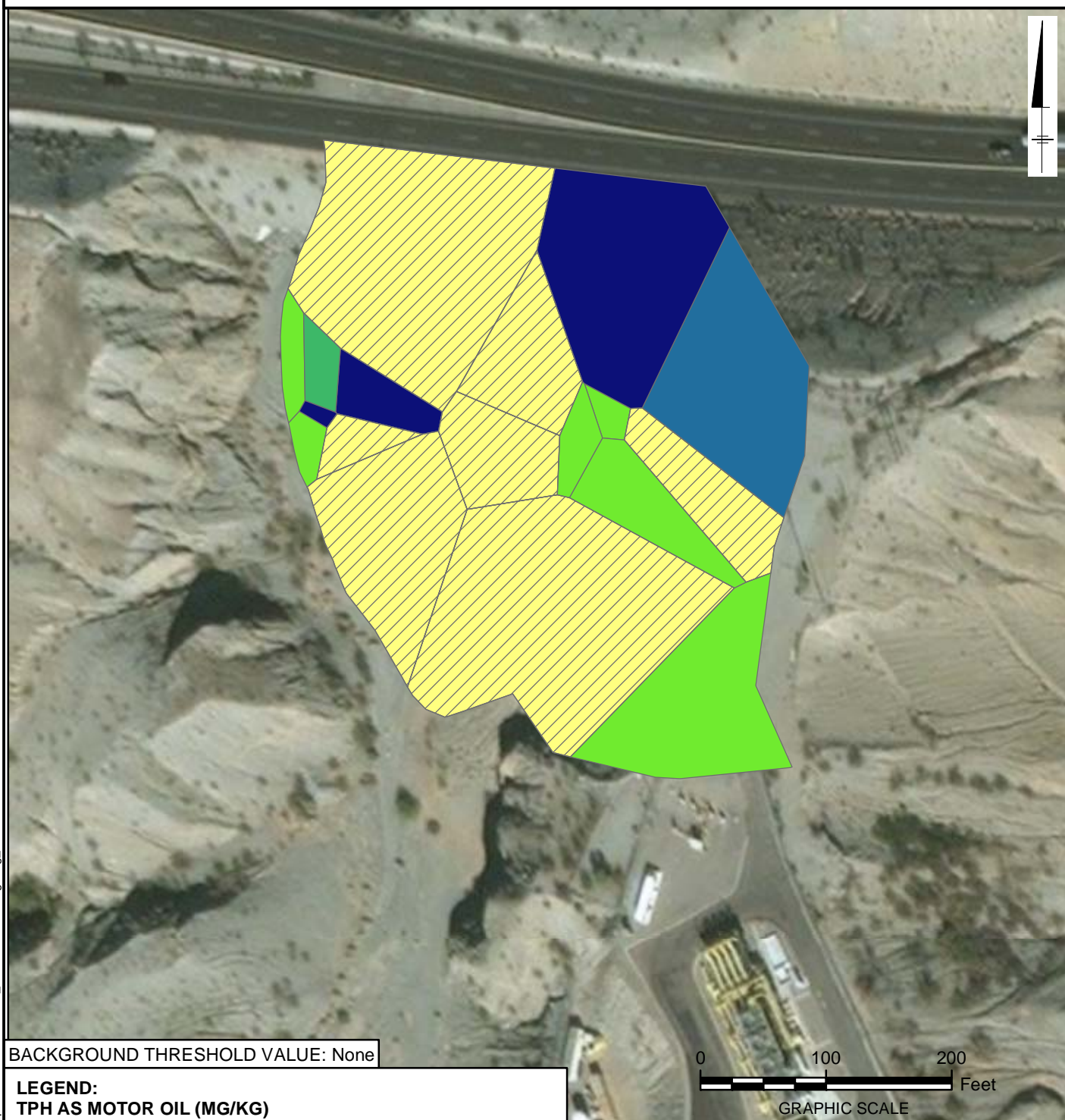
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FIGURE
AOC27-A3.125

AOC 27







0 - 10 FEET BELOW GROUND SURFACE

TPH AS MOTOR OIL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS MOTOR OIL (MG/KG)

-  NOT DETECTED
-  5.00 - 5.25
-  ≥ 5.25 - 40.60
-  ≥ 40.60 - 60.50
-  ≥ 60.50 - 190.00
-  ≥ 190.00 - 308.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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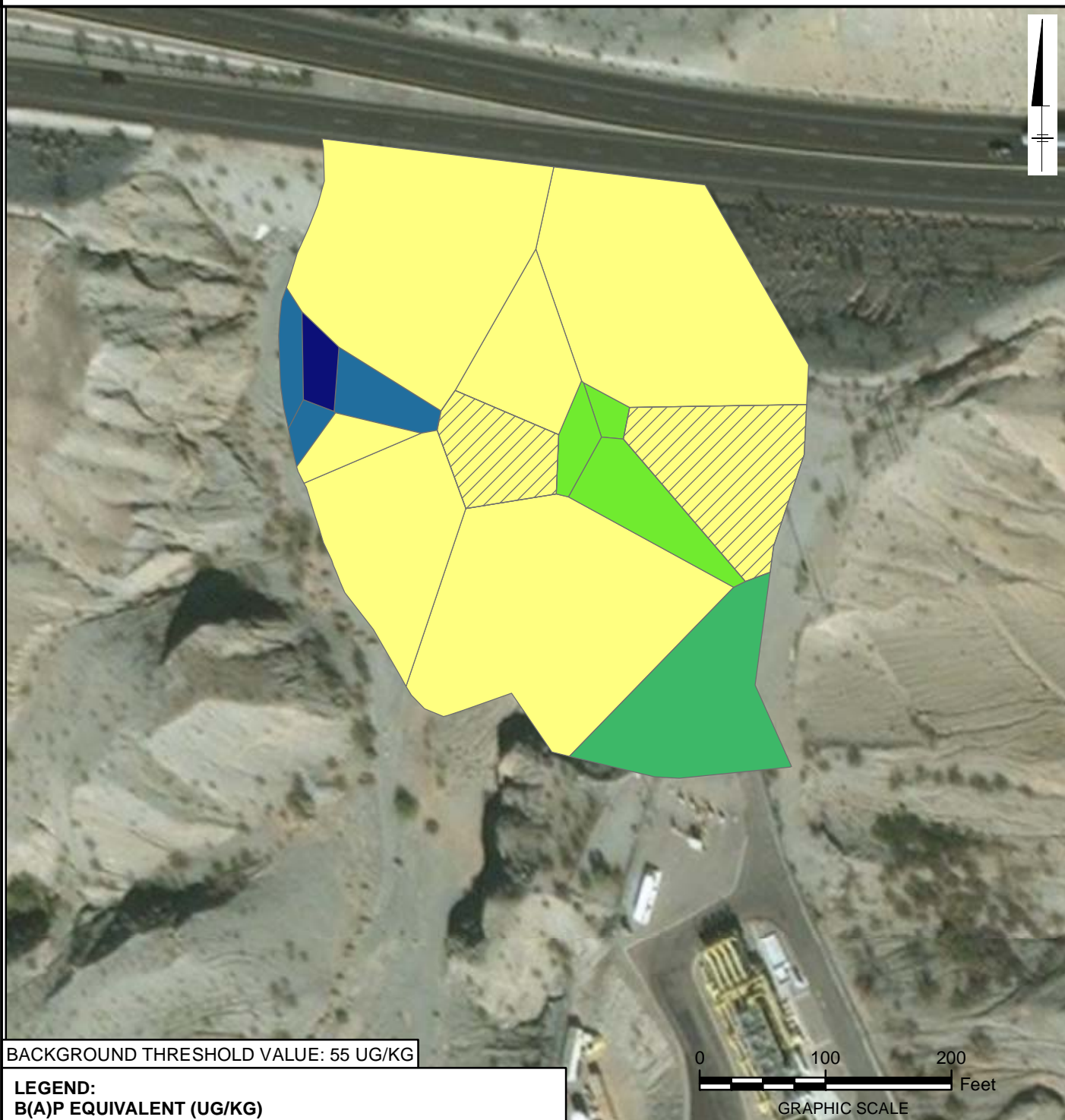


FIGURE
AOC27-A3.126

AOC 27

0 - 0.5 FEET BELOW GROUND SURFACE

B(A)P EQUIVALENT



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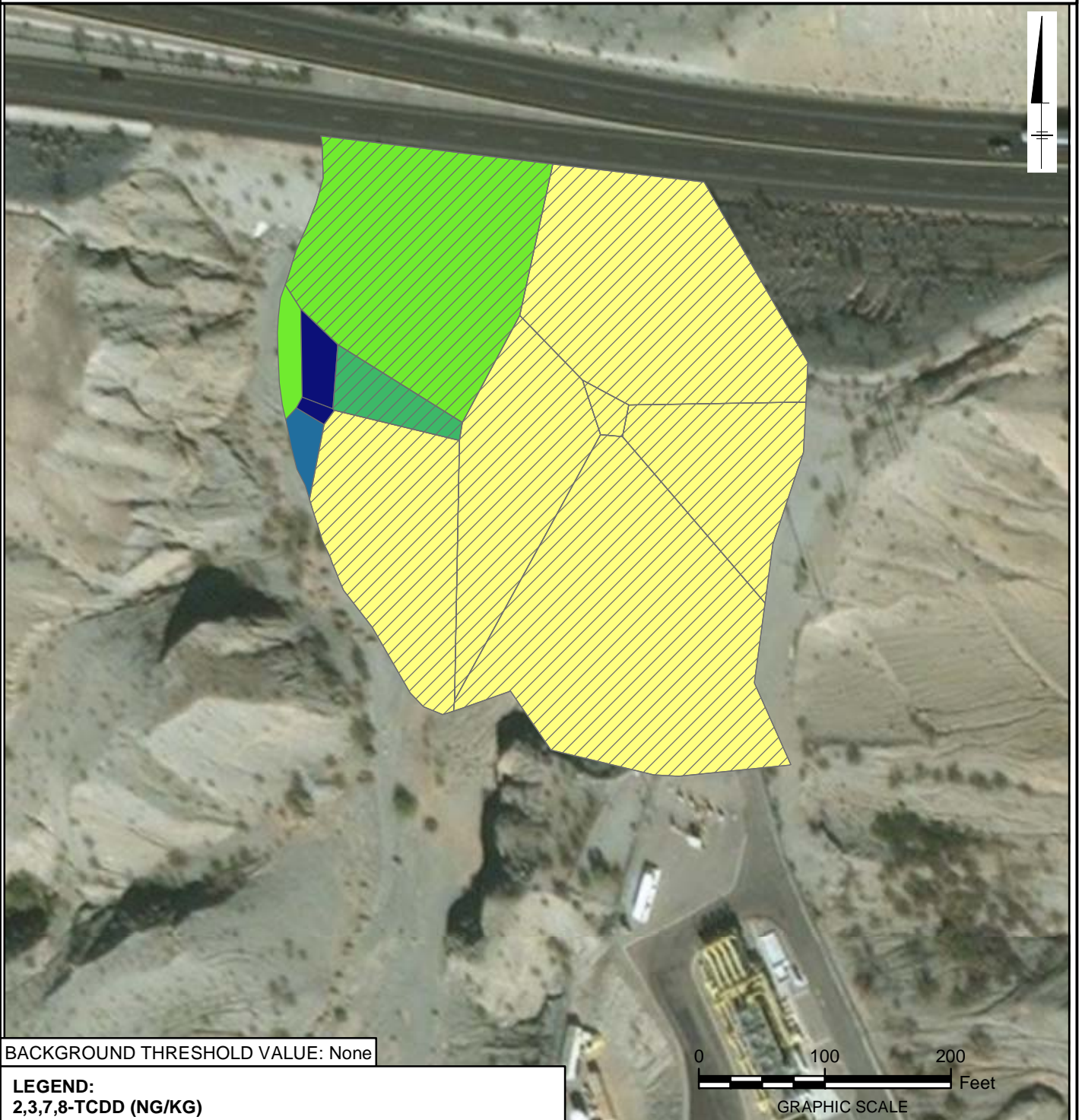
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FIGURE
AOC27-A3.127

AOC 27
0 - 3 FEET BELOW GROUND SURFACE
2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND:
2,3,7,8-TCDD (NG/KG)

	NOT DETECTED
	0.03 - 0.21
	≥0.22 - 0.88
	≥0.89 - 2.02
	≥2.03 - 4.00
	≥4.01 - 14.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
 DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
 REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

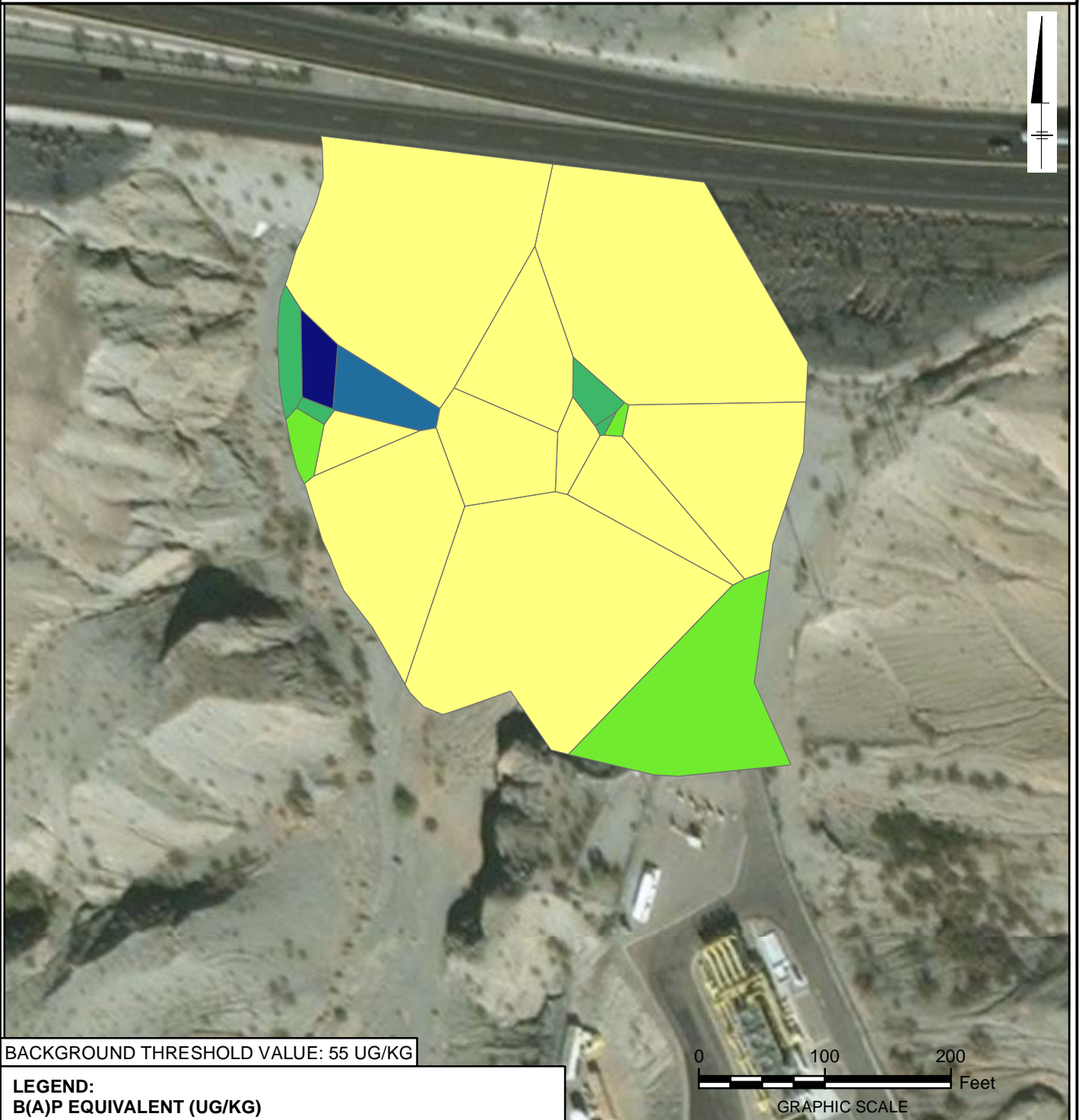
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FIGURE
AOC27-A3.128

AOC 27 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



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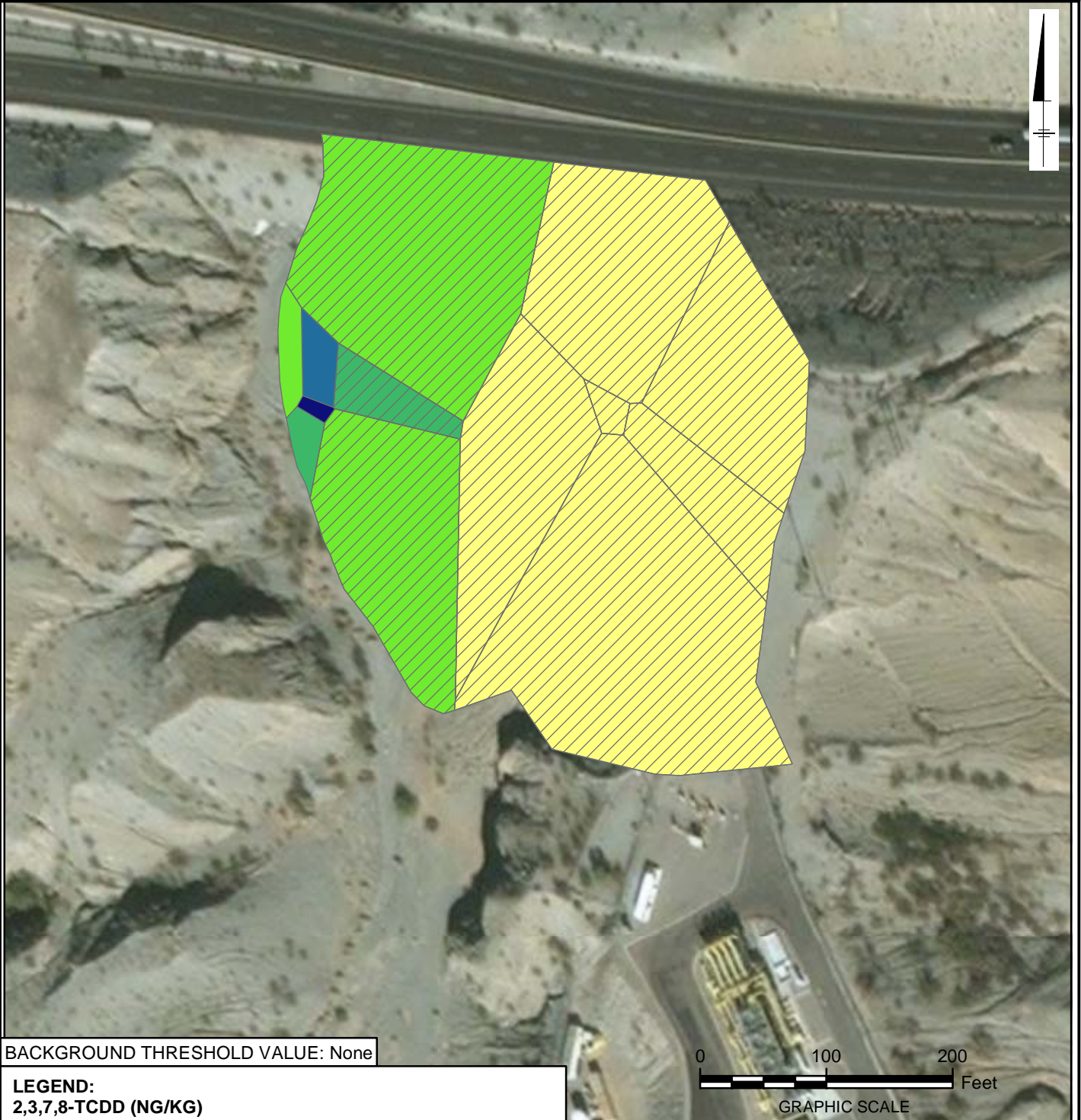
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FIGURE
AOC27-A3.129

AOC 27
0 - 6 FEET BELOW GROUND SURFACE
2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND:
2,3,7,8-TCDD (NG/KG)

-  NOT DETECTED
-  0.03 - 0.14
-  ≥0.15 - 0.46
-  ≥0.47 - 3.35
-  ≥3.36 - 9.26
-  ≥9.27 - 16.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
 DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
 REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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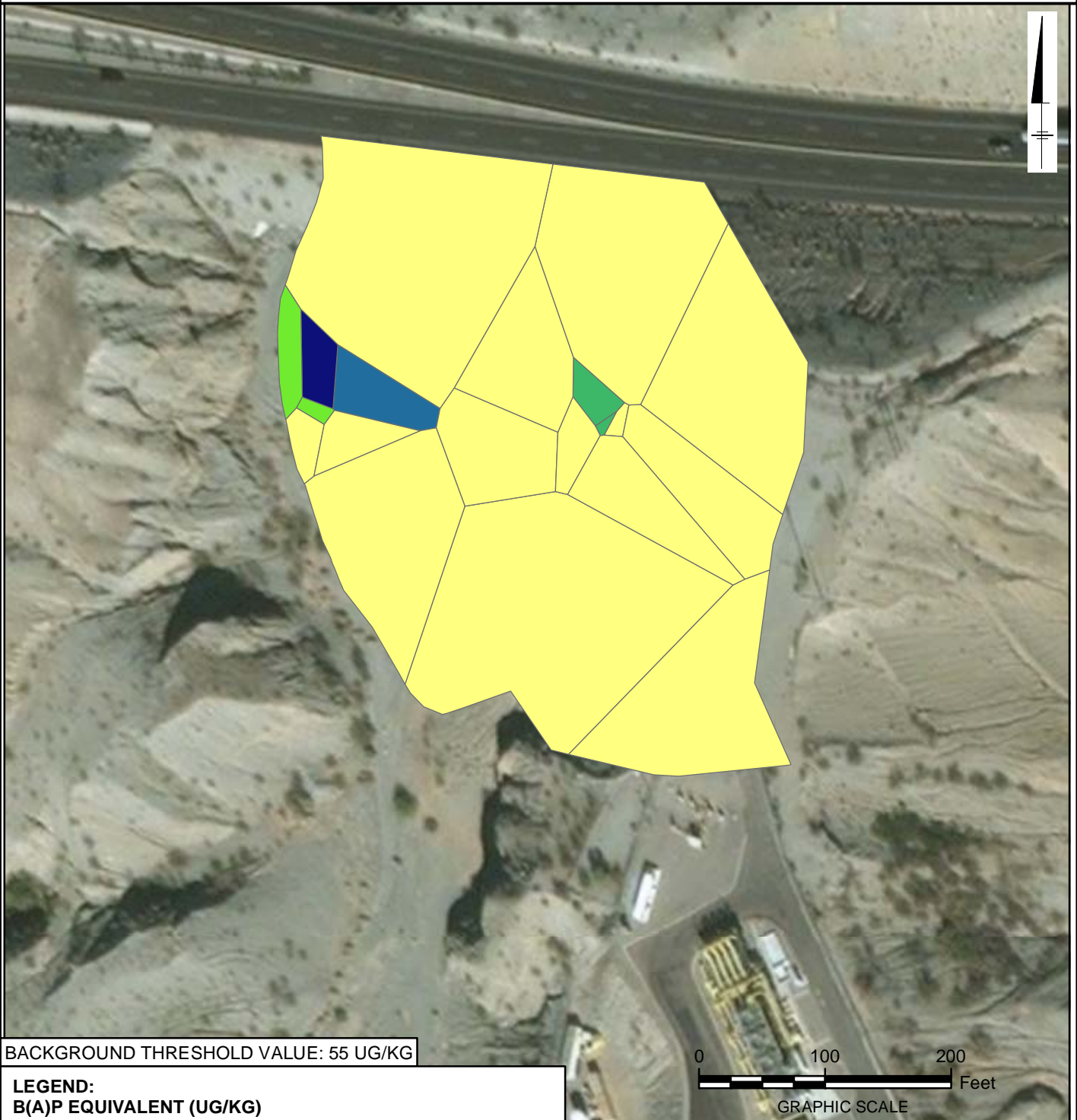


FIGURE
AOC27-A3.130

AOC 27

0 - 6 FEET BELOW GROUND SURFACE

B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

	NOT DETECTED
	6.07 - 67.00
	≥67.01 - 206.00
	≥206.01 - 380.00
	≥380.01 - 784.00
	≥784.01 - 1700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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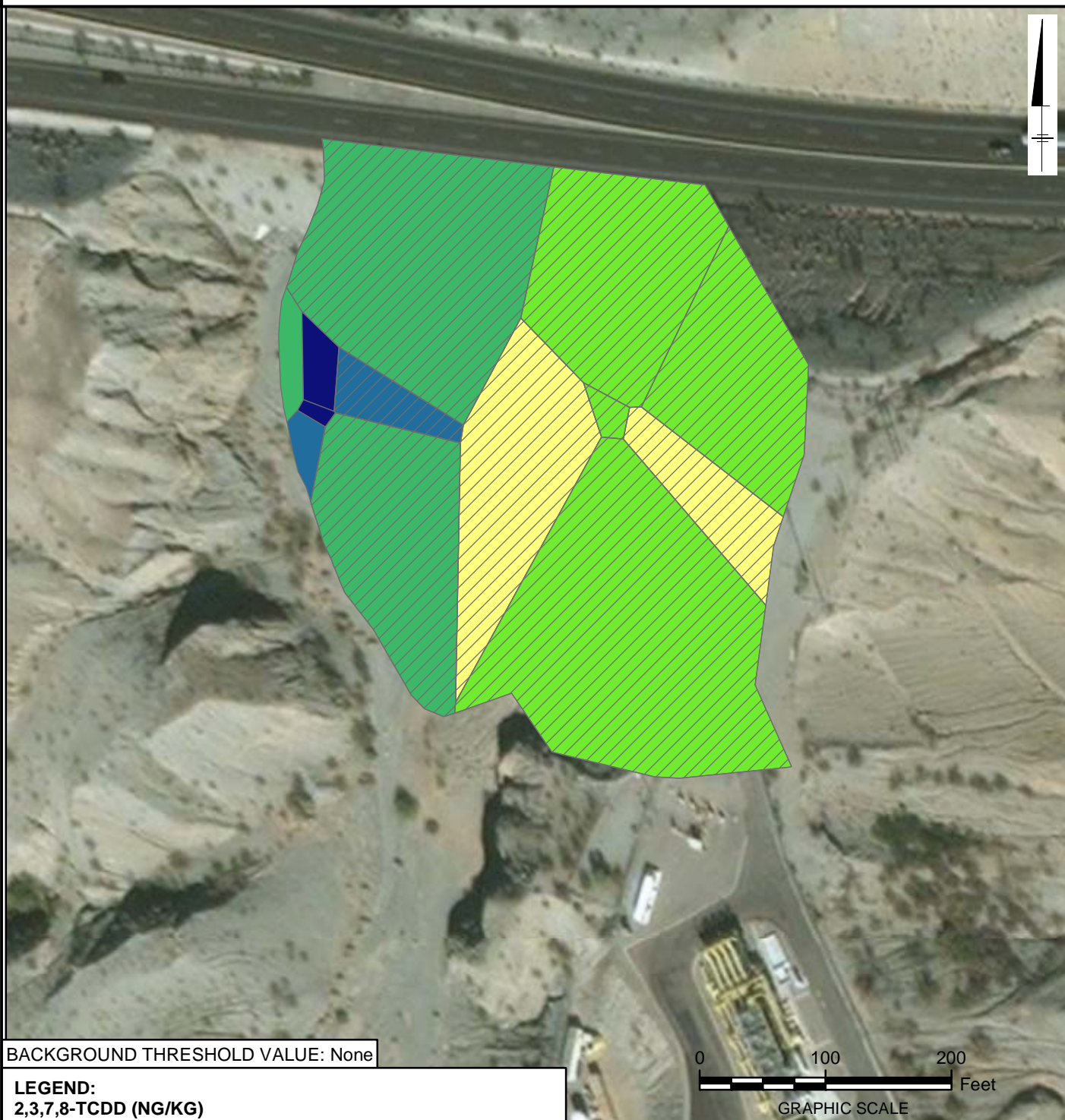


FIGURE
AOC27-A3.131

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

2,3,7,8-TCDD



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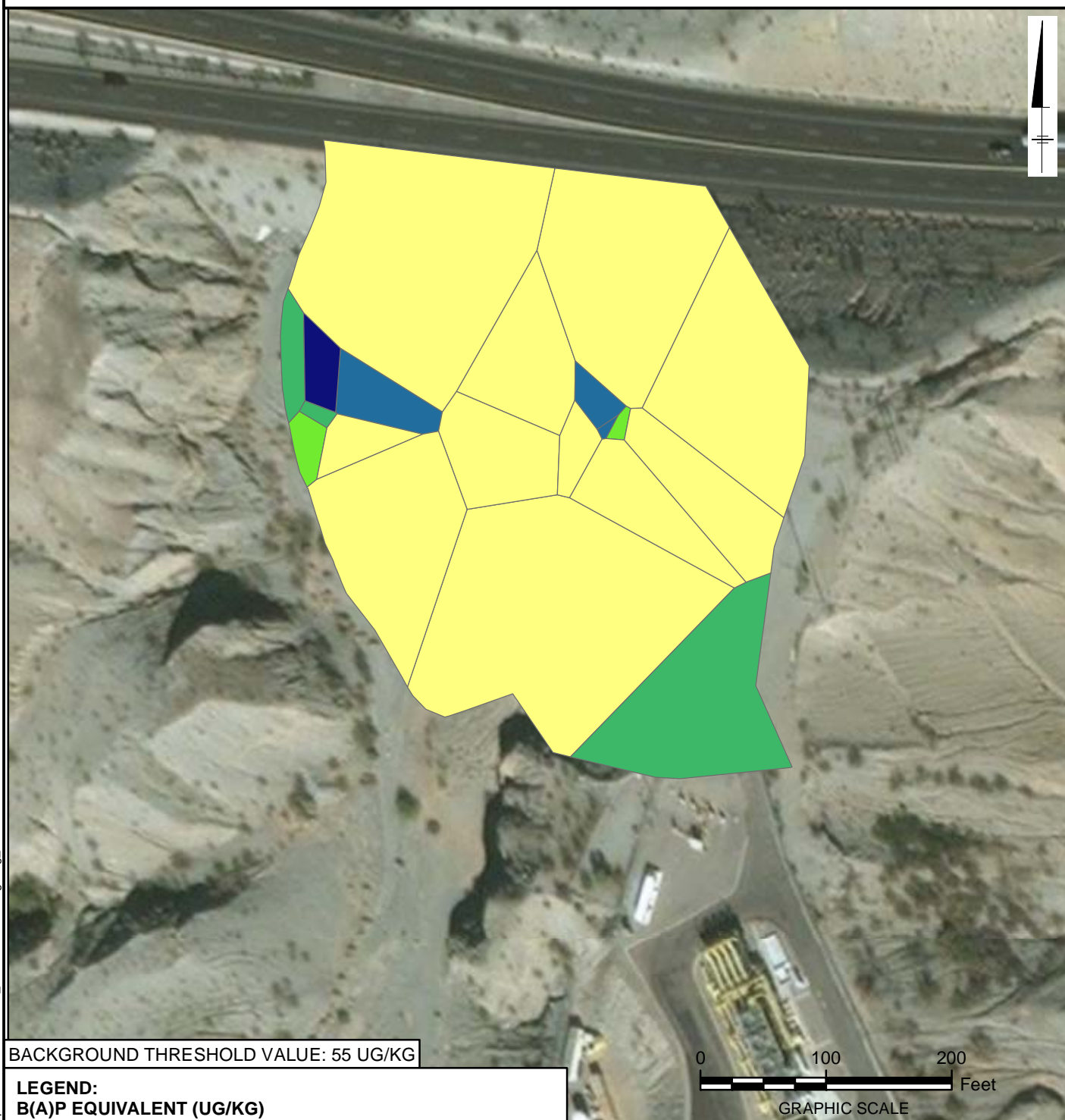
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FIGURE
AOC27-A3.132

AOC 27

0 - 10 FEET BELOW GROUND SURFACE

B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 6.00 - 15.50
- $\geq 15.51 - 33.90$
- $\geq 33.91 - 126.00$
- $\geq 126.01 - 473.00$
- $\geq 473.01 - 1030.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE AOC27-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
AOC27-A3.133

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for
Human Health Receptors at AOC 27 Using Depth-Weighted EPCs and
Area-Weighted EPCs



Attachment AOC27-B1

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 27 Using Depth-Weighted EPCs

Tables

AOC27-B1.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC27-B1.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B1.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC27-B1.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC27-B1.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC27-B1.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B1.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User
AOC27-B1.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC27-B1.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B1.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC27-B1.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC27-B1.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC27-B1.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B1.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User
AOC27-B1.3a	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC27-B1.3b	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B1.3c	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC27-B1.3d	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC27-B1.3e	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC27-B1.3f	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B1.3g	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User
AOC27-B1.4a	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC27-B1.4b	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B1.4c	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC27-B1.4d	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC27-B1.4e	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC27-B1.4f	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B1.4g	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User
AOC27-B1.5a	Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC27-B1.5b	Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Attachment AOC27-B1**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 27
Using Depth-Weighted EPCs****Tables (cont.)**

AOC27-B1.5c	Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC27-B1.5d	Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC27-B1.5e	Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC27-B1.5f	Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC27-B1.5g	Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)
AOC27-B1.5h	Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC27-B1.5i	Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC27-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cadmium	1.2E-09	NV	NC	NC	4.6E-10	NV	NC	NC	4.8E-10	NV	NC	NC	4.1E-10	NV	NC	NC
Chromium, Hexavalent	5.8E-10	NV	NA	7.2E-09	3.9E-10	NV	NA	4.9E-09	6.8E-10	NV	NA	8.4E-09	2.5E-10	NV	NA	3.1E-09
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	3.3E-12	1.5E-10	9.1E-11	4.1E-11	2.7E-12	1.5E-10	7.3E-11	3.3E-11	2.0E-12	1.5E-10	5.5E-11	2.5E-11	1.7E-12	1.5E-10	4.7E-11	2.2E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.2E-09	NV	3.3E-08	1.5E-08	8.5E-10	NV	2.3E-08	1.1E-08	3.1E-10	NV	8.3E-09	3.8E-09	2.0E-10	NV	5.4E-09	2.5E-09

Table AOC27-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m³)	EC: Outdoor Vapor Inhalation (mg/m³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m³)	EC: Outdoor Vapor Inhalation (mg/m³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m³)	EC: Outdoor Vapor Inhalation (mg/m³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m³)	EC: Outdoor Vapor Inhalation (mg/m³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.3E-11	6.8E-11	3.5E-10	1.6E-10	1.1E-11	6.8E-11	2.9E-10	1.3E-10	1.0E-11	6.8E-11	2.7E-10	1.2E-10	8.8E-12	6.8E-11	2.4E-10	1.1E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	5.8E-14	4.4E-14	3.1E-13	7.2E-13	4.4E-14	4.4E-14	2.4E-13	5.4E-13	3.4E-14	4.4E-14	1.8E-13	4.2E-13	2.1E-14	4.4E-14	1.1E-13	2.6E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cadmium	9.0E-09	NV	NC	NC	3.4E-09	NV	NC	NC	3.6E-09	NV	NC	NC	3.1E-09	NV	NC	NC
Chromium, Hexavalent	4.4E-09	NV	NA	5.4E-08	2.9E-09	NV	NA	3.6E-08	5.1E-09	NV	NA	6.3E-08	1.9E-09	NV	NA	2.3E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	2.5E-11	2.1E-10	1.4E-09	3.1E-10	2.0E-11	2.1E-10	1.1E-09	2.5E-10	1.5E-11	2.1E-10	8.2E-10	1.9E-10	1.3E-11	2.1E-10	7.1E-10	1.6E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	9.2E-09	NV	5.0E-07	1.1E-07	6.4E-09	NV	3.5E-07	7.9E-08	2.3E-09	NV	1.2E-07	2.8E-08	1.5E-09	NV	8.1E-08	1.9E-08

Table AOC27-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	9.7E-11	9.3E-11	5.2E-09	1.2E-09	8.1E-11	9.3E-11	4.4E-09	1.0E-09	7.6E-11	9.3E-11	4.1E-09	9.3E-10	6.6E-11	9.3E-11	3.6E-09	8.1E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	4.3E-13	6.0E-14	4.7E-12	5.4E-12	3.3E-13	6.0E-14	3.6E-12	4.1E-12	2.5E-13	6.0E-14	2.7E-12	3.1E-12	1.6E-13	6.0E-14	1.7E-12	1.9E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	1.4E-11	NV	NC	NC	5.2E-12	NV	NC	NC
Chromium, Hexavalent	1.9E-11	NV	NA	1.7E-07	1.2E-11	NV	NA	1.1E-07
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	3.8E-14	4.6E-10	1.0E-10	2.1E-10	3.1E-14	4.6E-10	8.1E-11	1.7E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	3.9E-11	NV	1.6E-07	3.5E-07	2.7E-11	NV	1.1E-07	2.4E-07

Table AOC27-B1.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.5E-13	2.1E-10	3.9E-10	8.1E-10	1.2E-13	2.1E-10	3.3E-10	6.8E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	6.6E-16	1.3E-13	3.5E-13	3.6E-12	5.0E-16	1.3E-13	2.7E-13	2.8E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	2.8E-11	NV	NC	NC	1.0E-11	NV	NC	NC
Chromium, Hexavalent	3.7E-11	NV	NA	3.3E-07	2.5E-11	NV	NA	2.2E-07
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	7.7E-14	9.2E-10	2.0E-10	4.2E-10	6.1E-14	9.2E-10	1.6E-10	3.4E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	7.8E-11	NV	3.2E-07	7.0E-07	5.4E-11	NV	2.2E-07	4.9E-07

Table AOC27-B1.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	3.0E-13	4.2E-10	7.8E-10	1.6E-09	2.5E-13	4.2E-10	6.6E-10	1.4E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.3E-15	2.7E-13	7.0E-13	7.3E-12	1.0E-15	2.7E-13	5.3E-13	5.5E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	1.4E-11	NV	NC	NC	5.2E-12	NV	NC	NC
Chromium, Hexavalent	6.7E-12	NV	NA	1.1E-08	4.5E-12	NV	NA	7.7E-09
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	3.8E-14	4.6E-10	4.1E-11	6.5E-11	3.1E-14	4.6E-10	3.3E-11	5.2E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.4E-11	NV	1.5E-08	2.4E-08	9.7E-12	NV	1.0E-08	1.7E-08

Table AOC27-B1.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.5E-13	2.1E-10	1.6E-10	2.5E-10	1.2E-13	2.1E-10	1.3E-10	2.1E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	6.6E-16	1.3E-13	1.4E-13	1.1E-12	5.0E-16	1.3E-13	1.1E-13	8.5E-13

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	2.8E-09	NV	NC	NC	1.0E-09	NV	NC	NC
Chromium, Hexavalent	2.4E-09	NV	NA	1.9E-08	1.6E-09	NV	NA	1.3E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	7.7E-12	5.7E-11	9.8E-10	5.4E-11	6.2E-12	5.7E-11	7.8E-10	4.3E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	5.0E-09	NV	6.5E-07	4.1E-08	3.5E-09	NV	4.5E-07	2.8E-08

Table AOC27-B1.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	3.0E-11	2.6E-11	3.8E-09	2.1E-10	2.5E-11	2.6E-11	3.2E-09	1.7E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	1.3E-13	1.7E-14	3.4E-12	9.3E-13	1.0E-13	1.7E-14	2.6E-12	7.0E-13

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Antimony	ND	NC	NC	NC
Cadmium	4.0E-12	NV	1.5E-12	NV
Chromium, Hexavalent	1.9E-12	NV	1.3E-12	NV
Copper	NC	NC	NC	NC
Lead	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC
Zinc	NC	NC	NC	NC
Volatile Organic Compounds				
Bromomethane	ND	NC	NC	NC
Chloro methane	ND	NC	NC	NC
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	NC	NC	NC	NC
Acenaphthylene	ND	NC	NC	NC
Anthracene	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NV
Benzo (a) pyrene	NA	NV	NA	NV
Benzo (b) fluoranthene	NA	NV	NA	NV
Benzo (ghi) perylene	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NV
Chrysene	NA	NV	NA	NV
Dibenzo (a,h) anthracene	NA	NV	NA	NV
Fluoranthene	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NV
Naphthalene	1.1E-14	8.7E-11	8.9E-15	8.7E-11
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
B(a)P Equivalent	4.0E-12	NV	2.8E-12	NV

Table AOC27-B1.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	4.3E-14	4.0E-11	3.6E-14	4.0E-11
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC
Dioxins/Furans				
TEQ Human	1.9E-16	2.6E-14	1.4E-16	2.6E-14

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	6.7E-08	NV	1.2E-07	8.3E-07	8.2E-08	NV	1.5E-07	1.0E-06	6.4E-08	NV	1.2E-07	7.9E-07
Cadmium	8.4E-08	NV	1.5E-08	1.0E-06	3.2E-08	NV	5.8E-09	3.9E-07	3.4E-08	NV	6.1E-09	4.2E-07	2.9E-08	NV	5.2E-09	3.6E-07
Chromium, Hexavalent	4.1E-08	NV	NA	5.1E-07	2.7E-08	NV	NA	3.4E-07	4.7E-08	NV	NA	5.9E-07	1.8E-08	NV	NA	2.2E-07
Copper	1.0E-05	NV	1.8E-05	1.2E-04	9.0E-06	NV	1.6E-05	1.1E-04	7.7E-06	NV	1.4E-05	9.5E-05	4.8E-06	NV	8.7E-06	5.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.1E-09	NV	1.1E-08	7.6E-08	6.4E-09	NV	1.2E-08	7.9E-08	6.2E-09	NV	1.1E-08	7.6E-08	4.7E-09	NV	8.5E-09	5.8E-08
Zinc	2.0E-05	NV	3.6E-05	2.5E-04	1.5E-05	NV	2.7E-05	1.8E-04	1.2E-05	NV	2.2E-05	1.5E-04	8.2E-06	NV	1.5E-05	1.0E-04
Volatile Organic Compounds																
Bromomethane	ND	1.9E-06	ND	ND	9.5E-10	1.9E-06	1.7E-08	1.2E-08	8.6E-10	1.9E-06	1.6E-08	1.1E-08	6.5E-10	1.9E-06	1.2E-08	8.0E-09
Chloro methane	ND	1.0E-06	ND	ND	4.0E-10	1.0E-06	7.3E-09	5.0E-09	3.7E-10	1.0E-06	6.7E-09	4.6E-09	2.9E-10	1.0E-06	5.2E-09	3.6E-09
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	1.9E-09	1.3E-08	5.1E-08	2.3E-08	1.3E-09	1.3E-08	3.5E-08	1.6E-08	6.8E-10	1.3E-08	1.9E-08	8.5E-09	4.5E-10	1.3E-08	1.2E-08	5.6E-09
Acenaphthylene	ND	NV	ND	ND	1.2E-10	NV	3.4E-09	1.5E-09	1.4E-10	NV	3.8E-09	1.7E-09	1.2E-10	NV	3.3E-09	1.5E-09
Anthracene	1.4E-08	1.4E-08	3.8E-07	1.7E-07	6.9E-09	1.4E-08	1.9E-07	8.6E-08	2.7E-09	1.4E-08	7.3E-08	3.3E-08	1.8E-09	1.4E-08	4.9E-08	2.2E-08
Benzo (a) anthracene	5.9E-08	1.3E-08	1.6E-06	7.4E-07	3.3E-08	1.3E-08	8.9E-07	4.1E-07	1.8E-08	1.3E-08	5.0E-07	2.3E-07	1.4E-08	1.3E-08	3.8E-07	1.7E-07
Benzo (a) pyrene	3.4E-08	NV	9.3E-07	4.2E-07	2.2E-08	NV	5.9E-07	2.7E-07	1.4E-08	NV	3.9E-07	1.8E-07	8.6E-09	NV	2.3E-07	1.1E-07
Benzo (b) fluoranthene	6.1E-08	NV	1.7E-06	7.6E-07	4.6E-08	NV	1.3E-06	5.7E-07	2.6E-08	NV	7.1E-07	3.2E-07	1.6E-08	NV	4.3E-07	2.0E-07
Benzo (ghi) perylene	2.9E-08	NV	8.0E-07	3.6E-07	1.5E-08	NV	4.1E-07	1.9E-07	6.3E-09	NV	1.7E-07	7.8E-08	3.4E-09	NV	9.3E-08	4.2E-08
Benzo (k) fluoranthene	2.1E-08	NV	5.8E-07	2.7E-07	1.4E-08	NV	3.8E-07	1.7E-07	1.0E-08	NV	2.7E-07	1.2E-07	6.1E-09	NV	1.7E-07	7.5E-08
Chrysene	7.8E-08	NV	2.1E-06	9.7E-07	3.4E-08	NV	9.3E-07	4.2E-07	1.6E-08	NV	4.4E-07	2.0E-07	9.9E-09	NV	2.7E-07	1.2E-07
Dibenzo (a,h) anthracene	1.9E-08	NV	5.3E-07	2.4E-07	1.3E-08	NV	3.5E-07	1.6E-07	6.6E-09	NV	1.8E-07	8.2E-08	4.0E-09	NV	1.1E-07	4.9E-08
Fluoranthene	2.2E-07	NV	6.0E-06	2.7E-06	1.3E-07	NV	3.6E-06	1.7E-06	5.2E-08	NV	1.4E-06	6.4E-07	3.1E-08	NV	8.5E-07	3.9E-07
Fluorene	3.4E-10	2.0E-09	9.1E-09	4.2E-09	2.6E-10	2.0E-09	6.9E-09	3.2E-09	1.7E-10	2.0E-09	4.7E-09	2.2E-09	1.4E-10	2.0E-09	3.9E-09	1.8E-09
Indeno (1,2,3-cd) pyrene	2.3E-08	NV	6.2E-07	2.8E-07	1.1E-08	NV	3.0E-07	1.4E-07	4.9E-09	NV	1.3E-07	6.1E-08	2.8E-09	NV	7.5E-08	3.4E-08
Naphthalene	2.3E-10	1.1E-08	6.3E-09	2.9E-09	1.9E-10	1.1E-08	5.1E-09	2.3E-09	1.4E-10	1.1E-08	3.8E-09	1.7E-09	1.2E-10	1.1E-08	3.3E-09	1.5E-09
Phenanthrene	5.7E-08	NV	1.6E-06	7.1E-07	2.7E-08	NV	7.4E-07	3.4E-07	1.3E-08	NV	3.6E-07	1.7E-07	8.8E-09	NV	2.4E-07	1.1E-07
Pyrene	1.7E-07	4.0E-08	4.6E-06	2.1E-06	1.0E-07	4.0E-08	2.8E-06	1.3E-06	4.0E-08	4.0E-08	1.1E-06	5.0E-07	2.4E-08	4.0E-08	6.6E-07	3.0E-07
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	9.0E-10	4.8E-09	2.4E-08	1.1E-08	7.6E-10	4.8E-09	2.1E-08	9.4E-09	7.1E-10	4.8E-09	1.9E-08	8.7E-09	6.1E-10	4.8E-09	1.7E-08	7.6E-09
Total Petroleum Hydrocarbons																
TPH as diesel	8.1E-07	2.8E-03	1.5E-05	1.0E-05	1.5E-06	2.8E-03	2.7E-05	1.8E-05	1.6E-06	2.8E-03	2.8E-05	1.9E-05	1.4E-06	2.8E-03	2.5E-05	1.7E-05
TPH as motor oil	3.3E-06	NV	6.0E-05	4.1E-05	6.8E-06	NV	1.2E-04	8.5E-05	8.0E-06	NV	1.4E-04	9.9E-05	5.4E-06	NV	9.7E-05	6.6E-05
Dioxins/Furans																
TEQ Human	4.1E-12	3.1E-12	2.2E-11	5.0E-11	3.1E-12	3.1E-12	1.7E-11	3.8E-11	2.4E-12	3.1E-12	1.3E-11	2.9E-11	1.5E-12	3.1E-12	7.9E-12	1.8E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	1.7E-08	NV	6.0E-08	2.1E-07	2.1E-08	NV	7.4E-08	2.5E-07	1.6E-08	NV	5.8E-08	2.0E-07
Cadmium	2.1E-08	NV	7.6E-09	2.6E-07	8.0E-09	NV	2.9E-09	9.9E-08	8.5E-09	NV	3.1E-09	1.0E-07	7.2E-09	NV	2.6E-09	8.9E-08
Chromium, Hexavalent	1.0E-08	NV	NA	1.3E-07	6.9E-09	NV	NA	8.5E-08	1.2E-08	NV	NA	1.5E-07	4.4E-09	NV	NA	5.5E-08
Copper	2.5E-06	NV	9.1E-06	3.1E-05	2.2E-06	NV	8.1E-06	2.8E-05	1.9E-06	NV	6.9E-06	2.4E-05	1.2E-06	NV	4.3E-06	1.5E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.5E-09	NV	5.6E-09	1.9E-08	1.6E-09	NV	5.8E-09	2.0E-08	1.5E-09	NV	5.6E-09	1.9E-08	1.2E-09	NV	4.3E-09	1.5E-08
Zinc	5.0E-06	NV	1.8E-05	6.2E-05	3.7E-06	NV	1.3E-05	4.6E-05	3.0E-06	NV	1.1E-05	3.8E-05	2.0E-06	NV	7.4E-06	2.5E-05
Volatile Organic Compounds																
Bromomethane	ND	8.6E-08	ND	ND	2.4E-10	8.6E-08	8.6E-09	2.9E-09	2.1E-10	8.6E-08	7.8E-09	2.7E-09	1.6E-10	8.6E-08	5.9E-09	2.0E-09
Chloro methane	ND	4.6E-08	ND	ND	1.0E-10	4.6E-08	3.6E-09	1.2E-09	9.2E-11	4.6E-08	3.3E-09	1.1E-09	7.3E-11	4.6E-08	2.6E-09	9.0E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	4.7E-10	5.8E-10	2.5E-08	5.8E-09	3.2E-10	5.8E-10	1.7E-08	3.9E-09	1.7E-10	5.8E-10	9.3E-09	2.1E-09	1.1E-10	5.8E-10	6.1E-09	1.4E-09
Acenaphthylene	ND	NV	ND	ND	3.1E-11	NV	1.7E-09	3.8E-10	3.5E-11	NV	1.9E-09	4.3E-10	3.0E-11	NV	1.6E-09	3.7E-10
Anthracene	3.5E-09	6.5E-10	1.9E-07	4.3E-08	1.7E-09	6.5E-10	9.4E-08	2.1E-08	6.7E-10	6.5E-10	3.6E-08	8.3E-09	4.5E-10	6.5E-10	2.4E-08	5.6E-09
Benzo (a) anthracene	1.5E-08	6.0E-10	8.1E-07	1.8E-07	8.2E-09	6.0E-10	4.5E-07	1.0E-07	4.6E-09	6.0E-10	2.5E-07	5.7E-08	3.5E-09	6.0E-10	1.9E-07	4.3E-08
Benzo (a) pyrene	8.5E-09	NV	4.6E-07	1.1E-07	5.4E-09	NV	2.9E-07	6.7E-08	3.6E-09	NV	1.9E-07	4.4E-08	2.2E-09	NV	1.2E-07	2.7E-08
Benzo (b) fluoranthene	1.5E-08	NV	8.3E-07	1.9E-07	1.2E-08	NV	6.3E-07	1.4E-07	6.5E-09	NV	3.5E-07	8.1E-08	4.0E-09	NV	2.1E-07	4.9E-08
Benzo (ghi) perylene	7.3E-09	NV	4.0E-07	9.1E-08	3.8E-09	NV	2.0E-07	4.6E-08	1.6E-09	NV	8.5E-08	1.9E-08	8.5E-10	NV	4.6E-08	1.1E-08
Benzo (k) fluoranthene	5.4E-09	NV	2.9E-07	6.6E-08	3.5E-09	NV	1.9E-07	4.3E-08	2.5E-09	NV	1.4E-07	3.1E-08	1.5E-09	NV	8.3E-08	1.9E-08
Chrysene	2.0E-08	NV	1.1E-06	2.4E-07	8.6E-09	NV	4.7E-07	1.1E-07	4.1E-09	NV	2.2E-07	5.1E-08	2.5E-09	NV	1.3E-07	3.1E-08
Dibenzo (a,h) anthracene	4.8E-09	NV	2.6E-07	6.0E-08	3.3E-09	NV	1.8E-07	4.0E-08	1.7E-09	NV	9.0E-08	2.0E-08	1.0E-09	NV	5.4E-08	1.2E-08
Fluoranthene	5.5E-08	NV	3.0E-06	6.9E-07	3.3E-08	NV	1.8E-06	4.1E-07	1.3E-08	NV	7.0E-07	1.6E-07	7.8E-09	NV	4.3E-07	9.7E-08
Fluorene	8.4E-11	9.1E-11	4.6E-09	1.0E-09	6.4E-11	9.1E-11	3.5E-09	7.9E-10	4.4E-11	9.1E-11	2.4E-09	5.4E-10	3.6E-11	9.1E-11	1.9E-09	4.4E-10
Indeno (1,2,3-cd) pyrene	5.7E-09	NV	3.1E-07	7.0E-08	2.8E-09	NV	1.5E-07	3.4E-08	1.2E-09	NV	6.7E-08	1.5E-08	6.9E-10	NV	3.7E-08	8.5E-09
Naphthalene	5.8E-11	4.8E-10	3.2E-09	7.2E-10	4.7E-11	4.8E-10	2.5E-09	5.8E-10	3.5E-11	4.8E-10	1.9E-09	4.4E-10	3.1E-11	4.8E-10	1.7E-09	3.8E-10
Phenanthrene	1.4E-08	NV	7.8E-07	1.8E-07	6.8E-09	NV	3.7E-07	8.4E-08	3.4E-09	NV	1.8E-07	4.2E-08	2.2E-09	NV	1.2E-07	2.7E-08
Pyrene	4.3E-08	1.8E-09	2.3E-06	5.3E-07	2.6E-08	1.8E-09	1.4E-06	3.2E-07	1.0E-08	1.8E-09	5.5E-07	1.3E-07	6.1E-09	1.8E-09	3.3E-07	7.5E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	2.3E-10	2.2E-10	1.2E-08	2.8E-09	1.9E-10	2.2E-10	1.0E-08	2.4E-09	1.8E-10	2.2E-10	9.6E-09	2.2E-09	1.5E-10	2.2E-10	8.3E-09	1.9E-09
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-07	1.3E-04	7.4E-06	2.5E-06	3.7E-07	1.3E-04	1.3E-05	4.6E-06	3.9E-07	1.3E-04	1.4E-05	4.9E-06	3.4E-07	1.3E-04	1.2E-05	4.2E-06
TPH as motor oil	8.2E-07	NV	3.0E-05	1.0E-05	1.7E-06	NV	6.2E-05	2.1E-05	2.0E-06	NV	7.2E-05	2.5E-05	1.3E-06	NV	4.9E-05	1.7E-05
Dioxins/Furans																
TEQ Human	1.0E-12	1.4E-13	1.1E-11	1.3E-11	7.6E-13	1.4E-13	8.3E-12	9.5E-12	5.9E-13	1.4E-13	6.4E-12	7.3E-12	3.7E-13	1.4E-13	4.0E-12	4.5E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.2c
 Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	2.9E-11	NV	1.6E-08	5.3E-07	2.9E-11	NV	2.1E-09	5.0E-08
Cadmium	3.7E-11	NV	1.9E-09	6.7E-07	3.7E-11	NV	2.7E-10	6.3E-08	1.4E-11	NV	7.4E-10	2.5E-07	1.4E-11	NV	1.0E-10	2.4E-08
Chromium, Hexavalent	1.8E-11	NV	NA	3.3E-07	1.8E-11	NV	NA	3.1E-08	1.2E-11	NV	NA	2.2E-07	1.2E-11	NV	NA	2.1E-08
Copper	4.4E-09	NV	2.3E-06	8.1E-05	4.4E-09	NV	3.2E-07	7.6E-06	4.0E-09	NV	2.1E-06	7.2E-05	4.0E-09	NV	2.8E-07	6.7E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.7E-12	NV	1.4E-09	4.9E-08	2.7E-12	NV	1.9E-10	4.6E-09	2.8E-12	NV	1.5E-09	5.1E-08	2.8E-12	NV	2.0E-10	4.8E-09
Zinc	8.8E-09	NV	4.6E-06	1.6E-04	8.8E-09	NV	6.3E-07	1.5E-05	6.5E-09	NV	3.4E-06	1.2E-04	6.5E-09	NV	4.7E-07	1.1E-05
Volatile Organic Compounds																
Bromomethane	ND	2.2E-07	ND	ND	ND	2.2E-07	ND	ND	4.2E-13	2.2E-07	2.2E-09	7.6E-09	4.2E-13	2.2E-07	3.0E-10	7.1E-10
Chloro methane	ND	1.2E-07	ND	ND	ND	1.2E-07	ND	ND	1.8E-13	1.2E-07	9.3E-10	3.2E-09	1.8E-13	1.2E-07	1.3E-10	3.0E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	8.2E-13	1.5E-09	6.5E-09	1.5E-08	8.2E-13	1.5E-09	8.8E-10	1.4E-09	5.6E-13	1.5E-09	4.4E-09	1.0E-08	5.6E-13	1.5E-09	6.1E-10	9.6E-10
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	5.5E-14	NV	4.3E-10	9.9E-10	5.5E-14	NV	5.9E-11	9.3E-11
Anthracene	6.1E-12	1.7E-09	4.8E-08	1.1E-07	6.1E-12	1.7E-09	6.6E-09	1.0E-08	3.1E-12	1.7E-09	2.4E-08	5.6E-08	3.1E-12	1.7E-09	3.3E-09	5.2E-09
Benzo (a) anthracene	2.6E-11	1.6E-09	2.1E-07	4.8E-07	2.6E-11	1.6E-09	2.8E-08	4.5E-08	1.4E-11	1.6E-09	1.1E-07	2.6E-07	1.4E-11	1.6E-09	1.6E-08	2.5E-08
Benzo (a) pyrene	1.5E-11	NV	1.2E-07	2.7E-07	1.5E-11	NV	1.6E-08	2.6E-08	9.6E-12	NV	7.5E-08	1.7E-07	9.6E-12	NV	1.0E-08	1.6E-08
Benzo (b) fluoranthene	2.7E-11	NV	2.1E-07	4.9E-07	2.7E-11	NV	2.9E-08	4.6E-08	2.0E-11	NV	1.6E-07	3.7E-07	2.0E-11	NV	2.2E-08	3.5E-08
Benzo (ghi) perylene	1.3E-11	NV	1.0E-07	2.3E-07	1.3E-11	NV	1.4E-08	2.2E-08	6.6E-12	NV	5.2E-08	1.2E-07	6.6E-12	NV	7.1E-09	1.1E-08
Benzo (k) fluoranthene	9.5E-12	NV	7.5E-08	1.7E-07	9.5E-12	NV	1.0E-08	1.6E-08	6.2E-12	NV	4.9E-08	1.1E-07	6.2E-12	NV	6.7E-09	1.1E-08
Chrysene	3.5E-11	NV	2.7E-07	6.3E-07	3.5E-11	NV	3.7E-08	5.9E-08	1.5E-11	NV	1.2E-07	2.7E-07	1.5E-11	NV	1.6E-08	2.6E-08
Dibenzo (a,h) anthracene	8.5E-12	NV	6.7E-08	1.5E-07	8.5E-12	NV	9.2E-09	1.5E-08	5.7E-12	NV	4.5E-08	1.0E-07	5.7E-12	NV	6.2E-09	9.8E-09
Fluoranthene	9.8E-11	NV	7.7E-07	1.8E-06	9.8E-11	NV	1.1E-07	1.7E-07	5.9E-11	NV	4.7E-07	1.1E-06	5.9E-11	NV	6.4E-08	1.0E-07
Fluorene	1.5E-13	2.4E-10	1.2E-09	2.7E-09	1.5E-13	2.4E-10	1.6E-10	2.5E-10	1.1E-13	2.4E-10	8.9E-10	2.0E-09	1.1E-13	2.4E-10	1.2E-10	1.9E-10
Indeno (1,2,3-cd) pyrene	1.0E-11	NV	7.9E-08	1.8E-07	1.0E-11	NV	1.1E-08	1.7E-08	4.9E-12	NV	3.9E-08	8.9E-08	4.9E-12	NV	5.3E-09	8.4E-09
Naphthalene	1.0E-13	1.2E-09	8.1E-10	1.9E-09	1.0E-13	1.2E-09	1.1E-10	1.8E-10	8.3E-14	1.2E-09	6.5E-10	1.5E-09	8.3E-14	1.2E-09	8.9E-11	1.4E-10
Phenanthrene	2.5E-11	NV	2.0E-07	4.6E-07	2.5E-11	NV	2.7E-08	4.3E-08	1.2E-11	NV	9.5E-08	2.2E-07	1.2E-11	NV	1.3E-08	2.0E-08
Pyrene	7.5E-11	4.7E-09	5.9E-07	1.4E-06	7.5E-11	4.7E-09	8.1E-08	1.3E-07	4.6E-11	4.7E-09	3.6E-07	8.3E-07	4.6E-11	4.7E-09	4.9E-08	7.8E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	4.0E-13	5.6E-10	3.1E-09	7.2E-09	4.0E-13	5.6E-10	4.3E-10	6.8E-10	3.4E-13	5.6E-10	2.6E-09	6.1E-09	3.4E-13	5.6E-10	3.6E-10	5.7E-10
Total Petroleum Hydrocarbons																
TPH as diesel	3.6E-10	3.3E-04	1.9E-06	6.5E-06	3.6E-10	3.3E-04	2.6E-07	6.1E-07	6.5E-10	3.3E-04	3.4E-06	1.2E-05	6.5E-10	3.3E-04	4.7E-07	1.1E-06
TPH as motor oil	1.5E-09	NV	7.7E-06	2.6E-05	1.5E-09	NV	1.0E-06	2.5E-06	3.0E-09	NV	1.6E-05	5.5E-05	3.0E-09	NV	2.2E-06	5.1E-06
Dioxins/Furans																
TEQ Human	1.8E-15	3.6E-13	2.8E-12	3.2E-11	1.8E-15	3.6E-13	3.9E-13	3.0E-12	1.3E-15	3.6E-13	2.1E-12	2.4E-11	1.3E-15	3.6E-13	2.9E-13	2.3E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	5.9E-11	NV	3.1E-08	1.1E-06	5.9E-11	NV	4.2E-09	1.0E-07
Cadmium	7.4E-11	NV	3.9E-09	1.3E-06	7.4E-11	NV	5.3E-10	1.3E-07	2.8E-11	NV	1.5E-09	5.1E-07	2.8E-11	NV	2.0E-10	4.8E-08
Chromium, Hexavalent	3.6E-11	NV	NA	6.5E-07	3.6E-11	NV	NA	6.1E-08	2.4E-11	NV	NA	4.4E-07	2.4E-11	NV	NA	4.1E-08
Copper	8.9E-09	NV	4.7E-06	1.6E-04	8.9E-09	NV	6.4E-07	1.5E-05	7.9E-09	NV	4.2E-06	1.4E-04	7.9E-09	NV	5.7E-07	1.3E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.4E-12	NV	2.8E-09	9.8E-08	5.4E-12	NV	3.9E-10	9.2E-09	5.6E-12	NV	3.0E-09	1.0E-07	5.6E-12	NV	4.0E-10	9.6E-09
Zinc	1.8E-08	NV	9.3E-06	3.2E-04	1.8E-08	NV	1.3E-06	3.0E-05	1.3E-08	NV	6.8E-06	2.4E-04	1.3E-08	NV	9.3E-07	2.2E-05
Volatile Organic Compounds																
Bromomethane	ND	4.5E-07	ND	ND	ND	4.5E-07	ND	ND	8.4E-13	4.5E-07	4.4E-09	1.5E-08	8.4E-13	4.5E-07	6.0E-10	1.4E-09
Chloro methane	ND	2.4E-07	ND	ND	ND	2.4E-07	ND	ND	3.5E-13	2.4E-07	1.9E-09	6.4E-09	3.5E-13	2.4E-07	2.5E-10	6.0E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	1.6E-12	3.0E-09	1.3E-08	3.0E-08	1.6E-12	3.0E-09	1.8E-09	2.8E-09	1.1E-12	3.0E-09	8.9E-09	2.0E-08	1.1E-12	3.0E-09	1.2E-09	1.9E-09
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-13	NV	8.6E-10	2.0E-09	1.1E-13	NV	1.2E-10	1.9E-10
Anthracene	1.2E-11	3.4E-09	9.7E-08	2.2E-07	1.2E-11	3.4E-09	1.3E-08	2.1E-08	6.1E-12	3.4E-09	4.8E-08	1.1E-07	6.1E-12	3.4E-09	6.6E-09	1.0E-08
Benzo (a) anthracene	5.2E-11	3.1E-09	4.1E-07	9.5E-07	5.2E-11	3.1E-09	5.6E-08	8.9E-08	2.9E-11	3.1E-09	2.3E-07	5.2E-07	2.9E-11	3.1E-09	3.1E-08	4.9E-08
Benzo (a) pyrene	3.0E-11	NV	2.4E-07	5.5E-07	3.0E-11	NV	3.2E-08	5.1E-08	1.9E-11	NV	1.5E-07	3.5E-07	1.9E-11	NV	2.1E-08	3.2E-08
Benzo (b) fluoranthene	5.4E-11	NV	4.3E-07	9.8E-07	5.4E-11	NV	5.8E-08	9.2E-08	4.1E-11	NV	3.2E-07	7.4E-07	4.1E-11	NV	4.4E-08	6.9E-08
Benzo (ghi) perylene	2.6E-11	NV	2.0E-07	4.7E-07	2.6E-11	NV	2.8E-08	4.4E-08	1.3E-11	NV	1.0E-07	2.4E-07	1.3E-11	NV	1.4E-08	2.3E-08
Benzo (k) fluoranthene	1.9E-11	NV	1.5E-07	3.4E-07	1.9E-11	NV	2.0E-08	3.2E-08	1.2E-11	NV	9.8E-08	2.2E-07	1.2E-11	NV	1.3E-08	2.1E-08
Chrysene	6.9E-11	NV	5.5E-07	1.3E-06	6.9E-11	NV	7.4E-08	1.2E-07	3.0E-11	NV	2.4E-07	5.5E-07	3.0E-11	NV	3.3E-08	5.1E-08
Dibenzo (a,h) anthracene	1.7E-11	NV	1.3E-07	3.1E-07	1.7E-11	NV	1.8E-08	2.9E-08	1.1E-11	NV	9.1E-08	2.1E-07	1.1E-11	NV	1.2E-08	2.0E-08
Fluoranthene	2.0E-10	NV	1.5E-06	3.6E-06	2.0E-10	NV	2.1E-07	3.3E-07	1.2E-10	NV	9.3E-07	2.1E-06	1.2E-10	NV	1.3E-07	2.0E-07
Fluorene	3.0E-13	4.7E-10	2.3E-09	5.4E-09	3.0E-13	4.7E-10	3.2E-10	5.0E-10	2.3E-13	4.7E-10	1.8E-09	4.1E-09	2.3E-13	4.7E-10	2.4E-10	3.8E-10
Indeno (1,2,3-cd) pyrene	2.0E-11	NV	1.6E-07	3.6E-07	2.0E-11	NV	2.2E-08	3.4E-08	9.8E-12	NV	7.8E-08	1.8E-07	9.8E-12	NV	1.1E-08	1.7E-08
Naphthalene	2.1E-13	2.5E-09	1.6E-09	3.7E-09	2.1E-13	2.5E-09	2.2E-10	3.5E-10	1.7E-13	2.5E-09	1.3E-09	3.0E-09	1.7E-13	2.5E-09	1.8E-10	2.8E-10
Phenanthrene	5.1E-11	NV	4.0E-07	9.2E-07	5.1E-11	NV	5.5E-08	8.6E-08	2.4E-11	NV	1.9E-07	4.4E-07	2.4E-11	NV	2.6E-08	4.1E-08
Pyrene	1.5E-10	9.4E-09	1.2E-06	2.7E-06	1.5E-10	9.4E-09	1.6E-07	2.6E-07	9.2E-11	9.4E-09	7.2E-07	1.7E-06	9.2E-11	9.4E-09	9.9E-08	1.6E-07
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	8.0E-13	1.1E-09	6.3E-09	1.4E-08	8.0E-13	1.1E-09	8.6E-10	1.4E-09	6.7E-13	1.1E-09	5.3E-09	1.2E-08	6.7E-13	1.1E-09	7.2E-10	1.1E-09
Total Petroleum Hydrocarbons																
TPH as diesel	7.2E-10	6.7E-04	3.8E-06	1.3E-05	7.2E-10	6.7E-04	5.2E-07	1.2E-06	1.3E-09	6.7E-04	6.9E-06	2.4E-05	1.3E-09	6.7E-04	9.4E-07	2.2E-06
TPH as motor oil	2.9E-09	NV	1.5E-05	5.3E-05	2.9E-09	NV	2.1E-06	4.9E-06	6.0E-09	NV	3.2E-05	1.1E-04	6.0E-09	NV	4.3E-06	1.0E-05
Dioxins/Furans																
TEQ Human	3.6E-15	7.3E-13	5.6E-12	6.5E-11	3.6E-15	7.3E-13	7.7E-13	6.1E-12	2.7E-15	7.3E-13	4.3E-12	4.9E-11	2.7E-15	7.3E-13	5.8E-13	4.6E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NV	ND	ND	2.9E-11	NV	2.1E-09	5.0E-08
Cadmium	3.7E-11	NV	2.7E-10	6.3E-08	1.4E-11	NV	1.0E-10	2.4E-08
Chromium, Hexavalent	1.8E-11	NV	NA	3.1E-08	1.2E-11	NV	NA	2.1E-08
Copper	4.4E-09	NV	3.2E-07	7.6E-06	4.0E-09	NV	2.8E-07	6.7E-06
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.7E-12	NV	1.9E-10	4.6E-09	2.8E-12	NV	2.0E-10	4.8E-09
Zinc	8.8E-09	NV	6.3E-07	1.5E-05	6.5E-09	NV	4.7E-07	1.1E-05
Volatile Organic Compounds								
Bromomethane	ND	2.2E-07	ND	ND	4.2E-13	2.2E-07	3.0E-10	7.1E-10
Chloro methane	ND	1.2E-07	ND	ND	1.8E-13	1.2E-07	1.3E-10	3.0E-10
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	8.2E-13	1.5E-09	8.8E-10	1.4E-09	5.6E-13	1.5E-09	6.1E-10	9.6E-10
Acenaphthylene	ND	NV	ND	ND	5.5E-14	NV	5.9E-11	9.3E-11
Anthracene	6.1E-12	1.7E-09	6.6E-09	1.0E-08	3.1E-12	1.7E-09	3.3E-09	5.2E-09
Benzo (a) anthracene	2.6E-11	1.6E-09	2.8E-08	4.5E-08	1.4E-11	1.6E-09	1.6E-08	2.5E-08
Benzo (a) pyrene	1.5E-11	NV	1.6E-08	2.6E-08	9.6E-12	NV	1.0E-08	1.6E-08
Benzo (b) fluoranthene	2.7E-11	NV	2.9E-08	4.6E-08	2.0E-11	NV	2.2E-08	3.5E-08
Benzo (ghi) perylene	1.3E-11	NV	1.4E-08	2.2E-08	6.6E-12	NV	7.1E-09	1.1E-08
Benzo (k) fluoranthene	9.5E-12	NV	1.0E-08	1.6E-08	6.2E-12	NV	6.7E-09	1.1E-08
Chrysene	3.5E-11	NV	3.7E-08	5.9E-08	1.5E-11	NV	1.6E-08	2.6E-08
Dibenzo (a,h) anthracene	8.5E-12	NV	9.2E-09	1.5E-08	5.7E-12	NV	6.2E-09	9.8E-09
Fluoranthene	9.8E-11	NV	1.1E-07	1.7E-07	5.9E-11	NV	6.4E-08	1.0E-07
Fluorene	1.5E-13	2.4E-10	1.6E-10	2.5E-10	1.1E-13	2.4E-10	1.2E-10	1.9E-10
Indeno (1,2,3-cd) pyrene	1.0E-11	NV	1.1E-08	1.7E-08	4.9E-12	NV	5.3E-09	8.4E-09
Naphthalene	1.0E-13	1.2E-09	1.1E-10	1.8E-10	8.3E-14	1.2E-09	8.9E-11	1.4E-10
Phenanthrene	2.5E-11	NV	2.7E-08	4.3E-08	1.2E-11	NV	1.3E-08	2.0E-08
Pyrene	7.5E-11	4.7E-09	8.1E-08	1.3E-07	4.6E-11	4.7E-09	4.9E-08	7.8E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2e

**Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	4.0E-13	5.6E-10	4.3E-10	6.8E-10	3.4E-13	5.6E-10	3.6E-10	5.7E-10
Total Petroleum Hydrocarbons								
TPH as diesel	3.6E-10	3.3E-04	2.6E-07	6.1E-07	6.5E-10	3.3E-04	4.7E-07	1.1E-06
TPH as motor oil	1.5E-09	NV	1.0E-06	2.5E-06	3.0E-09	NV	2.2E-06	5.1E-06
Dioxins/Furans								
TEQ Human	1.8E-15	3.6E-13	3.9E-13	3.0E-12	1.3E-15	3.6E-13	2.9E-13	2.3E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	5.9E-09	NV	5.6E-08	7.5E-08	5.9E-09	NV	4.8E-08	3.1E-08
Cadmium	7.4E-09	NV	7.1E-09	9.5E-08	7.4E-09	NV	6.1E-09	3.9E-08	2.8E-09	NV	2.7E-09	3.6E-08	2.8E-09	NV	2.3E-09	1.5E-08
Chromium, Hexavalent	3.6E-09	NV	NA	4.6E-08	3.6E-09	NV	NA	1.9E-08	2.4E-09	NV	NA	3.1E-08	2.4E-09	NV	NA	1.3E-08
Copper	8.9E-07	NV	8.5E-06	1.1E-05	8.9E-07	NV	7.3E-06	4.7E-06	8.0E-07	NV	7.6E-06	1.0E-05	8.0E-07	NV	6.5E-06	4.2E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.4E-10	NV	5.2E-09	6.9E-09	5.4E-10	NV	4.4E-09	2.8E-09	5.7E-10	NV	5.4E-09	7.2E-09	5.7E-10	NV	4.6E-09	3.0E-09
Zinc	1.8E-06	NV	1.7E-05	2.2E-05	1.8E-06	NV	1.4E-05	9.3E-06	1.3E-06	NV	1.2E-05	1.7E-05	1.3E-06	NV	1.1E-05	6.8E-06
Volatile Organic Compounds																
Bromomethane	ND	2.8E-08	ND	ND	ND	2.8E-08	ND	ND	8.4E-11	2.8E-08	8.0E-09	1.1E-09	8.4E-11	2.8E-08	6.9E-09	4.4E-10
Chloro methane	ND	1.5E-08	ND	ND	ND	1.5E-08	ND	ND	3.6E-11	1.5E-08	3.4E-09	4.5E-10	3.6E-11	1.5E-08	2.9E-09	1.9E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	1.6E-10	1.9E-10	2.4E-08	2.1E-09	1.6E-10	1.9E-10	2.0E-08	8.6E-10	1.1E-10	1.9E-10	1.6E-08	1.4E-09	1.1E-10	1.9E-10	1.4E-08	5.9E-10
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-11	NV	1.6E-09	1.4E-10	1.1E-11	NV	1.3E-09	5.8E-11
Anthracene	1.2E-09	2.1E-10	1.8E-07	1.6E-08	1.2E-09	2.1E-10	1.5E-07	6.5E-09	6.1E-10	2.1E-10	8.8E-08	7.8E-09	6.1E-10	2.1E-10	7.5E-08	3.2E-09
Benzo (a) anthracene	5.3E-09	1.9E-10	7.5E-07	6.7E-08	5.3E-09	1.9E-10	6.4E-07	2.8E-08	2.9E-09	1.9E-10	4.2E-07	3.7E-08	2.9E-09	1.9E-10	3.6E-07	1.5E-08
Benzo (a) pyrene	3.0E-09	NV	4.3E-07	3.8E-08	3.0E-09	NV	3.7E-07	1.6E-08	1.9E-09	NV	2.7E-07	2.4E-08	1.9E-09	NV	2.4E-07	1.0E-08
Benzo (b) fluoranthene	5.4E-09	NV	7.8E-07	6.9E-08	5.4E-09	NV	6.7E-07	2.8E-08	4.1E-09	NV	5.8E-07	5.2E-08	4.1E-09	NV	5.0E-07	2.1E-08
Benzo (ghi) perylene	2.6E-09	NV	3.7E-07	3.3E-08	2.6E-09	NV	3.2E-07	1.4E-08	1.3E-09	NV	1.9E-07	1.7E-08	1.3E-09	NV	1.6E-07	7.0E-09
Benzo (k) fluoranthene	1.9E-09	NV	2.7E-07	2.4E-08	1.9E-09	NV	2.3E-07	1.0E-08	1.2E-09	NV	1.8E-07	1.6E-08	1.2E-09	NV	1.5E-07	6.5E-09
Chrysene	6.9E-09	NV	9.9E-07	8.8E-08	6.9E-09	NV	8.5E-07	3.6E-08	3.0E-09	NV	4.3E-07	3.9E-08	3.0E-09	NV	3.7E-07	1.6E-08
Dibenzo (a,h) anthracene	1.7E-09	NV	2.5E-07	2.2E-08	1.7E-09	NV	2.1E-07	9.0E-09	1.2E-09	NV	1.6E-07	1.5E-08	1.2E-09	NV	1.4E-07	6.0E-09
Fluoranthene	2.0E-08	NV	2.8E-06	2.5E-07	2.0E-08	NV	2.4E-06	1.0E-07	1.2E-08	NV	1.7E-06	1.5E-07	1.2E-08	NV	1.5E-06	6.2E-08
Fluorene	3.0E-11	2.9E-11	4.3E-09	3.8E-10	3.0E-11	2.9E-11	3.6E-09	1.6E-10	2.3E-11	2.9E-11	3.2E-09	2.9E-10	2.3E-11	2.9E-11	2.8E-09	1.2E-10
Indeno (1,2,3-cd) pyrene	2.0E-09	NV	2.9E-07	2.6E-08	2.0E-09	NV	2.5E-07	1.1E-08	9.9E-10	NV	1.4E-07	1.3E-08	9.9E-10	NV	1.2E-07	5.2E-09
Naphthalene	2.1E-11	1.5E-10	3.0E-09	2.6E-10	2.1E-11	1.5E-10	2.5E-09	1.1E-10	1.7E-11	1.5E-10	2.4E-09	2.1E-10	1.7E-11	1.5E-10	2.0E-09	8.7E-11
Phenanthrene	5.1E-09	NV	7.3E-07	6.5E-08	5.1E-09	NV	6.2E-07	2.7E-08	2.4E-09	NV	3.4E-07	3.1E-08	2.4E-09	NV	3.0E-07	1.3E-08
Pyrene	1.5E-08	5.9E-10	2.2E-06	1.9E-07	1.5E-08	5.9E-10	1.9E-06	7.9E-08	9.2E-09	5.9E-10	1.3E-06	1.2E-07	9.2E-09	5.9E-10	1.1E-06	4.8E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B1.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	8.0E-11	7.0E-11	1.1E-08	1.0E-09	8.0E-11	7.0E-11	9.8E-09	4.2E-10	6.7E-11	7.0E-11	9.6E-09	8.5E-10	6.7E-11	7.0E-11	8.2E-09	3.5E-10
Total Petroleum Hydrocarbons																
TPH as diesel	7.2E-08	4.2E-05	6.9E-06	9.2E-07	7.2E-08	4.2E-05	5.9E-06	3.8E-07	1.3E-07	4.2E-05	1.3E-05	1.7E-06	1.3E-07	4.2E-05	1.1E-05	6.9E-07
TPH as motor oil	2.9E-07	NV	2.8E-05	3.7E-06	2.9E-07	NV	2.4E-05	1.5E-06	6.0E-07	NV	5.8E-05	7.7E-06	6.0E-07	NV	4.9E-05	3.2E-06
Dioxins/Furans																
TEQ Human	3.6E-13	4.5E-14	1.0E-11	4.6E-12	3.6E-13	4.5E-14	8.8E-12	1.9E-12	2.7E-13	4.5E-14	7.7E-12	3.4E-12	2.7E-13	4.5E-14	6.6E-12	1.4E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Antimony	ND	NV	3.7E-12	NV
Cadmium	4.6E-12	NV	1.8E-12	NV
Chromium, Hexavalent	2.3E-12	NV	1.5E-12	NV
Copper	5.6E-10	NV	5.0E-10	NV
Lead	na	na	na	na
Mercury (inorganic)	3.4E-13	NV	3.5E-13	NV
Zinc	1.1E-09	NV	8.1E-10	NV
Volatile Organic Compounds				
Bromomethane	ND	1.8E-08	5.2E-14	1.8E-08
Chloro methane	ND	9.8E-09	2.2E-14	9.8E-09
Polycyclic Aromatic Hydrocarbons				
Acenaphthene	1.0E-13	1.2E-10	7.0E-14	1.2E-10
Acenaphthylene	ND	NV	6.8E-15	NV
Anthracene	7.7E-13	1.4E-10	3.8E-13	1.4E-10
Benzo (a) anthracene	3.3E-12	1.3E-10	1.8E-12	1.3E-10
Benzo (a) pyrene	1.9E-12	NV	1.2E-12	NV
Benzo (b) fluoranthene	3.4E-12	NV	2.5E-12	NV
Benzo (ghi) perylene	1.6E-12	NV	8.3E-13	NV
Benzo (k) fluoranthene	1.2E-12	NV	7.7E-13	NV
Chrysene	4.3E-12	NV	1.9E-12	NV
Dibenzo (a,h) anthracene	1.1E-12	NV	7.2E-13	NV
Fluoranthene	1.2E-11	NV	7.4E-12	NV
Fluorene	1.9E-14	1.9E-11	1.4E-14	1.9E-11
Indeno (1,2,3-cd) pyrene	1.3E-12	NV	6.1E-13	NV
Naphthalene	1.3E-14	1.0E-10	1.0E-14	1.0E-10
Phenanthrene	3.2E-12	NV	1.5E-12	NV
Pyrene	9.4E-12	3.9E-10	5.7E-12	3.9E-10
B(a)P Equivalent	NA	NV	NA	NV

Table AOC27-B1.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	5.0E-14	4.6E-11	4.2E-14	4.6E-11
Total Petroleum Hydrocarbons				
TPH as diesel	4.5E-11	2.7E-05	8.2E-11	2.7E-05
TPH as motor oil	1.8E-10	NV	3.8E-10	NV
Dioxins/Furans				
TEQ Human	2.2E-16	3.0E-14	1.7E-16	3.0E-14

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.3a
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cadmium	5.0E-09	NV	NC	NC	5.0E-09	1.9E-09	NV	NC	NC	1.9E-09	2.0E-09	NV	NC	NC	2.0E-09	1.7E-09	NV	NC	NC	1.7E-09
Chromium, Hexavalent	8.8E-08	NV	NA	3.6E-09	9.1E-08	5.9E-08	NV	NA	2.4E-09	6.1E-08	1.0E-07	NV	NA	4.2E-09	1.1E-07	3.8E-08	NV	NA	1.6E-09	3.9E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.1E-13	5.1E-12	1.1E-11	5.0E-12	2.1E-11	9.1E-14	5.1E-12	8.7E-12	4.0E-12	1.8E-11	6.8E-14	5.1E-12	6.6E-12	3.0E-12	1.5E-11	5.9E-14	5.1E-12	5.7E-12	2.6E-12	1.3E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.3E-09	NV	3.3E-08	1.5E-08	5.0E-08	9.3E-10	NV	2.3E-08	1.1E-08	3.4E-08	3.4E-10	NV	8.3E-09	3.8E-09	1.2E-08	2.2E-10	NV	5.4E-09	2.5E-09	8.1E-09
Polychlorinated Biphenyls																				
Total PCBs	7.3E-12	3.9E-11	7.0E-10	3.2E-10	1.1E-09	6.2E-12	3.9E-11	5.9E-10	2.7E-10	9.0E-10	5.7E-12	3.9E-11	5.5E-10	2.5E-10	8.4E-10	5.0E-12	3.9E-11	4.8E-10	2.2E-10	7.4E-10
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	2.2E-09	1.7E-09	4.1E-08	9.3E-08	1.4E-07	1.7E-09	1.7E-09	3.1E-08	7.0E-08	1.0E-07	1.3E-09	1.7E-09	2.4E-08	5.4E-08	8.1E-08	7.9E-10	1.7E-09	1.5E-08	3.4E-08	5.1E-08
Cumulative ILCR	1E-07	2E-09	7E-08	1E-07	3E-07	6E-08	2E-09	5E-08	8E-08	2E-07	1E-07	2E-09	3E-08	6E-08	2E-07	4E-08	2E-09	2E-08	4E-08	1E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.3b
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cadmium	3.8E-08	NV	NC	NC	3.8E-08	1.4E-08	NV	NC	NC	1.4E-08	1.5E-08	NV	NC	NC	1.5E-08	1.3E-08	NV	NC	NC	1.3E-08
Chromium, Hexavalent	6.6E-07	NV	NA	2.7E-08	6.8E-07	4.4E-07	NV	NA	1.8E-08	4.6E-07	7.6E-07	NV	NA	3.1E-08	7.9E-07	2.8E-07	NV	NA	1.2E-08	3.0E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	8.5E-13	7.0E-12	1.6E-10	3.7E-11	2.1E-10	6.8E-13	7.0E-12	1.3E-10	3.0E-11	1.7E-10	5.1E-13	7.0E-12	9.8E-11	2.2E-11	1.3E-10	4.4E-13	7.0E-12	8.5E-11	1.9E-11	1.1E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.0E-08	NV	5.0E-07	1.1E-07	6.2E-07	7.0E-09	NV	3.5E-07	7.9E-08	4.3E-07	2.5E-09	NV	1.2E-07	2.8E-08	1.6E-07	1.6E-09	NV	8.1E-08	1.9E-08	1.0E-07
Polychlorinated Biphenyls																				
Total PCBs	5.5E-11	5.3E-11	1.0E-08	2.4E-09	1.3E-08	4.6E-11	5.3E-11	8.8E-09	2.0E-09	1.1E-08	4.3E-11	5.3E-11	8.2E-09	1.9E-09	1.0E-08	3.7E-11	5.3E-11	7.1E-09	1.6E-09	8.9E-09
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	1.7E-08	2.3E-09	6.1E-07	7.0E-07	1.3E-06	1.2E-08	2.3E-09	4.6E-07	5.3E-07	1.0E-06	9.6E-09	2.3E-09	3.6E-07	4.1E-07	7.8E-07	5.9E-09	2.3E-09	2.2E-07	2.5E-07	4.8E-07
Cumulative ILCR	7E-07	2E-09	1E-06	8E-07	3E-06	5E-07	2E-09	8E-07	6E-07	2E-06	8E-07	2E-09	5E-07	5E-07	2E-06	3E-07	2E-09	3E-07	3E-07	9E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.3c
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User- Camper
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	5.8E-11	NV	NC	NC	5.8E-11	2.2E-11	NV	NC	NC	2.2E-11
Chromium, Hexavalent	2.8E-09	NV	NA	8.4E-08	8.6E-08	1.9E-09	NV	NA	5.6E-08	5.8E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.3E-15	1.6E-11	1.2E-11	2.5E-11	5.3E-11	1.0E-15	1.6E-11	9.8E-12	2.0E-11	4.6E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	4.3E-11	NV	1.6E-07	3.5E-07	5.1E-07	3.0E-11	NV	1.1E-07	2.4E-07	3.5E-07

Table AOC27-B1.3c
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User- Camper
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	8.4E-14	1.2E-10	7.8E-10	1.6E-09	2.5E-09	7.1E-14	1.2E-10	6.6E-10	1.4E-09	2.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.5E-11	5.1E-09	4.6E-08	4.7E-07	5.3E-07	1.9E-11	5.1E-09	3.5E-08	3.6E-07	4.0E-07
Cumulative ILCR	3E-09	5E-09	2E-07	9E-07	1E-06	2E-09	5E-09	1E-07	7E-07	8E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.3d
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	1.2E-10	NV	NC	NC	1.2E-10	4.4E-11	NV	NC	NC	4.4E-11
Chromium, Hexavalent	5.6E-09	NV	NA	1.7E-07	1.7E-07	3.7E-09	NV	NA	1.1E-07	1.2E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.6E-15	3.1E-11	2.4E-11	5.0E-11	1.1E-10	2.1E-15	3.1E-11	2.0E-11	4.0E-11	9.1E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	8.5E-11	NV	3.2E-07	7.0E-07	1.0E-06	5.9E-11	NV	2.2E-07	4.9E-07	7.1E-07

Table AOC27-B1.3d
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.7E-13	2.4E-10	1.6E-09	3.2E-09	5.1E-09	1.4E-13	2.4E-10	1.3E-09	2.7E-09	4.3E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	5.0E-11	1.0E-08	9.2E-08	9.5E-07	1.1E-06	3.8E-11	1.0E-08	6.9E-08	7.2E-07	7.9E-07
Cumulative ILCR	6E-09	1E-08	4E-07	2E-06	2E-06	4E-09	1E-08	3E-07	1E-06	2E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	5.8E-11	NV	NC	NC	5.8E-11	2.2E-11	NV	NC	NC	2.2E-11
Chromium, Hexavalent	1.0E-09	NV	NA	5.7E-09	6.7E-09	6.8E-10	NV	NA	3.8E-09	4.5E-09
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	1.3E-15	1.6E-11	4.9E-12	7.8E-12	2.8E-11	1.0E-15	1.6E-11	4.0E-12	6.3E-12	2.6E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.5E-11	NV	1.5E-08	2.4E-08	3.9E-08	1.1E-11	NV	1.0E-08	1.7E-08	2.7E-08

Table AOC27-B1.3e
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	8.4E-14	1.2E-10	3.2E-10	5.0E-10	9.4E-10	7.1E-14	1.2E-10	2.7E-10	4.2E-10	8.1E-10
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	2.5E-11	5.1E-09	1.9E-08	1.5E-07	1.7E-07	1.9E-11	5.1E-09	1.4E-08	1.1E-07	1.3E-07
Cumulative ILCR	1E-09	5E-09	3E-08	2E-07	2E-07	7E-10	5E-09	2E-08	1E-07	2E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	1.2E-08	NV	NC	NC	1.2E-08	4.4E-09	NV	NC	NC	4.4E-09
Chromium, Hexavalent	3.6E-07	NV	NA	9.7E-09	3.7E-07	2.4E-07	NV	NA	6.5E-09	2.5E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.6E-13	2.0E-12	1.2E-10	6.4E-12	1.3E-10	2.1E-13	2.0E-12	9.4E-11	5.2E-12	1.0E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	5.5E-09	NV	6.5E-07	4.1E-08	6.9E-07	3.8E-09	NV	4.5E-07	2.8E-08	4.8E-07

Table AOC27-B1.3f

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	1.7E-11	1.5E-11	7.6E-09	4.1E-10	8.0E-09	1.4E-11	1.5E-11	6.4E-09	3.5E-10	6.7E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	5.1E-09	6.4E-10	4.4E-07	1.2E-07	5.7E-07	3.8E-09	6.4E-10	3.3E-07	9.1E-08	4.3E-07
Cumulative ILCR	4E-07	7E-10	1E-06	2E-07	2E-06	3E-07	7E-10	8E-07	1E-07	1E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Antimony	ND	NC	--	NC	NC	--
Cadmium	1.7E-11	NV	1.7E-11	6.3E-12	NV	6.3E-12
Chromium, Hexavalent	2.9E-10	NV	2.9E-10	1.9E-10	NV	1.9E-10
Copper	NC	NC	--	NC	NC	--
Lead	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	--	NC	NC	--
Zinc	NC	NC	--	NC	NC	--
Volatile Organic Compounds						
Bromomethane	ND	NC	--	NC	NC	--
Chloro methane	ND	NC	--	NC	NC	--
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	NC	NC	--	NC	NC	--
Acenaphthylene	ND	NC	--	NC	NC	--
Anthracene	NC	NC	--	NC	NC	--
Benzo (a) anthracene	NA	NC	--	NA	NC	--
Benzo (a) pyrene	NA	NC	--	NA	NC	--
Benzo (b) fluoranthene	NA	NC	--	NA	NC	--
Benzo (ghi) perylene	NC	NC	--	NC	NC	--
Benzo (k) fluoranthene	NA	NC	--	NA	NC	--
Chrysene	NA	NC	--	NA	NC	--
Dibenzo (a,h) anthracene	NA	NC	--	NA	NC	--
Fluoranthene	NC	NC	--	NC	NC	--
Fluorene	NC	NC	--	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	--	NA	NC	--
Naphthalene	3.8E-16	3.0E-12	3.0E-12	3.0E-16	3.0E-12	3.0E-12
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
B(a)P Equivalent	4.4E-12	NV	4.4E-12	3.1E-12	NV	3.1E-12

Table AOC27-B1.3g
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Polychlorinated Biphenyls						
Total PCBs	2.4E-14	2.3E-11	2.3E-11	2.0E-14	2.3E-11	2.3E-11
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Dioxins/Furans						
TEQ Human	7.3E-12	9.7E-10	9.8E-10	5.5E-12	9.7E-10	9.8E-10
Cumulative ILCR	3E-10	1E-09	1E-09	2E-10	1E-09	1E-09

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4a
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	4.2E-04	NV	3.0E-03	2.1E-02	2.4E-02	5.1E-04	NV	3.7E-03	2.5E-02	3.0E-02	4.0E-04	NV	2.9E-03	2.0E-02	2.3E-02
Cadmium	9.3E-05	NV	3.0E-05	2.1E-03	2.2E-03	3.5E-05	NV	1.2E-05	7.9E-04	8.4E-04	3.8E-05	NV	1.2E-05	8.4E-04	8.9E-04	3.2E-05	NV	1.0E-05	7.1E-04	7.6E-04
Chromium, Hexavalent	4.1E-04	NV	NA	1.7E-04	5.8E-04	2.7E-04	NV	NA	1.1E-04	3.9E-04	4.7E-04	NV	NA	2.0E-04	6.7E-04	1.8E-04	NV	NA	7.3E-05	2.5E-04
Copper	6.3E-05	NV	4.6E-04	3.1E-03	3.6E-03	5.6E-05	NV	4.1E-04	2.8E-03	3.2E-03	4.8E-05	NV	3.5E-04	2.4E-03	2.8E-03	3.0E-05	NV	2.2E-04	1.5E-03	1.7E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.0E-04	NV	6.9E-05	4.7E-04	7.5E-04	2.1E-04	NV	7.2E-05	4.9E-04	7.8E-04	2.1E-04	NV	7.0E-05	4.8E-04	7.5E-04	1.6E-04	NV	5.3E-05	3.6E-04	5.7E-04
Zinc	1.7E-05	NV	1.2E-04	8.2E-04	9.6E-04	1.2E-05	NV	8.9E-05	6.1E-04	7.1E-04	1.0E-05	NV	7.3E-05	5.0E-04	5.8E-04	6.8E-06	NV	4.9E-05	3.4E-04	3.9E-04
Volatile Organic Compounds																				
Bromomethane	ND	1.0E-05	ND	ND	1.0E-05	5.0E-09	1.0E-05	5.7E-06	3.9E-06	2.0E-05	4.5E-09	1.0E-05	5.2E-06	3.5E-06	1.9E-05	3.4E-09	1.0E-05	3.9E-06	2.7E-06	1.7E-05
Chloro methane	ND	2.5E-06	ND	ND	2.5E-06	9.8E-10	2.5E-06	7.1E-08	4.9E-08	2.6E-06	9.0E-10	2.5E-06	6.5E-08	4.5E-08	2.6E-06	7.1E-10	2.5E-06	5.1E-08	3.5E-08	2.6E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	7.8E-10	5.3E-09	8.4E-08	3.8E-08	1.3E-07	5.3E-10	5.3E-09	5.8E-08	2.6E-08	9.0E-08	2.8E-10	5.3E-09	3.1E-08	1.4E-08	5.1E-08	1.9E-10	5.3E-09	2.0E-08	9.3E-09	3.5E-08
Acenaphthylene	ND	NV	ND	ND	--	5.2E-11	NV	5.6E-09	2.6E-09	8.2E-09	5.8E-11	NV	6.3E-09	2.9E-09	9.2E-09	5.0E-11	NV	5.4E-09	2.5E-09	8.0E-09
Anthracene	3.5E-10	3.6E-10	3.8E-08	1.7E-08	5.6E-08	1.7E-10	3.6E-10	1.9E-08	8.6E-09	2.8E-08	6.7E-11	3.6E-10	7.3E-09	3.3E-09	1.1E-08	4.5E-11	3.6E-10	4.9E-09	2.2E-09	7.5E-09
Benzo (a) anthracene	4.9E-07	1.1E-07	5.4E-05	2.5E-05	7.9E-05	2.7E-07	1.1E-07	3.0E-05	1.4E-05	4.4E-05	1.5E-07	1.1E-07	1.7E-05	7.6E-06	2.5E-05	1.2E-07	1.1E-07	1.3E-05	5.8E-06	1.9E-05
Benzo (a) pyrene	1.7E-02	NV	3.1E-03	1.4E-03	2.2E-02	1.1E-02	NV	2.0E-03	8.9E-04	1.4E-02	7.2E-03	NV	1.3E-03	5.9E-04	9.1E-03	4.3E-03	NV	7.8E-04	3.6E-04	5.4E-03
Benzo (b) fluoranthene	5.1E-07	NV	5.6E-05	2.5E-05	8.1E-05	3.8E-07	NV	4.2E-05	1.9E-05	6.1E-05	2.2E-07	NV	2.4E-05	1.1E-05	3.5E-05	1.3E-07	NV	1.4E-05	6.5E-06	2.1E-05
Benzo (ghi) perylene	2.4E-07	NV	2.7E-05	1.2E-05	3.9E-05	1.3E-07	NV	1.4E-05	6.2E-06	2.0E-05	5.2E-08	NV	5.7E-06	2.6E-06	8.3E-06	2.8E-08	NV	3.1E-06	1.4E-06	4.5E-06
Benzo (k) fluoranthene	1.8E-07	NV	1.9E-05	8.8E-06	2.8E-05	1.2E-07	NV	1.3E-05	5.8E-06	1.9E-05	8.3E-08	NV	9.1E-06	4.1E-06	1.3E-05	5.1E-08	NV	5.5E-06	2.5E-06	8.1E-06
Chrysene	6.5E-07	NV	7.1E-05	3.2E-05	1.0E-04	2.9E-07	NV	3.1E-05	1.4E-05	4.5E-05	1.4E-07	NV	1.5E-05	6.8E-06	2.2E-05	8.3E-08	NV	9.0E-06	4.1E-06	1.3E-05
Dibenzo (a,h) anthracene	9.7E-03	NV	1.8E-03	8.0E-04	1.2E-02	6.5E-03	NV	1.2E-03	5.4E-04	8.2E-03	3.3E-03	NV	6.0E-04	2.7E-04	4.2E-03	2.0E-03	NV	3.6E-04	1.6E-04	2.5E-03
Fluoranthene	1.4E-07	NV	1.5E-05	6.9E-06	2.2E-05	8.4E-08	NV	9.1E-06	4.1E-06	1.3E-05	3.2E-08	NV	3.5E-06	1.6E-06	5.1E-06	2.0E-08	NV	2.1E-06	9.7E-07	3.1E-06
Fluorene	2.1E-10	1.3E-09	2.3E-08	1.0E-08	3.5E-08	1.6E-10	1.3E-09	1.7E-08	7.9E-09	2.7E-08	1.1E-10	1.3E-09	1.2E-08	5.4E-09	1.9E-08	8.9E-11	1.3E-09	9.7E-09	4.4E-09	1.5E-08
Indeno (1,2,3-cd) pyrene	1.9E-07	NV	2.1E-05	9.4E-06	3.0E-05	9.3E-08	NV	1.0E-05	4.6E-06	1.5E-05	4.1E-08	NV	4.5E-06	2.0E-06	6.5E-06	2.3E-08	NV	2.5E-06	1.1E-06	3.7E-06
Naphthalene	7.8E-08	3.5E-06	1.1E-08	4.8E-09	3.6E-06	6.2E-08	3.5E-06	8.5E-09	3.9E-09	3.6E-06	4.7E-08	3.5E-06	6.4E-09	2.9E-09	3.6E-06	4.1E-08	3.5E-06	5.5E-09	2.5E-09	3.6E-06
Phenanthrene	1.4E-09	NV	1.6E-07	7.1E-08	2.3E-07	6.8E-10	NV	7.4E-08	3.4E-08	1.1E-07	3.4E-10	NV	3.6E-08	1.7E-08	5.3E-08	2.2E-10	NV	2.4E-08	1.1E-08	3.5E-08
Pyrene	1.4E-07	3.3E-08	1.5E-05	7.0E-06	2.3E-05	8.6E-08	3.3E-08	9.4E-06	4.3E-06	1.4E-05	3.4E-08	3.3E-08	3.7E-06	1.7E-06	5.4E-06	2.0E-08	3.3E-08	2.2E-06	1.0E-06	3.3E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.1E-05	6.0E-05	1.2E-03	5.6E-04	1.9E-03	9.5E-06	6.0E-05	1.0E-03	4.7E-04	1.6E-03	8.8E-06	6.0E-05	9.6E-04	4.4E-04	1.5E-03	7.7E-06	6.0E-05	8.3E-04	3.8E-04	1.3E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	6.3E-06	2.2E-02	7.4E-04	5.0E-04	2.3E-02	1.1E-05	2.2E-02	1.3E-03	9.2E-04	2.4E-02	1.2E-05	2.2E-02	1.4E-03	9.7E-04	2.4E-02	1.1E-05	2.2E-02	1.2E-03	8.5E-04	2.4E-02
TPH as motor oil	4.9E-06	NV	3.5E-04	2.4E-04	6.0E-04	1.0E-05	NV	7.3E-04	5.0E-04	1.2E-03	1.2E-05	NV	8.5E-04	5.8E-04	1.4E-03	7.9E-06	NV	5.7E-04	3.9E-04	9.7E-04
Dioxins/Furans																				
TEQ Human	1.0E-04	7.7E-05	1.1E-03	2.5E-03	3.8E-03	7.6E-05	7.7E-05	8.3E-04	1.9E-03	2.9E-03	5.9E-05	7.7E-05	6.4E-04	1.5E-03	2.2E-03	3.7E-05	7.7E-05	4.0E-04	9.0E-04	1.4E-03
Total Hazard Index	3E-02	2E-02	9E-03	1E-02	7E-02	2E-02	2E-02	1E-02	3E-02	8E-02	1E-02	2E-02	1E-02	3E-02	8E-02	7E-03	2E-02	7E-03	3E-02	6E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4b
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	1.0E-05	NV	1.5E-04	5.2E-04	6.8E-04	1.3E-05	NV	1.9E-04	6.4E-04	8.3E-04	1.0E-05	NV	1.4E-04	4.9E-04	6.5E-04
Cadmium	2.1E-03	NV	1.2E-03	4.1E-02	4.5E-02	8.0E-04	NV	4.6E-04	1.6E-02	1.7E-02	8.5E-04	NV	4.9E-04	1.7E-02	1.8E-02	7.2E-04	NV	4.1E-04	1.4E-02	1.5E-02
Chromium, Hexavalent	1.0E-04	NV	NA	4.2E-05	1.4E-04	6.9E-05	NV	NA	2.8E-05	9.7E-05	1.2E-04	NV	NA	4.9E-05	1.7E-04	4.4E-05	NV	NA	1.8E-05	6.2E-05
Copper	1.6E-05	NV	2.3E-04	7.8E-04	1.0E-03	1.4E-05	NV	2.0E-04	7.0E-04	9.1E-04	1.2E-05	NV	1.7E-04	5.9E-04	7.8E-04	7.5E-06	NV	1.1E-04	3.7E-04	4.9E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.1E-05	NV	3.5E-05	1.2E-04	2.0E-04	5.3E-05	NV	3.6E-05	1.2E-04	2.1E-04	5.1E-05	NV	3.5E-05	1.2E-04	2.1E-04	3.9E-05	NV	2.7E-05	9.1E-05	1.6E-04
Zinc	4.2E-06	NV	6.0E-05	2.1E-04	2.7E-04	3.1E-06	NV	4.5E-05	1.5E-04	2.0E-04	2.5E-06	NV	3.7E-05	1.3E-04	1.6E-04	1.7E-06	NV	2.5E-05	8.4E-05	1.1E-04
Volatile Organic Compounds																				
Bromomethane	ND	1.7E-05	ND	ND	1.7E-05	4.7E-08	1.7E-05	6.1E-06	2.1E-06	2.6E-05	4.3E-08	1.7E-05	5.5E-06	1.9E-06	2.5E-05	3.2E-08	1.7E-05	4.2E-06	1.4E-06	2.3E-05
Chloro methane	ND	5.1E-07	ND	ND	5.1E-07	1.1E-09	5.1E-07	1.6E-07	5.5E-08	7.3E-07	1.0E-09	5.1E-07	1.5E-07	5.1E-08	7.1E-07	8.1E-10	5.1E-07	1.2E-07	4.0E-08	6.7E-07
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	1.9E-09	2.4E-09	4.2E-07	9.6E-08	5.2E-07	1.3E-09	2.4E-09	2.9E-07	6.6E-08	3.6E-07	7.1E-10	2.4E-09	1.5E-07	3.5E-08	1.9E-07	4.7E-10	2.4E-09	1.0E-07	2.3E-08	1.3E-07
Acenaphthylene	ND	NV	ND	ND	--	1.3E-10	NV	2.8E-08	6.4E-09	3.5E-08	1.5E-10	NV	3.2E-08	7.2E-09	3.9E-08	1.3E-10	NV	2.7E-08	6.2E-09	3.4E-08
Anthracene	2.9E-09	5.4E-10	6.3E-07	1.4E-07	7.8E-07	1.4E-09	5.4E-10	3.1E-07	7.2E-08	3.9E-07	5.6E-10	5.4E-10	1.2E-07	2.8E-08	1.5E-07	3.8E-10	5.4E-10	8.1E-08	1.9E-08	1.0E-07
Benzo (a) anthracene	1.2E-07	5.0E-09	2.7E-05	6.1E-06	3.3E-05	6.8E-08	5.0E-09	1.5E-05	3.4E-06	1.8E-05	3.9E-08	5.0E-09	8.4E-06	1.9E-06	1.0E-05	2.9E-08	5.0E-09	6.3E-06	1.4E-06	7.8E-06
Benzo (a) pyrene	4.3E-03	NV	1.5E-03	3.5E-04	6.2E-03	2.7E-03	NV	9.8E-04	2.2E-04	3.9E-03	1.8E-03	NV	6.5E-04	1.5E-04	2.6E-03	1.1E-03	NV	3.9E-04	8.9E-05	1.6E-03
Benzo (b) fluoranthene	1.3E-07	NV	2.8E-05	6.3E-06	3.4E-05	9.6E-08	NV	2.1E-05	4.8E-06	2.6E-05	5.4E-08	NV	1.2E-05	2.7E-06	1.5E-05	3.3E-08	NV	7.2E-06	1.6E-06	8.8E-06
Benzo (ghi) perylene	6.1E-08	NV	1.3E-05	3.0E-06	1.6E-05	3.1E-08	NV	6.8E-06	1.5E-06	8.4E-06	1.3E-08	NV	2.8E-06	6.5E-07	3.5E-06	7.1E-09	NV	1.5E-06	3.5E-07	1.9E-06
Benzo (k) fluoranthene	4.5E-08	NV	9.7E-06	2.2E-06	1.2E-05	2.9E-08	NV	6.3E-06	1.4E-06	7.8E-06	2.1E-08	NV	4.5E-06	1.0E-06	5.6E-06	1.3E-08	NV	2.8E-06	6.3E-07	3.4E-06
Chrysene	1.6E-07	NV	3.5E-05	8.1E-06	4.4E-05	7.1E-08	NV	1.6E-05	3.5E-06	1.9E-05	3.4E-08	NV	7.4E-06	1.7E-06	9.1E-06	2.1E-08	NV	4.5E-06	1.0E-06	5.5E-06
Dibenzo (a,h) anthracene	2.4E-03	NV	8.8E-04	2.0E-04	3.5E-03	1.6E-03	NV	5.9E-04	1.3E-04	2.3E-03	8.3E-04	NV	3.0E-04	6.8E-05	1.2E-03	5.0E-04	NV	1.8E-04	4.1E-05	7.2E-04
Fluoranthene	3.5E-07	NV	7.5E-05	1.7E-05	9.3E-05	2.1E-07	NV	4.5E-05	1.0E-05	5.6E-05	8.1E-08	NV	1.8E-05	4.0E-06	2.2E-05	4.9E-08	NV	1.1E-05	2.4E-06	1.3E-05
Fluorene	5.3E-10	5.7E-10	1.1E-07	2.6E-08	1.4E-07	4.0E-10	5.7E-10	8.7E-08	2.0E-08	1.1E-07	2.7E-10	5.7E-10	5.9E-08	1.4E-08	7.4E-08	2.2E-10	5.7E-10	4.8E-08	1.1E-08	6.0E-08
Indeno (1,2,3-cd) pyrene	4.7E-08	NV	1.0E-05	2.3E-06	1.3E-05	2.3E-08	NV	5.0E-06	1.1E-06	6.2E-06	1.0E-08	NV	2.2E-06	5.1E-07	2.7E-06	5.8E-09	NV	1.2E-06	2.8E-07	1.5E-06
Naphthalene	1.9E-08	1.6E-07	1.6E-07	3.6E-08	3.7E-07	1.6E-08	1.6E-07	1.3E-07	2.9E-08	3.3E-07	1.2E-08	1.6E-07	9.6E-08	2.2E-08	2.9E-07	1.0E-08	1.6E-07	8.3E-08	1.9E-08	2.7E-07
Phenanthrene	1.2E-08	NV	2.6E-06	5.9E-07	3.2E-06	5.7E-09	NV	1.2E-06	2.8E-07	1.5E-06	2.8E-09	NV	6.1E-07	1.4E-07	7.5E-07	1.8E-09	NV	4.0E-07	9.0E-08	4.9E-07
Pyrene	3.6E-07	1.5E-08	7.7E-05	1.8E-05	9.5E-05	2.2E-07	1.5E-08	4.7E-05	1.1E-05	5.8E-05	8.4E-08	1.5E-08	1.8E-05	4.2E-06	2.3E-05	5.1E-08	1.5E-08	1.1E-05	2.5E-06	1.4E-05
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	2.8E-06	2.7E-06	6.1E-04	1.4E-04	7.6E-04	2.4E-06	2.7E-06	5.2E-04	1.2E-04	6.4E-04	2.2E-06	2.7E-06	4.8E-04	1.1E-04	5.9E-04	1.9E-06	2.7E-06	4.2E-04	9.5E-05	5.2E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	1.6E-06	9.9E-04	3.7E-04	1.3E-04	1.5E-03	2.9E-06	9.9E-04	6.7E-04	2.3E-04	1.9E-03	3.0E-06	9.9E-04	7.1E-04	2.4E-04	2.0E-03	2.6E-06	9.9E-04	6.2E-04	2.1E-04	1.8E-03
TPH as motor oil	1.2E-06	NV	1.8E-04	6.0E-05	2.4E-04	2.5E-06	NV	3.6E-04	1.2E-04	4.9E-04	2.9E-06	NV	4.2E-04	1.4E-04	5.7E-04	2.0E-06	NV	2.9E-04	9.8E-05	3.9E-04
Dioxins/Furans																				
TEQ Human	2.5E-05	3.5E-06	1.6E-02	1.8E-02	3.4E-02	1.9E-05	3.5E-06	1.2E-02	1.4E-02	2.5E-02	1.5E-05	3.5E-06	9.2E-03	1.0E-02	2.0E-02	9.1E-06	3.5E-06	5.7E-03	6.5E-03	1.2E-02
Total Hazard Index	9E-03	1E-03	2E-02	6E-02	9E-02	5E-03	1E-03	2E-02	3E-02	5E-02	4E-03	1E-03	1E-02	3E-02	5E-02	2E-03	1E-03	8E-03	2E-02	3E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4c
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.8E-08	NV	3.9E-05	1.3E-03	1.4E-03	1.8E-08	NV	5.3E-06	1.3E-04	1.3E-04
Cadmium	3.7E-06	NV	3.9E-06	1.3E-03	1.4E-03	3.7E-06	NV	4.2E-05	1.0E-02	1.0E-02	1.4E-06	NV	1.5E-06	5.1E-04	5.1E-04	1.4E-06	NV	1.6E-05	3.8E-03	3.8E-03
Chromium, Hexavalent	1.8E-07	NV	NA	1.1E-04	1.1E-04	1.8E-07	NV	NA	1.0E-05	1.0E-05	1.2E-07	NV	NA	7.3E-05	7.3E-05	1.2E-07	NV	NA	6.9E-06	7.0E-06
Copper	2.8E-08	NV	5.8E-05	2.0E-03	2.1E-03	2.8E-08	NV	8.0E-06	1.9E-04	2.0E-04	2.5E-08	NV	5.2E-05	1.8E-03	1.8E-03	2.5E-08	NV	7.1E-06	1.7E-04	1.8E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.0E-08	NV	8.9E-06	3.1E-04	3.2E-04	9.0E-08	NV	1.2E-06	2.9E-05	3.0E-05	9.4E-08	NV	9.3E-06	3.2E-04	3.3E-04	9.4E-08	NV	1.3E-06	3.0E-05	3.1E-05
Zinc	7.3E-09	NV	1.5E-05	5.3E-04	5.5E-04	7.3E-09	NV	2.1E-06	5.0E-05	5.2E-05	5.4E-09	NV	1.1E-05	3.9E-04	4.0E-04	5.4E-09	NV	1.6E-06	3.7E-05	3.8E-05
Volatile Organic Compounds																				
Bromomethane	ND	4.5E-05	ND	ND	4.5E-05	ND	4.5E-05	ND	ND	4.5E-05	8.4E-11	4.5E-05	1.6E-06	5.4E-06	5.2E-05	8.4E-11	4.5E-05	2.1E-07	5.1E-07	4.5E-05
Chloro methane	ND	1.3E-06	ND	ND	1.3E-06	ND	1.3E-06	ND	ND	1.3E-06	2.0E-12	1.3E-06	4.1E-08	1.4E-07	1.5E-06	2.0E-12	1.3E-06	5.7E-09	1.3E-08	1.3E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	3.4E-12	6.2E-09	1.1E-07	2.5E-07	3.6E-07	3.4E-12	6.2E-09	1.5E-08	2.3E-08	4.4E-08	2.3E-12	6.2E-09	7.4E-08	1.7E-07	2.5E-07	2.3E-12	6.2E-09	1.0E-08	1.6E-08	3.2E-08
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	2.3E-13	NV	7.2E-09	1.7E-08	2.4E-08	2.3E-13	NV	9.8E-10	1.6E-09	2.5E-09
Anthracene	5.1E-12	1.4E-09	1.6E-07	3.7E-07	5.3E-07	5.1E-12	1.4E-09	2.2E-08	3.5E-08	5.8E-08	2.6E-12	1.4E-09	8.1E-08	1.9E-07	2.7E-07	2.6E-12	1.4E-09	1.1E-08	1.7E-08	3.0E-08
Benzo (a) anthracene	2.2E-10	1.3E-08	6.9E-06	1.6E-05	2.3E-05	2.2E-10	1.3E-08	9.4E-07	1.5E-06	2.4E-06	1.2E-10	1.3E-08	3.8E-06	8.7E-06	1.3E-05	1.2E-10	1.3E-08	5.2E-07	8.2E-07	1.4E-06
Benzo (a) pyrene	7.5E-06	NV	4.0E-04	9.1E-04	1.3E-03	7.5E-06	NV	5.4E-05	8.5E-05	1.5E-04	4.8E-06	NV	2.5E-04	5.8E-04	8.3E-04	4.8E-06	NV	3.4E-05	5.4E-05	9.3E-05
Benzo (b) fluoranthene	2.3E-10	NV	7.1E-06	1.6E-05	2.3E-05	2.3E-10	NV	9.7E-07	1.5E-06	2.5E-06	1.7E-10	NV	5.3E-06	1.2E-05	1.8E-05	1.7E-10	NV	7.3E-07	1.2E-06	1.9E-06
Benzo (ghi) perylene	1.1E-10	NV	3.4E-06	7.8E-06	1.1E-05	1.1E-10	NV	4.6E-07	7.3E-07	1.2E-06	5.5E-11	NV	1.7E-06	4.0E-06	5.7E-06	5.5E-11	NV	2.4E-07	3.8E-07	6.1E-07
Benzo (k) fluoranthene	7.9E-11	NV	2.5E-06	5.7E-06	8.2E-06	7.9E-11	NV	3.4E-07	5.4E-07	8.8E-07	5.2E-11	NV	1.6E-06	3.7E-06	5.4E-06	5.2E-11	NV	2.2E-07	3.5E-07	5.7E-07
Chrysene	2.9E-10	NV	9.1E-06	2.1E-05	3.0E-05	2.9E-10	NV	1.2E-06	2.0E-06	3.2E-06	1.3E-10	NV	4.0E-06	9.1E-06	1.3E-05	1.3E-10	NV	5.4E-07	8.6E-07	1.4E-06
Dibenzo (a,h) anthracene	4.3E-06	NV	2.2E-04	5.2E-04	7.5E-04	4.3E-06	NV	3.1E-05	4.8E-05	8.3E-05	2.9E-06	NV	1.5E-04	3.5E-04	5.0E-04	2.9E-06	NV	2.1E-05	3.3E-05	5.6E-05
Fluoranthene	6.1E-10	NV	1.9E-05	4.4E-05	6.4E-05	6.1E-10	NV	2.6E-06	4.2E-06	6.8E-06	3.7E-10	NV	1.2E-05	2.7E-05	3.8E-05	3.7E-10	NV	1.6E-06	2.5E-06	4.1E-06
Fluorene	9.3E-13	1.5E-09	2.9E-08	6.7E-08	9.8E-08	9.3E-13	1.5E-09	4.0E-09	6.3E-09	1.2E-08	7.1E-13	1.5E-09	2.2E-08	5.1E-08	7.5E-08	7.1E-13	1.5E-09	3.0E-09	4.8E-09	9.3E-09
Indeno (1,2,3-cd) pyrene	8.4E-11	NV	2.6E-06	6.1E-06	8.7E-06	8.4E-11	NV	3.6E-07	5.7E-07	9.3E-07	4.1E-11	NV	1.3E-06	3.0E-06	4.3E-06	4.1E-11	NV	1.8E-07	2.8E-07	4.5E-07
Naphthalene	3.4E-11	4.1E-07	4.1E-08	9.4E-08	5.5E-07	3.4E-11	4.1E-07	5.6E-09	8.8E-09	4.3E-07	2.8E-11	4.1E-07	3.3E-08	7.5E-08	5.2E-07	2.8E-11	4.1E-07	4.5E-09	7.0E-09	4.2E-07
Phenanthrene	2.1E-11	NV	6.7E-07	1.5E-06	2.2E-06	2.1E-11	NV	9.1E-08	1.4E-07	2.3E-07	1.0E-11	NV	3.2E-07	7.3E-07	1.0E-06	1.0E-11	NV	4.3E-08	6.8E-08	1.1E-07
Pyrene	6.3E-10	3.9E-08	2.0E-05	4.6E-05	6.5E-05	6.3E-10	3.9E-08	2.7E-06	4.3E-06	7.0E-06	3.8E-10	3.9E-08	1.2E-05	2.8E-05	4.0E-05	3.8E-10	3.9E-08	1.6E-06	2.6E-06	4.3E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	5.0E-09	7.0E-06	1.6E-04	3.6E-04	5.2E-04	5.0E-09	7.0E-06	2.1E-05	3.4E-05	6.2E-05	4.2E-09	7.0E-06	1.3E-04	3.0E-04	4.4E-04	4.2E-09	7.0E-06	1.8E-05	2.8E-05	5.4E-05
Total Petroleum Hydrocarbons																				
TPH as diesel	2.8E-09	2.6E-03	9.4E-05	3.3E-04	3.0E-03	2.8E-09	2.6E-03	1.3E-05	3.1E-05	2.6E-03	5.0E-09	2.6E-03	1.7E-04	5.9E-04	3.3E-03	5.0E-09	2.6E-03	2.3E-05	5.6E-05	2.6E-03
TPH as motor oil	2.1E-09	NV	4.5E-05	1.6E-04	2.0E-04	2.1E-09	NV	6.1E-06	1.5E-05	2.1E-05	4.4E-09	NV	9.3E-05	3.2E-04	4.1E-04	4.4E-09	NV	1.3E-05	3.0E-05	4.3E-05
Dioxins/Furans																				
TEQ Human	4.5E-08	9.1E-06	4.0E-03	4.6E-02	5.0E-02	4.5E-08	9.1E-06	5.5E-04	4.3E-03	4.9E-03	3.4E-08	9.1E-06	3.0E-03	3.5E-02	3.8E-02	3.4E-08	9.1E-06	4.1E-04	3.3E-03	3.7E-03
Total Hazard Index	2E-05	3E-03	5E-03	5E-02	6E-02	2E-05	3E-03	7E-04	1E-02	2E-02	9E-06	3E-03	4E-03	4E-02	5E-02	9E-06	3E-03	6E-04	8E-03	1E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4d
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.7E-08	NV	7.8E-05	2.7E-03	2.8E-03	3.7E-08	NV	1.1E-05	2.5E-04	2.6E-04
Cadmium	7.4E-06	NV	7.8E-06	2.7E-03	2.7E-03	7.4E-06	NV	8.4E-05	2.0E-02	2.0E-02	2.8E-06	NV	3.0E-06	1.0E-03	1.0E-03	2.8E-06	NV	3.2E-05	7.6E-03	7.6E-03
Chromium, Hexavalent	3.6E-07	NV	NA	2.2E-04	2.2E-04	3.6E-07	NV	NA	2.0E-05	2.1E-05	2.4E-07	NV	NA	1.5E-04	1.5E-04	2.4E-07	NV	NA	1.4E-05	1.4E-05
Copper	5.6E-08	NV	1.2E-04	4.0E-03	4.1E-03	5.6E-08	NV	1.6E-05	3.8E-04	3.9E-04	5.0E-08	NV	1.0E-04	3.6E-03	3.7E-03	5.0E-08	NV	1.4E-05	3.4E-04	3.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.8E-07	NV	1.8E-05	6.1E-04	6.3E-04	1.8E-07	NV	2.4E-06	5.8E-05	6.0E-05	1.9E-07	NV	1.9E-05	6.4E-04	6.6E-04	1.9E-07	NV	2.5E-06	6.0E-05	6.3E-05
Zinc	1.5E-08	NV	3.1E-05	1.1E-03	1.1E-03	1.5E-08	NV	4.2E-06	1.0E-04	1.0E-04	1.1E-08	NV	2.3E-05	7.9E-04	8.1E-04	1.1E-08	NV	3.1E-06	7.4E-05	7.7E-05
Volatile Organic Compounds																				
Bromomethane	ND	8.9E-05	ND	ND	8.9E-05	ND	8.9E-05	ND	ND	8.9E-05	1.7E-10	8.9E-05	3.1E-06	1.1E-05	1.0E-04	1.7E-10	8.9E-05	4.3E-07	1.0E-06	9.1E-05
Chloro methane	ND	2.6E-06	ND	ND	2.6E-06	ND	2.6E-06	ND	ND	2.6E-06	3.9E-12	2.6E-06	8.3E-08	2.9E-07	3.0E-06	3.9E-12	2.6E-06	1.1E-08	2.7E-08	2.7E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	6.8E-12	1.2E-08	2.2E-07	5.0E-07	7.3E-07	6.8E-12	1.2E-08	2.9E-08	4.7E-08	8.8E-08	4.7E-12	1.2E-08	1.5E-07	3.4E-07	5.0E-07	4.7E-12	1.2E-08	2.0E-08	3.2E-08	6.4E-08
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	4.6E-13	NV	1.4E-08	3.3E-08	4.8E-08	4.6E-13	NV	2.0E-09	3.1E-09	5.1E-09
Anthracene	1.0E-11	2.8E-09	3.2E-07	7.4E-07	1.1E-06	1.0E-11	2.8E-09	4.4E-08	7.0E-08	1.2E-07	5.1E-12	2.8E-09	1.6E-07	3.7E-07	5.3E-07	5.1E-12	2.8E-09	2.2E-08	3.5E-08	5.9E-08
Benzo (a) anthracene	4.4E-10	2.6E-08	1.4E-05	3.2E-05	4.5E-05	4.4E-10	2.6E-08	1.9E-06	3.0E-06	4.9E-06	2.4E-10	2.6E-08	7.6E-06	1.7E-05	2.5E-05	2.4E-10	2.6E-08	1.0E-06	1.6E-06	2.7E-06
Benzo (a) pyrene	1.5E-05	NV	7.9E-04	1.8E-03	2.6E-03	1.5E-05	NV	1.1E-04	1.7E-04	2.9E-04	9.6E-06	NV	5.0E-04	1.2E-03	1.7E-03	9.6E-06	NV	6.9E-05	1.1E-04	1.9E-04
Benzo (b) fluoranthene	4.5E-10	NV	1.4E-05	3.3E-05	4.7E-05	4.5E-10	NV	1.9E-06	3.1E-06	5.0E-06	3.4E-10	NV	1.1E-05	2.5E-05	3.5E-05	3.4E-10	NV	1.5E-06	2.3E-06	3.8E-06
Benzo (ghi) perylene	2.2E-10	NV	6.8E-06	1.6E-05	2.2E-05	2.2E-10	NV	9.3E-07	1.5E-06	2.4E-06	1.1E-10	NV	3.5E-06	8.0E-06	1.1E-05	1.1E-10	NV	4.8E-07	7.5E-07	1.2E-06
Benzo (k) fluoranthene	1.6E-10	NV	5.0E-06	1.1E-05	1.6E-05	1.6E-10	NV	6.8E-07	1.1E-06	1.8E-06	1.0E-10	NV	3.3E-06	7.5E-06	1.1E-05	1.0E-10	NV	4.4E-07	7.0E-07	1.1E-06
Chrysene	5.8E-10	NV	1.8E-05	4.2E-05	6.0E-05	5.8E-10	NV	2.5E-06	3.9E-06	6.4E-06	2.5E-10	NV	8.0E-06	1.8E-05	2.6E-05	2.5E-10	NV	1.1E-06	1.7E-06	2.8E-06
Dibenzo (a,h) anthracene	8.5E-06	NV	4.5E-04	1.0E-03	1.5E-03	8.5E-06	NV	6.1E-05	9.7E-05	1.7E-04	5.7E-06	NV	3.0E-04	6.9E-04	1.0E-03	5.7E-06	NV	4.1E-05	6.5E-05	1.1E-04
Fluoranthene	1.2E-09	NV	3.9E-05	8.9E-05	1.3E-04	1.2E-09	NV	5.3E-06	8.3E-06	1.4E-05	7.4E-10	NV	2.3E-05	5.4E-05	7.7E-05	7.4E-10	NV	3.2E-06	5.0E-06	8.2E-06
Fluorene	1.9E-12	2.9E-09	5.8E-08	1.3E-07	2.0E-07	1.9E-12	2.9E-09	8.0E-09	1.3E-08	2.4E-08	1.4E-12	2.9E-09	4.4E-08	1.0E-07	1.5E-07	1.4E-12	2.9E-09	6.1E-09	9.6E-09	1.9E-08
Indeno (1,2,3-cd) pyrene	1.7E-10	NV	5.3E-06	1.2E-05	1.7E-05	1.7E-10	NV	7.2E-07	1.1E-06	1.9E-06	8.2E-11	NV	2.6E-06	5.9E-06	8.5E-06	8.2E-11	NV	3.5E-07	5.6E-07	9.1E-07
Naphthalene	6.9E-11	8.2E-07	8.1E-08	1.9E-07	1.1E-06	6.9E-11	8.2E-07	1.1E-08	1.8E-08	8.5E-07	5.5E-11	8.2E-07	6.5E-08	1.5E-07	1.0E-06	5.5E-11	8.2E-07	8.9E-09	1.4E-08	8.5E-07
Phenanthrene	4.2E-11	NV	1.3E-06	3.1E-06	4.4E-06	4.2E-11	NV	1.8E-07	2.9E-07	4.7E-07	2.0E-11	NV	6.3E-07	1.5E-06	2.1E-06	2.0E-11	NV	8.6E-08	1.4E-07	2.2E-07
Pyrene	1.3E-09	7.9E-08	4.0E-05	9.1E-05	1.3E-04	1.3E-09	7.9E-08	5.4E-06	8.5E-06	1.4E-05	7.6E-10	7.9E-08	2.4E-05	5.5E-05	7.9E-05	7.6E-10	7.9E-08	3.3E-06	5.2E-06	8.5E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.0E-08	1.4E-05	3.1E-04	7.2E-04	1.0E-03	1.0E-08	1.4E-05	4.3E-05	6.8E-05	1.2E-04	8.4E-09	1.4E-05	2.6E-04	6.1E-04	8.9E-04	8.4E-09	1.4E-05	3.6E-05	5.7E-05	1.1E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	5.5E-09	5.1E-03	1.9E-04	6.5E-04	6.0E-03	5.5E-09	5.1E-03	2.6E-05	6.1E-05	5.2E-03	1.0E-08	5.1E-03	3.4E-04	1.2E-03	6.7E-03	1.0E-08	5.1E-03	4.7E-05	1.1E-04	5.3E-03
TPH as motor oil	4.3E-09	NV	9.0E-05	3.1E-04	4.0E-04	4.3E-09	NV	1.2E-05	2.9E-05	4.1E-05	8.9E-09	NV	1.9E-04	6.4E-04	8.3E-04	8.9E-09	NV	2.5E-05	6.0E-05	8.6E-05
Dioxins/Furans																				
TEQ Human	8.9E-08	1.8E-05	8.1E-03	9.3E-02	1.0E-01	8.9E-08	1.8E-05	1.1E-03	8.7E-03	9.8E-03	6.7E-08	1.8E-05	6.1E-03	7.0E-02	7.6E-02	6.7E-08	1.8E-05	8.3E-04	6.6E-03	7.4E-03
Total Hazard Index	3E-05	5E-03	1E-02	1E-01	1E-01	3E-05	5E-03	1E-03	3E-02	4E-02	2E-05	5E-03	8E-03	8E-02	1E-01	2E-05	5E-03	1E-03	2E-02	2E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4e

Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Antimony	ND	NV	ND	ND	--	1.8E-08	NV	5.3E-06	1.3E-04	1.3E-04
Cadmium	3.7E-06	NV	4.2E-05	1.0E-02	1.0E-02	1.4E-06	NV	1.6E-05	3.8E-03	3.8E-03
Chromium, Hexavalent	1.8E-07	NV	NA	1.0E-05	1.0E-05	1.2E-07	NV	NA	6.9E-06	7.0E-06
Copper	2.8E-08	NV	8.0E-06	1.9E-04	2.0E-04	2.5E-08	NV	7.1E-06	1.7E-04	1.8E-04
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	9.0E-08	NV	1.2E-06	2.9E-05	3.0E-05	9.4E-08	NV	1.3E-06	3.0E-05	3.1E-05
Zinc	7.3E-09	NV	2.1E-06	5.0E-05	5.2E-05	5.4E-09	NV	1.6E-06	3.7E-05	3.8E-05
Volatile Organic Compounds										
Bromomethane	ND	4.5E-05	ND	ND	4.5E-05	8.4E-11	4.5E-05	2.1E-07	5.1E-07	4.5E-05
Chloro methane	ND	1.3E-06	ND	ND	1.3E-06	2.0E-12	1.3E-06	5.7E-09	1.3E-08	1.3E-06
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	3.4E-12	6.2E-09	1.5E-08	2.3E-08	4.4E-08	2.3E-12	6.2E-09	1.0E-08	1.6E-08	3.2E-08
Acenaphthylene	ND	NV	ND	ND	--	2.3E-13	NV	9.8E-10	1.6E-09	2.5E-09
Anthracene	5.1E-12	1.4E-09	2.2E-08	3.5E-08	5.8E-08	2.6E-12	1.4E-09	1.1E-08	1.7E-08	3.0E-08
Benzo (a) anthracene	2.2E-10	1.3E-08	9.4E-07	1.5E-06	2.4E-06	1.2E-10	1.3E-08	5.2E-07	8.2E-07	1.4E-06
Benzo (a) pyrene	7.5E-06	NV	5.4E-05	8.5E-05	1.5E-04	4.8E-06	NV	3.4E-05	5.4E-05	9.3E-05
Benzo (b) fluoranthene	2.3E-10	NV	9.7E-07	1.5E-06	2.5E-06	1.7E-10	NV	7.3E-07	1.2E-06	1.9E-06
Benzo (ghi) perylene	1.1E-10	NV	4.6E-07	7.3E-07	1.2E-06	5.5E-11	NV	2.4E-07	3.8E-07	6.1E-07
Benzo (k) fluoranthene	7.9E-11	NV	3.4E-07	5.4E-07	8.8E-07	5.2E-11	NV	2.2E-07	3.5E-07	5.7E-07
Chrysene	2.9E-10	NV	1.2E-06	2.0E-06	3.2E-06	1.3E-10	NV	5.4E-07	8.6E-07	1.4E-06
Dibenzo (a,h) anthracene	4.3E-06	NV	3.1E-05	4.8E-05	8.3E-05	2.9E-06	NV	2.1E-05	3.3E-05	5.6E-05
Fluoranthene	6.1E-10	NV	2.6E-06	4.2E-06	6.8E-06	3.7E-10	NV	1.6E-06	2.5E-06	4.1E-06
Fluorene	9.3E-13	1.5E-09	4.0E-09	6.3E-09	1.2E-08	7.1E-13	1.5E-09	3.0E-09	4.8E-09	9.3E-09
Indeno (1,2,3-cd) pyrene	8.4E-11	NV	3.6E-07	5.7E-07	9.3E-07	4.1E-11	NV	1.8E-07	2.8E-07	4.5E-07
Naphthalene	3.4E-11	4.1E-07	5.6E-09	8.8E-09	4.3E-07	2.8E-11	4.1E-07	4.5E-09	7.0E-09	4.2E-07
Phenanthrene	2.1E-11	NV	9.1E-08	1.4E-07	2.3E-07	1.0E-11	NV	4.3E-08	6.8E-08	1.1E-07
Pyrene	6.3E-10	3.9E-08	2.7E-06	4.3E-06	7.0E-06	3.8E-10	3.9E-08	1.6E-06	2.6E-06	4.3E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls										
Total PCBs	5.0E-09	7.0E-06	2.1E-05	3.4E-05	6.2E-05	4.2E-09	7.0E-06	1.8E-05	2.8E-05	5.4E-05
Total Petroleum Hydrocarbons										
TPH as diesel	2.8E-09	2.6E-03	1.3E-05	3.1E-05	2.6E-03	5.0E-09	2.6E-03	2.3E-05	5.6E-05	2.6E-03
TPH as motor oil	2.1E-09	NV	6.1E-06	1.5E-05	2.1E-05	4.4E-09	NV	1.3E-05	3.0E-05	4.3E-05

Table AOC27-B1.4e
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Dioxins/Furans										
TEQ Human	4.5E-08	9.1E-06	5.5E-04	4.3E-03	4.9E-03	3.4E-08	9.1E-06	4.1E-04	3.3E-03	3.7E-03
Total Hazard Index	2E-05	3E-03	7E-04	1E-02	2E-02	9E-06	3E-03	6E-04	8E-03	1E-02

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.4f
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.7E-06	NV	1.4E-04	1.9E-04	3.3E-04	3.7E-06	NV	1.2E-04	7.8E-05	2.0E-04
Cadmium	7.4E-04	NV	1.4E-05	1.9E-04	9.5E-04	7.4E-04	NV	9.7E-04	6.2E-03	7.9E-03	2.8E-04	NV	5.4E-06	7.2E-05	3.6E-04	2.8E-04	NV	3.7E-04	2.3E-03	3.0E-03
Chromium, Hexavalent	3.6E-05	NV	NA	1.5E-05	5.2E-05	3.6E-05	NV	NA	6.3E-06	4.3E-05	2.4E-05	NV	NA	1.0E-05	3.5E-05	2.4E-05	NV	NA	4.2E-06	2.9E-05
Copper	5.6E-06	NV	2.1E-04	2.8E-04	5.0E-04	5.6E-06	NV	1.8E-04	1.2E-04	3.0E-04	5.0E-06	NV	1.9E-04	2.5E-04	4.5E-04	5.0E-06	NV	1.6E-04	1.0E-04	2.7E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.8E-05	NV	3.2E-05	4.3E-05	9.4E-05	1.8E-05	NV	2.8E-05	1.8E-05	6.4E-05	1.9E-05	NV	3.4E-05	4.5E-05	9.8E-05	1.9E-05	NV	2.9E-05	1.9E-05	6.6E-05
Zinc	1.5E-06	NV	5.6E-05	7.5E-05	1.3E-04	1.5E-06	NV	4.8E-05	3.1E-05	8.1E-05	1.1E-06	NV	4.2E-05	5.5E-05	9.8E-05	1.1E-06	NV	3.6E-05	2.3E-05	6.0E-05
Volatile Organic Compounds																				
Bromomethane	ND	5.6E-06	ND	ND	5.6E-06	ND	5.6E-06	ND	ND	5.6E-06	1.7E-08	5.6E-06	5.7E-06	7.6E-07	1.2E-05	1.7E-08	5.6E-06	4.9E-06	3.1E-07	1.1E-05
Chloro methane	ND	1.7E-07	ND	ND	1.7E-07	ND	1.7E-07	ND	ND	1.7E-07	4.0E-10	1.7E-07	1.5E-07	2.0E-08	3.4E-07	4.0E-10	1.7E-07	1.3E-07	8.3E-09	3.0E-07
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	6.9E-10	7.7E-10	3.9E-07	3.5E-08	4.3E-07	6.9E-10	7.7E-10	3.4E-07	1.4E-08	3.5E-07	4.7E-10	7.7E-10	2.7E-07	2.4E-08	2.9E-07	4.7E-10	7.7E-10	2.3E-07	9.9E-09	2.4E-07
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	4.6E-11	NV	2.6E-08	2.3E-09	2.9E-08	4.6E-11	NV	2.2E-08	9.6E-10	2.3E-08
Anthracene	1.0E-09	1.7E-10	5.9E-07	5.2E-08	6.4E-07	1.0E-09	1.7E-10	5.0E-07	2.2E-08	5.3E-07	5.1E-10	1.7E-10	2.9E-07	2.6E-08	3.2E-07	5.1E-10	1.7E-10	2.5E-07	1.1E-08	2.6E-07
Benzo (a) anthracene	4.4E-08	1.6E-09	2.5E-05	2.2E-06	2.7E-05	4.4E-08	1.6E-09	2.1E-05	9.2E-07	2.2E-05	2.4E-08	1.6E-09	1.4E-05	1.2E-06	1.5E-05	2.4E-08	1.6E-09	1.2E-05	5.1E-07	1.2E-05
Benzo (a) pyrene	1.5E-03	NV	1.4E-03	1.3E-04	3.1E-03	1.5E-03	NV	1.2E-03	5.3E-05	2.8E-03	9.6E-04	NV	9.1E-04	8.1E-05	2.0E-03	9.6E-04	NV	7.8E-04	3.4E-05	1.8E-03
Benzo (b) fluoranthene	4.5E-08	NV	2.6E-05	2.3E-06	2.8E-05	4.5E-08	NV	2.2E-05	9.5E-07	2.3E-05	3.4E-08	NV	1.9E-05	1.7E-06	2.1E-05	3.4E-08	NV	1.7E-05	7.1E-07	1.7E-05
Benzo (ghi) perylene	2.2E-08	NV	1.2E-05	1.1E-06	1.3E-05	2.2E-08	NV	1.1E-05	4.5E-07	1.1E-05	1.1E-08	NV	6.3E-06	5.6E-07	6.9E-06	1.1E-08	NV	5.4E-06	2.3E-07	5.7E-06
Benzo (k) fluoranthene	1.6E-08	NV	9.0E-06	8.0E-07	9.9E-06	1.6E-08	NV	7.8E-06	3.3E-07	8.1E-06	1.0E-08	NV	5.9E-06	5.3E-07	6.5E-06	1.0E-08	NV	5.1E-06	2.2E-07	5.3E-06
Chrysene	5.8E-08	NV	3.3E-05	2.9E-06	3.6E-05	5.8E-08	NV	2.8E-05	1.2E-06	3.0E-05	2.5E-08	NV	1.4E-05	1.3E-06	1.6E-05	2.5E-08	NV	1.2E-05	5.3E-07	1.3E-05
Dibenzo (a,h) anthracene	8.6E-04	NV	8.2E-04	7.3E-05	1.7E-03	8.6E-04	NV	7.0E-04	3.0E-05	1.6E-03	5.8E-04	NV	5.5E-04	4.9E-05	1.2E-03	5.8E-04	NV	4.7E-04	2.0E-05	1.1E-03
Fluoranthene	1.2E-07	NV	7.0E-05	6.2E-06	7.7E-05	1.2E-07	NV	6.0E-05	2.6E-06	6.3E-05	7.4E-08	NV	4.2E-05	3.8E-06	4.6E-05	7.4E-08	NV	3.6E-05	1.6E-06	3.8E-05
Fluorene	1.9E-10	1.8E-10	1.1E-07	9.5E-09	1.2E-07	1.9E-10	1.8E-10	9.1E-08	3.9E-09	9.5E-08	1.4E-10	1.8E-10	8.1E-08	7.2E-09	8.8E-08	1.4E-10	1.8E-10	6.9E-08	3.0E-09	7.3E-08
Indeno (1,2,3-cd) pyrene	1.7E-08	NV	9.6E-06	8.5E-07	1.0E-05	1.7E-08	NV	8.2E-06	3.5E-07	8.6E-06	8.2E-09	NV	4.7E-06	4.2E-07	5.1E-06	8.2E-09	NV	4.0E-06	1.7E-07	4.2E-06
Naphthalene	6.9E-09	5.2E-08	1.5E-07	1.3E-08	2.2E-07	6.9E-09	5.2E-08	1.3E-07	5.4E-09	1.9E-07	5.5E-09	5.2E-08	1.2E-07	1.1E-08	1.9E-07	5.5E-09	5.2E-08	1.0E-07	4.3E-09	1.6E-07
Phenanthrene	4.2E-09	NV	2.4E-06	2.2E-07	2.6E-06	4.2E-09	NV	2.1E-06	8.9E-08	2.2E-06	2.0E-09	NV	1.1E-06	1.0E-07	1.3E-06	2.0E-09	NV	9.8E-07	4.2E-08	1.0E-06
Pyrene	1.3E-07	4.9E-09	7.2E-05	6.4E-06	7.9E-05	1.3E-07	4.9E-09	6.2E-05	2.6E-06	6.5E-05	7.7E-08	4.9E-09	4.4E-05	3.9E-06	4.8E-05	7.7E-08	4.9E-09	3.8E-05	1.6E-06	3.9E-05
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.0E-06	8.8E-07	5.7E-04	5.1E-05	6.2E-04	1.0E-06	8.8E-07	4.9E-04	2.1E-05	5.1E-04	8.4E-07	8.8E-07	4.8E-04	4.3E-05	5.3E-04	8.4E-07	8.8E-07	4.1E-04	1.8E-05	4.3E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	5.5E-07	3.2E-04	3.4E-04	4.6E-05	7.1E-04	5.5E-07	3.2E-04	2.9E-04	1.9E-05	6.3E-04	1.0E-06	3.2E-04	6.3E-04	8.3E-05	1.0E-03	1.0E-06	3.2E-04	5.4E-04	3.4E-05	8.9E-04
TPH as motor oil	4.3E-07	NV	1.6E-04	2.2E-05	1.9E-04	4.3E-07	NV	1.4E-04	9.0E-06	1.5E-04	8.9E-07	NV	3.4E-04	4.5E-05	3.9E-04	8.9E-07	NV	2.9E-04	1.9E-05	3.1E-04
Dioxins/Furans																				
TEQ Human	9.0E-06	1.1E-06	1.5E-02	6.5E-03	2.1E-02	9.0E-06	1.1E-06	1.3E-02	2.7E-03	1.5E-02	6.8E-06	1.1E-06	1.1E-02	4.9E-03	1.6E-02	6.8E-06	1.1E-06	9.5E-03	2.0E-03	1.2E-02
Total Hazard Index	3E-03	3E-04	2E-02	7E-03	3E-02	3E-03	3E-04	2E-02	9E-03	3E-02	2E-03	3E-04	1E-02	6E-03	2E-02	2E-03	3E-04	1E-02	5E-03	2E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B1.4g
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Antimony	ND	NV	--	2.3E-09	NV	2.3E-09
Cadmium	4.6E-07	NV	4.6E-07	1.8E-07	NV	1.8E-07
Chromium, Hexavalent	2.3E-08	NV	2.3E-08	1.5E-08	NV	1.5E-08
Copper	3.5E-09	NV	3.5E-09	3.1E-09	NV	3.1E-09
Lead	na	na	na	na	na	na
Mercury (inorganic)	1.1E-08	NV	1.1E-08	1.2E-08	NV	1.2E-08
Zinc	9.2E-10	NV	9.2E-10	6.8E-10	NV	6.8E-10
Volatile Organic Compounds						
Bromomethane	ND	3.7E-06	3.7E-06	1.0E-11	3.7E-06	3.7E-06
Chloro methane	ND	1.1E-07	1.1E-07	2.5E-13	1.1E-07	1.1E-07
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	4.3E-13	5.1E-10	5.1E-10	2.9E-13	5.1E-10	5.1E-10
Acenaphthylene	ND	NV	--	2.9E-14	NV	2.9E-14
Anthracene	6.4E-13	1.1E-10	1.2E-10	3.2E-13	1.1E-10	1.2E-10
Benzo (a) anthracene	2.7E-11	1.1E-09	1.1E-09	1.5E-11	1.1E-09	1.1E-09
Benzo (a) pyrene	9.4E-07	NV	9.4E-07	6.0E-07	NV	6.0E-07
Benzo (b) fluoranthene	2.8E-11	NV	2.8E-11	2.1E-11	NV	2.1E-11
Benzo (ghi) perylene	1.3E-11	NV	1.3E-11	6.9E-12	NV	6.9E-12
Benzo (k) fluoranthene	9.9E-12	NV	9.9E-12	6.4E-12	NV	6.4E-12
Chrysene	3.6E-11	NV	3.6E-11	1.6E-11	NV	1.6E-11
Dibenzo (a,h) anthracene	5.3E-07	NV	5.3E-07	3.6E-07	NV	3.6E-07
Fluoranthene	7.7E-11	NV	7.7E-11	4.6E-11	NV	4.6E-11
Fluorene	1.2E-13	1.2E-10	1.2E-10	8.8E-14	1.2E-10	1.2E-10
Indeno (1,2,3-cd) pyrene	1.0E-11	NV	1.0E-11	5.1E-12	NV	5.1E-12
Naphthalene	4.3E-12	3.4E-08	3.4E-08	3.4E-12	3.4E-08	3.4E-08
Phenanthrene	2.6E-12	NV	2.6E-12	1.3E-12	NV	1.3E-12
Pyrene	7.8E-11	3.2E-09	3.3E-09	4.8E-11	3.2E-09	3.3E-09
B(a)P Equivalent	NA	NV	--	NA	NV	--

Table AOC27-B1.4g
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Polychlorinated Biphenyls						
Total PCBs	6.2E-10	5.8E-07	5.8E-07	5.2E-10	5.8E-07	5.8E-07
Total Petroleum Hydrocarbons						
TPH as diesel	3.5E-10	2.1E-04	2.1E-04	6.3E-10	2.1E-04	2.1E-04
TPH as motor oil	2.7E-10	NV	2.7E-10	5.5E-10	NV	5.5E-10
Dioxins/Furans						
TEQ Human	5.6E-09	7.5E-07	7.5E-07	4.2E-09	7.5E-07	7.5E-07
Total Hazard Index	2E-06	2E-04	2E-04	1E-06	2E-04	2E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B1.5a

Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	233.0	168.0	130.0	82.6
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.123	0.088	0.068	0.043
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.23	0.17	0.13	0.08
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC27-B1.5b

Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	233.0	168.0	130.0	82.6
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.031	0.022	0.017	0.011
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.06	0.04	0.03	0.02
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC27-B1.5c

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	233.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.059	0.108	0.13	0.16	0.18	2159
BLOOD Pb, PICA CHILD	0.118	0.21	0.25	0.31	0.35	1084

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	4.8E-04	1%		4.8E-04	0.4%
Soil Ingestion	2.5E-4	5.9E-02	99%	5.0E-4	1.2E-01	100%
Inhalation	7.0E-8	1.6E-05	0.03%		1.6E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC27-B1.5d

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	168.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.043	0.078	0.09	0.11	0.13
BLOOD Pb, PICA CHILD	0.085	0.15	0.18	0.22	0.25

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	3.5E-04	1%		3.5E-04	0.4%
Soil Ingestion	2.5E-4	4.2E-02	99%	5.0E-4	8.4E-02	100%
Inhalation	7.0E-8	1.2E-05	0.03%		1.2E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC27-B1.5e

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	233.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.118	0.216	0.26	0.31	0.35	1079
BLOOD Pb, PICA CHILD	0.235	0.43	0.51	0.62	0.70	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	9.7E-04	1%		9.7E-04	0.4%
Soil Ingestion	5.0E-4	1.2E-01	99%	1.0E-3	2.3E-01	100%
Inhalation	1.4E-7	3.3E-05	0.03%		3.3E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC27-B1.5f

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	168.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.085	0.156	0.18	0.22	0.25	1079
BLOOD Pb, PICA CHILD	0.170	0.31	0.37	0.45	0.51	542

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	7.0E-04	1%		7.0E-04	0.4%
Soil Ingestion	5.0E-4	8.4E-02	99%	1.0E-3	1.7E-01	100%
Inhalation	1.4E-7	2.4E-05	0.03%		2.4E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the n report for details.

Table AOC27-B1.5g

Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	233.0	168.0
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.05	0.05
$AF_{s, d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12
$EF_{s, d}$	Exposure frequency (same for soil and dust)	days/yr	8	8
$AT_{s, d}$	Averaging time (same for soil and dust)	days/yr	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.012	0.009
$PbB_{\text{fetal, 0.90}}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.02	0.02
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%

PRG90

9942

Notes:

Highlighted values are site-specific: soil ingestion rate of 50 mg/day is the default incidental soil ingestion rate evaluation of exposure to lead in soil (USEPA 2003). Exposure frequency (8 days/year) based on the assumption of 8 days per month, 1 month per year as shown in Table 5.1 of the main report.

References:

USEPA. 2003. Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. EPA-540-R-03-001. January.

Table AOC27-B1.5h

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	233.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.040	0.073	0.09	0.11	0.12
BLOOD Pb, PICA CHILD	0.238	0.44	0.51	0.63	0.71

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	3.9E-03	10%		3.9E-03	1.6%
Soil Ingestion	1.6E-4	3.6E-02	90%	1.0E-3	2.3E-01	98%
Inhalation	8.7E-9	2.0E-06	0.01%		2.0E-06	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table AOC27-B1.5i

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	168.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.029	0.053	0.06	0.08	0.09	3174
BLOOD Pb, PICA CHILD	0.172	0.31	0.37	0.45	0.51	535

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	2.8E-03	10%		2.8E-03	1.6%
Soil Ingestion	1.6E-4	2.6E-02	90%	1.0E-3	1.7E-01	98%
Inhalation	8.7E-9	1.5E-06	0.01%		1.5E-06	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Attachment AOC27-B2**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 27
Using Area-Weighted EPCs****Tables**

AOC27-B2.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B2.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC27-B2.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B2.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B2.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC27-B2.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B2.3a	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B2.3b	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC27-B2.3c	Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B2.4a	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B2.4b	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker
AOC27-B2.4c	Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC27-B2.5a	Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
AOC27-B2.5b	Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Recreational User (Hiker)
AOC27-B2.5c	Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Recreational User (Hiker)
AOC27-B2.5d	Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC27-B2.5e	Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC27-B2.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cadmium	9.0E-09	NV	NC	NC	2.6E-09	NV	NC	NC	3.5E-09	NV	NC	NC	3.6E-09	NV	NC	NC
Chromium, Hexavalent	1.6E-09	NV	NA	1.9E-08	1.7E-09	NV	NA	2.1E-08	1.8E-09	NV	NA	2.2E-08	1.3E-09	NV	NA	1.6E-08
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	2.5E-11	2.1E-10	1.4E-09	3.1E-10	2.0E-11	2.1E-10	1.1E-09	2.5E-10	1.5E-11	2.1E-10	8.2E-10	1.9E-10	1.3E-11	2.1E-10	7.1E-10	1.6E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	2.9E-09	NV	1.6E-07	3.6E-08	1.4E-09	NV	7.5E-08	1.7E-08	7.3E-10	NV	4.0E-08	9.1E-09	4.8E-10	NV	2.6E-08	5.9E-09

Table AOC27-B2.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.4E-10	1.3E-10	7.5E-09	1.7E-09	1.2E-10	1.3E-10	6.3E-09	1.4E-09	1.0E-10	1.3E-10	5.5E-09	1.3E-09	9.5E-11	1.3E-10	5.1E-09	1.2E-09
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	1.3E-13	1.6E-14	1.5E-12	1.7E-12	9.1E-14	1.6E-14	9.9E-13	1.1E-12	7.0E-14	1.6E-14	7.6E-13	8.6E-13	4.2E-14	1.6E-14	4.5E-13	5.2E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.1b

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	2.8E-11	NV	NC	NC	8.1E-12	NV	NC	NC
Chromium, Hexavalent	1.3E-11	NV	NA	1.2E-07	1.4E-11	NV	NA	1.3E-07
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	7.7E-14	9.2E-10	2.0E-10	4.2E-10	6.1E-14	9.2E-10	1.6E-10	3.4E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	2.5E-11	NV	1.0E-07	2.2E-07	1.2E-11	NV	4.8E-08	1.1E-07

Table AOC27-B2.1b

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	4.2E-13	6.0E-10	1.1E-09	2.3E-09	3.5E-13	6.0E-10	9.4E-10	1.9E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	4.1E-16	7.2E-14	2.2E-13	2.3E-12	2.8E-16	7.2E-14	1.5E-13	1.5E-12

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B2.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Antimony	ND	NC	ND	ND	NC	NC	NC	NC
Cadmium	2.8E-09	NV	NC	NC	8.1E-10	NV	NC	NC
Chromium, Hexavalent	8.4E-10	NV	NA	6.9E-09	9.2E-10	NV	NA	7.5E-09
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Bromomethane	ND	NC	ND	ND	NC	NC	NC	NC
Chloro methane	ND	NC	ND	ND	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	ND	NC	ND	ND	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Naphthalene	7.7E-12	5.7E-11	9.8E-10	5.4E-11	6.2E-12	5.7E-11	7.8E-10	4.3E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.6E-09	NV	2.1E-07	1.3E-08	7.5E-10	NV	9.8E-08	6.1E-09

Table AOC27-B2.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	4.2E-11	3.8E-11	5.4E-09	3.0E-10	3.6E-11	3.8E-11	4.5E-09	2.5E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans								
TEQ Human	4.1E-14	4.5E-15	1.1E-12	2.9E-13	2.8E-14	4.5E-15	7.1E-13	1.9E-13

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B2.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	1.7E-08	NV	6.0E-08	2.1E-07	2.1E-08	NV	7.4E-08	2.5E-07	1.6E-08	NV	5.8E-08	2.0E-07
Cadmium	2.1E-08	NV	7.6E-09	2.6E-07	6.2E-09	NV	2.2E-09	7.6E-08	8.3E-09	NV	3.0E-09	1.0E-07	8.3E-09	NV	3.0E-09	1.0E-07
Chromium, Hexavalent	3.6E-09	NV	NA	4.5E-08	4.0E-09	NV	NA	4.9E-08	4.2E-09	NV	NA	5.2E-08	3.0E-09	NV	NA	3.7E-08
Copper	1.0E-06	NV	3.7E-06	1.3E-05	8.1E-07	NV	2.9E-06	1.0E-05	5.8E-07	NV	2.1E-06	7.2E-06	4.6E-07	NV	1.7E-06	5.7E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.1E-09	NV	4.0E-09	1.4E-08	9.3E-10	NV	3.4E-09	1.2E-08	8.7E-10	NV	3.1E-09	1.1E-08	7.5E-10	NV	2.7E-09	9.3E-09
Zinc	1.8E-06	NV	6.4E-06	2.2E-05	1.2E-06	NV	4.2E-06	1.4E-05	1.1E-06	NV	4.1E-06	1.4E-05	9.3E-07	NV	3.4E-06	1.2E-05
Volatile Organic Compounds																
Bromomethane	ND	8.6E-08	ND	ND	2.4E-10	8.6E-08	8.6E-09	2.9E-09	2.1E-10	8.6E-08	7.8E-09	2.7E-09	1.6E-10	8.6E-08	5.9E-09	2.0E-09
Chloro methane	ND	4.6E-08	ND	ND	1.0E-10	4.6E-08	3.6E-09	1.2E-09	9.2E-11	4.6E-08	3.3E-09	1.1E-09	7.3E-11	4.6E-08	2.6E-09	9.0E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	4.7E-10	5.8E-10	2.5E-08	5.8E-09	3.2E-10	5.8E-10	1.7E-08	3.9E-09	1.7E-10	5.8E-10	9.3E-09	2.1E-09	1.1E-10	5.8E-10	6.1E-09	1.4E-09
Acenaphthylene	ND	NV	ND	ND	3.1E-11	NV	1.7E-09	3.8E-10	3.5E-11	NV	1.9E-09	4.3E-10	3.0E-11	NV	1.6E-09	3.7E-10
Anthracene	1.3E-09	3.4E-10	6.8E-08	1.6E-08	7.1E-10	3.4E-10	3.8E-08	8.8E-09	3.5E-10	3.4E-10	1.9E-08	4.3E-09	2.4E-10	3.4E-10	1.3E-08	2.9E-09
Benzo (a) anthracene	5.9E-09	1.4E-10	3.2E-07	7.3E-08	3.6E-09	1.4E-10	2.0E-07	4.5E-08	1.4E-09	1.4E-10	7.6E-08	1.7E-08	8.2E-10	1.4E-10	4.5E-08	1.0E-08
Benzo (a) pyrene	3.5E-09	NV	1.9E-07	4.3E-08	2.2E-09	NV	1.2E-07	2.7E-08	1.1E-09	NV	5.9E-08	1.3E-08	6.7E-10	NV	3.7E-08	8.3E-09
Benzo (b) fluoranthene	4.7E-09	NV	2.6E-07	5.9E-08	3.1E-09	NV	1.7E-07	3.9E-08	2.0E-09	NV	1.1E-07	2.5E-08	1.3E-09	NV	6.8E-08	1.6E-08
Benzo (ghi) perylene	1.9E-09	NV	1.0E-07	2.4E-08	1.8E-09	NV	9.5E-08	2.2E-08	6.4E-10	NV	3.5E-08	8.0E-09	3.8E-10	NV	2.0E-08	4.6E-09
Benzo (k) fluoranthene	2.3E-09	NV	1.3E-07	2.9E-08	1.3E-09	NV	7.0E-08	1.6E-08	7.7E-10	NV	4.2E-08	9.6E-09	4.8E-10	NV	2.6E-08	5.9E-09
Chrysene	5.2E-09	NV	2.8E-07	6.5E-08	2.6E-09	NV	1.4E-07	3.3E-08	1.3E-09	NV	7.1E-08	1.6E-08	8.0E-10	NV	4.4E-08	1.0E-08
Dibenzo (a,h) anthracene	4.8E-09	NV	2.6E-07	6.0E-08	3.3E-09	NV	1.8E-07	4.0E-08	1.7E-09	NV	9.0E-08	2.0E-08	1.0E-09	NV	5.4E-08	1.2E-08
Fluoranthene	1.5E-08	NV	8.2E-07	1.9E-07	7.7E-09	NV	4.2E-07	9.5E-08	3.1E-09	NV	1.7E-07	3.8E-08	1.9E-09	NV	1.0E-07	2.3E-08
Fluorene	8.4E-11	9.1E-11	4.6E-09	1.0E-09	6.4E-11	9.1E-11	3.5E-09	7.9E-10	4.4E-11	9.1E-11	2.4E-09	5.4E-10	3.6E-11	9.1E-11	1.9E-09	4.4E-10
Indeno (1,2,3-cd) pyrene	2.2E-09	NV	1.2E-07	2.7E-08	1.3E-09	NV	6.8E-08	1.6E-08	4.9E-10	NV	2.6E-08	6.0E-09	3.2E-10	NV	1.7E-08	3.9E-09
Naphthalene	5.8E-11	4.8E-10	3.2E-09	7.2E-10	4.7E-11	4.8E-10	2.5E-09	5.8E-10	3.5E-11	4.8E-10	1.9E-09	4.4E-10	3.1E-11	4.8E-10	1.7E-09	3.8E-10
Phenanthrene	5.6E-09	NV	3.0E-07	6.9E-08	3.0E-09	NV	1.6E-07	3.8E-08	1.0E-09	NV	5.5E-08	1.2E-08	6.8E-10	NV	3.7E-08	8.4E-09
Pyrene	1.2E-08	4.4E-10	6.7E-07	1.5E-07	6.7E-09	4.4E-10	3.6E-07	8.3E-08	2.4E-09	4.4E-10	1.3E-07	3.0E-08	1.5E-09	4.4E-10	7.9E-08	1.8E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B2.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	3.2E-10	3.1E-10	1.8E-08	4.0E-09	2.7E-10	3.1E-10	1.5E-08	3.3E-09	2.4E-10	3.1E-10	1.3E-08	2.9E-09	2.2E-10	3.1E-10	1.2E-08	2.7E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.5E-07	9.6E-05	5.5E-06	1.9E-06	2.6E-07	9.6E-05	9.3E-06	3.2E-06	3.2E-07	9.6E-05	1.2E-05	4.0E-06	2.5E-07	9.6E-05	9.2E-06	3.2E-06
TPH as motor oil	5.1E-07	NV	1.8E-05	6.3E-06	1.0E-06	NV	3.6E-05	1.2E-05	1.2E-06	NV	4.3E-05	1.5E-05	9.6E-07	NV	3.5E-05	1.2E-05
Dioxins/Furans																
TEQ Human	3.1E-13	3.8E-14	3.4E-12	3.9E-12	2.1E-13	3.8E-14	2.3E-12	2.6E-12	1.6E-13	3.8E-14	1.8E-12	2.0E-12	9.8E-14	3.8E-14	1.1E-12	1.2E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	5.9E-11	NV	3.1E-08	1.1E-06	5.9E-11	NV	4.2E-09	1.0E-07
Cadmium	7.4E-11	NV	3.9E-09	1.3E-06	7.4E-11	NV	5.3E-10	1.3E-07	2.2E-11	NV	1.1E-09	3.9E-07	2.2E-11	NV	1.6E-10	3.7E-08
Chromium, Hexavalent	1.3E-11	NV	NA	2.3E-07	1.3E-11	NV	NA	2.2E-08	1.4E-11	NV	NA	2.5E-07	1.4E-11	NV	NA	2.4E-08
Copper	3.6E-09	NV	1.9E-06	6.6E-05	3.6E-09	NV	2.6E-07	6.2E-06	2.8E-09	NV	1.5E-06	5.2E-05	2.8E-09	NV	2.0E-07	4.8E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.9E-12	NV	2.1E-09	7.1E-08	3.9E-12	NV	2.8E-10	6.6E-09	3.3E-12	NV	1.7E-09	6.0E-08	3.3E-12	NV	2.4E-10	5.6E-09
Zinc	6.3E-09	NV	3.3E-06	1.1E-04	6.3E-09	NV	4.5E-07	1.1E-05	4.1E-09	NV	2.1E-06	7.4E-05	4.1E-09	NV	2.9E-07	6.9E-06
Volatile Organic Compounds																
Bromomethane	ND	4.5E-07	ND	ND	ND	4.5E-07	ND	ND	8.4E-13	4.5E-07	4.4E-09	1.5E-08	8.4E-13	4.5E-07	6.0E-10	1.4E-09
Chloro methane	ND	2.4E-07	ND	ND	ND	2.4E-07	ND	ND	3.5E-13	2.4E-07	1.9E-09	6.4E-09	3.5E-13	2.4E-07	2.5E-10	6.0E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	1.6E-12	3.0E-09	1.3E-08	3.0E-08	1.6E-12	3.0E-09	1.8E-09	2.8E-09	1.1E-12	3.0E-09	8.9E-09	2.0E-08	1.1E-12	3.0E-09	1.2E-09	1.9E-09
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-13	NV	8.6E-10	2.0E-09	1.1E-13	NV	1.2E-10	1.9E-10
Anthracene	4.4E-12	1.8E-09	3.5E-08	8.1E-08	4.4E-12	1.8E-09	4.8E-09	7.6E-09	2.5E-12	1.8E-09	2.0E-08	4.5E-08	2.5E-12	1.8E-09	2.7E-09	4.2E-09
Benzo (a) anthracene	2.1E-11	7.3E-10	1.6E-07	3.8E-07	2.1E-11	7.3E-10	2.2E-08	3.5E-08	1.3E-11	7.3E-10	1.0E-07	2.3E-07	1.3E-11	7.3E-10	1.4E-08	2.2E-08
Benzo (a) pyrene	1.2E-11	NV	9.7E-08	2.2E-07	1.2E-11	NV	1.3E-08	2.1E-08	7.6E-12	NV	6.0E-08	1.4E-07	7.6E-12	NV	8.2E-09	1.3E-08
Benzo (b) fluoranthene	1.7E-11	NV	1.3E-07	3.0E-07	1.7E-11	NV	1.8E-08	2.8E-08	1.1E-11	NV	8.7E-08	2.0E-07	1.1E-11	NV	1.2E-08	1.9E-08
Benzo (ghi) perylene	6.8E-12	NV	5.4E-08	1.2E-07	6.8E-12	NV	7.3E-09	1.2E-08	6.2E-12	NV	4.9E-08	1.1E-07	6.2E-12	NV	6.7E-09	1.1E-08
Benzo (k) fluoranthene	8.2E-12	NV	6.4E-08	1.5E-07	8.2E-12	NV	8.8E-09	1.4E-08	4.6E-12	NV	3.6E-08	8.3E-08	4.6E-12	NV	4.9E-09	7.8E-09
Chrysene	1.8E-11	NV	1.5E-07	3.3E-07	1.8E-11	NV	2.0E-08	3.1E-08	9.3E-12	NV	7.4E-08	1.7E-07	9.3E-12	NV	1.0E-08	1.6E-08
Dibenzo (a,h) anthracene	1.7E-11	NV	1.3E-07	3.1E-07	1.7E-11	NV	1.8E-08	2.9E-08	1.1E-11	NV	9.1E-08	2.1E-07	1.1E-11	NV	1.2E-08	2.0E-08
Fluoranthene	5.3E-11	NV	4.2E-07	9.7E-07	5.3E-11	NV	5.7E-08	9.1E-08	2.7E-11	NV	2.1E-07	4.9E-07	2.7E-11	NV	2.9E-08	4.6E-08
Fluorene	3.0E-13	4.7E-10	2.3E-09	5.4E-09	3.0E-13	4.7E-10	3.2E-10	5.0E-10	2.3E-13	4.7E-10	1.8E-09	4.1E-09	2.3E-13	4.7E-10	2.4E-10	3.8E-10
Indeno (1,2,3-cd) pyrene	7.8E-12	NV	6.1E-08	1.4E-07	7.8E-12	NV	8.4E-09	1.3E-08	4.4E-12	NV	3.5E-08	8.1E-08	4.4E-12	NV	4.8E-09	7.6E-09
Naphthalene	2.1E-13	2.5E-09	1.6E-09	3.7E-09	2.1E-13	2.5E-09	2.2E-10	3.5E-10	1.7E-13	2.5E-09	1.3E-09	3.0E-09	1.7E-13	2.5E-09	1.8E-10	2.8E-10
Phenanthrene	2.0E-11	NV	1.6E-07	3.6E-07	2.0E-11	NV	2.1E-08	3.4E-08	1.1E-11	NV	8.4E-08	1.9E-07	1.1E-11	NV	1.2E-08	1.8E-08
Pyrene	4.3E-11	2.3E-09	3.4E-07	7.9E-07	4.3E-11	2.3E-09	4.7E-08	7.4E-08	2.4E-11	2.3E-09	1.9E-07	4.3E-07	2.4E-11	2.3E-09	2.5E-08	4.0E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B2.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.1E-12	1.6E-09	9.0E-09	2.1E-08	1.1E-12	1.6E-09	1.2E-09	1.9E-09	9.5E-13	1.6E-09	7.5E-09	1.7E-08	9.5E-13	1.6E-09	1.0E-09	1.6E-09
Total Petroleum Hydrocarbons																
TPH as diesel	5.4E-10	4.9E-04	2.8E-06	9.7E-06	5.4E-10	4.9E-04	3.8E-07	9.1E-07	9.1E-10	4.9E-04	4.8E-06	1.6E-05	9.1E-10	4.9E-04	6.5E-07	1.5E-06
TPH as motor oil	1.8E-09	NV	9.4E-06	3.2E-05	1.8E-09	NV	1.3E-06	3.0E-06	3.5E-09	NV	1.8E-05	6.4E-05	3.5E-09	NV	2.5E-06	6.0E-06
Dioxins/Furans																
TEQ Human	1.1E-15	1.9E-13	1.7E-12	2.0E-11	1.1E-15	1.9E-13	2.4E-13	1.9E-12	7.5E-16	1.9E-13	1.2E-12	1.4E-11	7.5E-16	1.9E-13	1.6E-13	1.3E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	ND	NV	ND	ND	ND	NV	ND	ND	5.9E-09	NV	5.6E-08	7.5E-08	5.9E-09	NV	4.8E-08	3.1E-08
Cadmium	7.4E-09	NV	7.1E-09	9.5E-08	7.4E-09	NV	6.1E-09	3.9E-08	2.2E-09	NV	2.1E-09	2.8E-08	2.2E-09	NV	1.8E-09	1.1E-08
Chromium, Hexavalent	1.3E-09	NV	NA	1.6E-08	1.3E-09	NV	NA	6.7E-09	1.4E-09	NV	NA	1.8E-08	1.4E-09	NV	NA	7.3E-09
Copper	3.7E-07	NV	3.5E-06	4.6E-06	3.7E-07	NV	3.0E-06	1.9E-06	2.9E-07	NV	2.7E-06	3.6E-06	2.9E-07	NV	2.3E-06	1.5E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.9E-10	NV	3.7E-09	5.0E-09	3.9E-10	NV	3.2E-09	2.1E-09	3.3E-10	NV	3.1E-09	4.2E-09	3.3E-10	NV	2.7E-09	1.7E-09
Zinc	6.3E-07	NV	6.0E-06	8.0E-06	6.3E-07	NV	5.1E-06	3.3E-06	4.1E-07	NV	3.9E-06	5.2E-06	4.1E-07	NV	3.3E-06	2.1E-06
Volatile Organic Compounds																
Bromomethane	ND	2.8E-08	ND	ND	ND	2.8E-08	ND	ND	8.4E-11	2.8E-08	8.0E-09	1.1E-09	8.4E-11	2.8E-08	6.9E-09	4.4E-10
Chloro methane	ND	1.5E-08	ND	ND	ND	1.5E-08	ND	ND	3.6E-11	1.5E-08	3.4E-09	4.5E-10	3.6E-11	1.5E-08	2.9E-09	1.9E-10
Polycyclic Aromatic Hydrocarbons																
Acenaphthene	1.6E-10	1.9E-10	2.4E-08	2.1E-09	1.6E-10	1.9E-10	2.0E-08	8.6E-10	1.1E-10	1.9E-10	1.6E-08	1.4E-09	1.1E-10	1.9E-10	1.4E-08	5.9E-10
Acenaphthylene	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-11	NV	1.6E-09	1.4E-10	1.1E-11	NV	1.3E-09	5.8E-11
Anthracene	4.5E-10	1.1E-10	6.4E-08	5.7E-09	4.5E-10	1.1E-10	5.5E-08	2.3E-09	2.5E-10	1.1E-10	3.6E-08	3.2E-09	2.5E-10	1.1E-10	3.1E-08	1.3E-09
Benzo (a) anthracene	2.1E-09	4.5E-11	3.0E-07	2.6E-08	2.1E-09	4.5E-11	2.6E-07	1.1E-08	1.3E-09	4.5E-11	1.8E-07	1.6E-08	1.3E-09	4.5E-11	1.6E-07	6.8E-09
Benzo (a) pyrene	1.2E-09	NV	1.8E-07	1.6E-08	1.2E-09	NV	1.5E-07	6.4E-09	7.7E-10	NV	1.1E-07	9.7E-09	7.7E-10	NV	9.4E-08	4.0E-09
Benzo (b) fluoranthene	1.7E-09	NV	2.4E-07	2.1E-08	1.7E-09	NV	2.1E-07	8.8E-09	1.1E-09	NV	1.6E-07	1.4E-08	1.1E-09	NV	1.4E-07	5.8E-09
Benzo (ghi) perylene	6.8E-10	NV	9.8E-08	8.7E-09	6.8E-10	NV	8.4E-08	3.6E-09	6.2E-10	NV	8.9E-08	7.9E-09	6.2E-10	NV	7.6E-08	3.3E-09
Benzo (k) fluoranthene	8.2E-10	NV	1.2E-07	1.0E-08	8.2E-10	NV	1.0E-07	4.3E-09	4.6E-10	NV	6.6E-08	5.8E-09	4.6E-10	NV	5.6E-08	2.4E-09
Chrysene	1.8E-09	NV	2.6E-07	2.3E-08	1.8E-09	NV	2.3E-07	9.7E-09	9.4E-10	NV	1.3E-07	1.2E-08	9.4E-10	NV	1.2E-07	4.9E-09
Dibenzo (a,h) anthracene	1.7E-09	NV	2.5E-07	2.2E-08	1.7E-09	NV	2.1E-07	9.0E-09	1.2E-09	NV	1.6E-07	1.5E-08	1.2E-09	NV	1.4E-07	6.0E-09
Fluoranthene	5.4E-09	NV	7.6E-07	6.8E-08	5.4E-09	NV	6.6E-07	2.8E-08	2.7E-09	NV	3.9E-07	3.5E-08	2.7E-09	NV	3.4E-07	1.4E-08
Fluorene	3.0E-11	2.9E-11	4.3E-09	3.8E-10	3.0E-11	2.9E-11	3.6E-09	1.6E-10	2.3E-11	2.9E-11	3.2E-09	2.9E-10	2.3E-11	2.9E-11	2.8E-09	1.2E-10
Indeno (1,2,3-cd) pyrene	7.8E-10	NV	1.1E-07	9.9E-09	7.8E-10	NV	9.6E-08	4.1E-09	4.5E-10	NV	6.4E-08	5.7E-09	4.5E-10	NV	5.5E-08	2.3E-09
Naphthalene	2.1E-11	1.5E-10	3.0E-09	2.6E-10	2.1E-11	1.5E-10	2.5E-09	1.1E-10	1.7E-11	1.5E-10	2.4E-09	2.1E-10	1.7E-11	1.5E-10	2.0E-09	8.7E-11
Phenanthrene	2.0E-09	NV	2.8E-07	2.5E-08	2.0E-09	NV	2.4E-07	1.0E-08	1.1E-09	NV	1.5E-07	1.4E-08	1.1E-09	NV	1.3E-07	5.6E-09
Pyrene	4.4E-09	1.4E-10	6.2E-07	5.5E-08	4.4E-09	1.4E-10	5.3E-07	2.3E-08	2.4E-09	1.4E-10	3.4E-07	3.0E-08	2.4E-09	1.4E-10	2.9E-07	1.2E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC27-B2.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 27 Soil Using Area-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls																
Total PCBs	1.1E-10	1.0E-10	1.6E-08	1.5E-09	1.1E-10	1.0E-10	1.4E-08	6.0E-10	9.6E-11	1.0E-10	1.4E-08	1.2E-09	9.6E-11	1.0E-10	1.2E-08	5.0E-10
Total Petroleum Hydrocarbons																
TPH as diesel	5.4E-08	3.1E-05	5.1E-06	6.8E-07	5.4E-08	3.1E-05	4.4E-06	2.8E-07	9.1E-08	3.1E-05	8.7E-06	1.2E-06	9.1E-08	3.1E-05	7.5E-06	4.8E-07
TPH as motor oil	1.8E-07	NV	1.7E-05	2.3E-06	1.8E-07	NV	1.5E-05	9.4E-07	3.5E-07	NV	3.4E-05	4.5E-06	3.5E-07	NV	2.9E-05	1.8E-06
Dioxins/Furans																
TEQ Human	1.1E-13	1.2E-14	3.2E-12	1.4E-12	1.1E-13	1.2E-14	2.7E-12	5.8E-13	7.5E-14	1.2E-14	2.2E-12	9.6E-13	7.5E-14	1.2E-14	1.8E-12	3.9E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.3a
Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cadmium	3.8E-08	NV	NC	NC	3.8E-08	1.1E-08	NV	NC	NC	1.1E-08	1.5E-08	NV	NC	NC	1.5E-08	1.5E-08	NV	NC	NC	1.5E-08
Chromium, Hexavalent	2.3E-07	NV	NA	9.6E-09	2.4E-07	2.5E-07	NV	NA	1.0E-08	2.6E-07	2.7E-07	NV	NA	1.1E-08	2.8E-07	1.9E-07	NV	NA	8.0E-09	2.0E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	8.5E-13	7.0E-12	1.6E-10	3.7E-11	2.1E-10	6.8E-13	7.0E-12	1.3E-10	3.0E-11	1.7E-10	5.1E-13	7.0E-12	9.8E-11	2.2E-11	1.3E-10	4.4E-13	7.0E-12	8.5E-11	1.9E-11	1.1E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	3.2E-09	NV	1.6E-07	3.6E-08	2.0E-07	1.5E-09	NV	7.5E-08	1.7E-08	9.4E-08	8.1E-10	NV	4.0E-08	9.1E-09	5.0E-08	5.3E-10	NV	2.6E-08	5.9E-09	3.2E-08
Polychlorinated Biphenyls																				
Total PCBs	7.9E-11	7.7E-11	1.5E-08	3.4E-09	1.9E-08	6.6E-11	7.7E-11	1.3E-08	2.9E-09	1.6E-08	5.8E-11	7.7E-11	1.1E-08	2.5E-09	1.4E-08	5.4E-11	7.7E-11	1.0E-08	2.3E-09	1.3E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	5.1E-09	6.1E-10	1.9E-07	2.2E-07	4.1E-07	3.5E-09	6.1E-10	1.3E-07	1.5E-07	2.8E-07	2.6E-09	6.1E-10	9.8E-08	1.1E-07	2.1E-07	1.6E-09	6.1E-10	5.9E-08	6.7E-08	1.3E-07
Cumulative ILCR	3E-07	7E-10	4E-07	3E-07	9E-07	3E-07	7E-10	2E-07	2E-07	7E-07	3E-07	7E-10	1E-07	1E-07	6E-07	2E-07	7E-10	1E-07	8E-08	4E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.3b

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	1.2E-10	NV	NC	NC	1.2E-10	3.4E-11	NV	NC	NC	3.4E-11
Chromium, Hexavalent	2.0E-09	NV	NA	5.9E-08	6.1E-08	2.2E-09	NV	NA	6.5E-08	6.7E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.6E-15	3.1E-11	2.4E-11	5.0E-11	1.1E-10	2.1E-15	3.1E-11	2.0E-11	4.0E-11	9.1E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	2.7E-11	NV	1.0E-07	2.2E-07	3.2E-07	1.3E-11	NV	4.8E-08	1.1E-07	1.5E-07

Table AOC27-B2.3b

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	2.4E-13	3.4E-10	2.2E-09	4.6E-09	7.2E-09	2.0E-13	3.4E-10	1.9E-09	3.9E-09	6.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.6E-11	2.7E-09	2.8E-08	2.9E-07	3.3E-07	1.1E-11	2.7E-09	1.9E-08	2.0E-07	2.2E-07
Cumulative ILCR	2E-09	3E-09	1E-07	6E-07	7E-07	2E-09	3E-09	7E-08	4E-07	4E-07

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B2.3c

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Antimony	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Cadmium	1.2E-08	NV	NC	NC	1.2E-08	3.4E-09	NV	NC	NC	3.4E-09
Chromium, Hexavalent	1.3E-07	NV	NA	3.4E-09	1.3E-07	1.4E-07	NV	NA	3.8E-09	1.4E-07
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Bromomethane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Chloro methane	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Naphthalene	2.6E-13	2.0E-12	1.2E-10	6.4E-12	1.3E-10	2.1E-13	2.0E-12	9.4E-11	5.2E-12	1.0E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.7E-09	NV	2.1E-07	1.3E-08	2.2E-07	8.3E-10	NV	9.8E-08	6.1E-09	1.0E-07

Table AOC27-B2.3c

Baseline Scenario ILCRs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	2.4E-11	2.1E-11	1.1E-08	5.9E-10	1.1E-08	2.0E-11	2.1E-11	9.1E-09	5.0E-10	9.6E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans										
TEQ Human	1.6E-09	1.7E-10	1.4E-07	3.7E-08	1.8E-07	1.1E-09	1.7E-10	9.3E-08	2.5E-08	1.2E-07
Cumulative ILCR	1E-07	2E-10	4E-07	5E-08	5E-07	1E-07	2E-10	2E-07	4E-08	4E-07

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table AOC27-B2.4a
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	1.0E-05	NV	1.5E-04	5.2E-04	6.8E-04	1.3E-05	NV	1.9E-04	6.4E-04	8.3E-04	1.0E-05	NV	1.4E-04	4.9E-04	6.5E-04
Cadmium	2.1E-03	NV	1.2E-03	4.1E-02	4.5E-02	6.2E-04	NV	3.5E-04	1.2E-02	1.3E-02	8.3E-04	NV	4.7E-04	1.6E-02	1.8E-02	8.3E-04	NV	4.8E-04	1.6E-02	1.8E-02
Chromium, Hexavalent	3.6E-05	NV	NA	1.5E-05	5.1E-05	4.0E-05	NV	NA	1.6E-05	5.6E-05	4.2E-05	NV	NA	1.7E-05	6.0E-05	3.0E-05	NV	NA	1.2E-05	4.3E-05
Copper	6.4E-06	NV	9.3E-05	3.2E-04	4.2E-04	5.0E-06	NV	7.3E-05	2.5E-04	3.3E-04	3.6E-06	NV	5.2E-05	1.8E-04	2.3E-04	2.9E-06	NV	4.2E-05	1.4E-04	1.9E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.7E-05	NV	2.5E-05	8.5E-05	1.5E-04	3.1E-05	NV	2.1E-05	7.2E-05	1.2E-04	2.9E-05	NV	2.0E-05	6.7E-05	1.2E-04	2.5E-05	NV	1.7E-05	5.8E-05	1.0E-04
Zinc	1.5E-06	NV	2.1E-05	7.3E-05	9.6E-05	9.6E-07	NV	1.4E-05	4.7E-05	6.2E-05	9.4E-07	NV	1.4E-05	4.7E-05	6.1E-05	7.8E-07	NV	1.1E-05	3.8E-05	5.0E-05
Volatile Organic Compounds																				
Bromomethane	ND	1.7E-05	ND	ND	1.7E-05	4.7E-08	1.7E-05	6.1E-06	2.1E-06	2.6E-05	4.3E-08	1.7E-05	5.5E-06	1.9E-06	2.5E-05	3.2E-08	1.7E-05	4.2E-06	1.4E-06	2.3E-05
Chloro methane	ND	5.1E-07	ND	ND	5.1E-07	1.1E-09	5.1E-07	1.6E-07	5.5E-08	7.3E-07	1.0E-09	5.1E-07	1.5E-07	5.1E-08	7.1E-07	8.1E-10	5.1E-07	1.2E-07	4.0E-08	6.7E-07
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	1.9E-09	2.4E-09	4.2E-07	9.6E-08	5.2E-07	1.3E-09	2.4E-09	2.9E-07	6.6E-08	3.6E-07	7.1E-10	2.4E-09	1.5E-07	3.5E-08	1.9E-07	4.7E-10	2.4E-09	1.0E-07	2.3E-08	1.3E-07
Acenaphthylene	ND	NV	ND	ND	--	1.3E-10	NV	2.8E-08	6.4E-09	3.5E-08	1.5E-10	NV	3.2E-08	7.2E-09	3.9E-08	1.3E-10	NV	2.7E-08	6.2E-09	3.4E-08
Anthracene	1.1E-09	2.9E-10	2.3E-07	5.2E-08	2.8E-07	5.9E-10	2.9E-10	1.3E-07	2.9E-08	1.6E-07	2.9E-10	2.9E-10	6.3E-08	1.4E-08	7.9E-08	2.0E-10	2.9E-10	4.3E-08	9.8E-09	5.3E-08
Benzo (a) anthracene	4.9E-08	1.2E-09	1.1E-05	2.4E-06	1.3E-05	3.0E-08	1.2E-09	6.6E-06	1.5E-06	8.1E-06	1.2E-08	1.2E-09	2.5E-06	5.8E-07	3.1E-06	6.9E-09	1.2E-09	1.5E-06	3.4E-07	1.8E-06
Benzo (a) pyrene	1.7E-03	NV	6.3E-04	1.4E-04	2.5E-03	1.1E-03	NV	3.9E-04	8.9E-05	1.6E-03	5.4E-04	NV	2.0E-04	4.4E-05	7.8E-04	3.4E-04	NV	1.2E-04	2.8E-05	4.9E-04
Benzo (b) fluoranthene	3.9E-08	NV	8.6E-06	2.0E-06	1.1E-05	2.6E-08	NV	5.7E-06	1.3E-06	7.0E-06	1.7E-08	NV	3.7E-06	8.4E-07	4.6E-06	1.1E-08	NV	2.3E-06	5.2E-07	2.8E-06
Benzo (ghi) perylene	1.6E-08	NV	3.5E-06	7.9E-07	4.3E-06	1.5E-08	NV	3.2E-06	7.2E-07	3.9E-06	5.4E-09	NV	1.2E-06	2.7E-07	1.4E-06	3.1E-09	NV	6.8E-07	1.5E-07	8.4E-07
Benzo (k) fluoranthene	1.9E-08	NV	4.2E-06	9.5E-07	5.2E-06	1.1E-08	NV	2.3E-06	5.3E-07	2.9E-06	6.4E-09	NV	1.4E-06	3.2E-07	1.7E-06	4.0E-09	NV	8.7E-07	2.0E-07	1.1E-06
Chrysene	4.3E-08	NV	9.4E-06	2.2E-06	1.2E-05	2.2E-08	NV	4.8E-06	1.1E-06	5.9E-06	1.1E-08	NV	2.4E-06	5.4E-07	2.9E-06	6.7E-09	NV	1.5E-06	3.3E-07	1.8E-06
Dibenzo (a,h) anthracene	2.4E-03	NV	8.8E-04	2.0E-04	3.5E-03	1.6E-03	NV	5.9E-04	1.3E-04	2.3E-03	8.3E-04	NV	3.0E-04	6.8E-05	1.2E-03	5.0E-04	NV	1.8E-04	4.1E-05	7.2E-04
Fluoranthene	9.4E-08	NV	2.1E-05	4.7E-06	2.5E-05	4.8E-08	NV	1.0E-05	2.4E-06	1.3E-05	1.9E-08	NV	4.2E-06	9.5E-07	5.1E-06	1.2E-08	NV	2.6E-06	5.8E-07	3.2E-06
Fluorene	5.3E-10	5.7E-10	1.1E-07	2.6E-08	1.4E-07	4.0E-10	5.7E-10	8.7E-08	2.0E-08	1.1E-07	2.7E-10	5.7E-10	5.9E-08	1.4E-08	7.4E-08	2.2E-10	5.7E-10	4.8E-08	1.1E-08	6.0E-08
Indeno (1,2,3-cd) pyrene	1.8E-08	NV	4.0E-06	9.1E-07	4.9E-06	1.1E-08	NV	2.3E-06	5.2E-07	2.8E-06	4.1E-09	NV	8.8E-07	2.0E-07	1.1E-06	2.6E-09	NV	5.7E-07	1.3E-07	7.0E-07
Naphthalene	1.9E-08	1.6E-07	1.6E-07	3.6E-08	3.7E-07	1.6E-08	1.6E-07	1.3E-07	2.9E-08	3.3E-07	1.2E-08	1.6E-07	9.6E-08	2.2E-08	2.9E-07	1.0E-08	1.6E-07	8.3E-08	1.9E-08	2.7E-07
Phenanthrene	4.7E-09	NV	1.0E-06	2.3E-07	1.2E-06	2.5E-09	NV	5.5E-07	1.3E-07	6.8E-07	8.4E-10	NV	1.8E-07	4.1E-08	2.2E-07	5.6E-10	NV	1.2E-07	2.8E-08	1.5E-07
Pyrene	1.0E-07	3.6E-09	2.2E-05	5.1E-06	2.7E-05	5.6E-08	3.6E-09	1.2E-05	2.8E-06	1.5E-05	2.0E-08	3.6E-09	4.3E-06	9.9E-07	5.3E-06	1.2E-08	3.6E-09	2.6E-06	6.0E-07	3.2E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	4.0E-06	3.9E-06	8.8E-04	2.0E-04	1.1E-03	3.4E-06	3.9E-06	7.3E-04	1.7E-04	9.1E-04	3.0E-06	3.9E-06	6.4E-04	1.5E-04	8.0E-04	2.8E-06	3.9E-06	6.0E-04	1.4E-04	7.4E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	1.2E-06	7.4E-04	2.7E-04	9.4E-05	1.1E-03	2.0E-06	7.4E-04	4.7E-04	1.6E-04	1.4E-03	2.5E-06	7.4E-04	5.9E-04	2.0E-04	1.5E-03	2.0E-06	7.4E-04	4.6E-04	1.6E-04	1.4E-03
TPH as motor oil	7.5E-07	NV	1.1E-04	3.7E-05	1.5E-04	1.5E-06	NV	2.1E-04	7.2E-05	2.9E-04	1.8E-06	NV	2.5E-04	8.7E-05	3.4E-04	1.4E-06	NV	2.0E-04	7.0E-05	2.8E-04
Dioxins/Furans																				
TEQ Human	7.9E-06	9.4E-07	4.9E-03	5.6E-03	1.0E-02	5.3E-06	9.4E-07	3.3E-03	3.8E-03	7.1E-03	4.1E-06	9.4E-07	2.5E-03	2.9E-03	5.4E-03	2.4E-06	9.4E-07	1.5E-03	1.7E-03	3.2E-03
Total Hazard Index	6E-03	8E-04	9E-03	5E-02	6E-02	3E-03	8E-04	6E-03	2E-02	3E-02	2E-03	8E-04	5E-03	2E-02	3E-02	2E-03	8E-04	4E-03	2E-02	3E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.4b
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.7E-08	NV	7.8E-05	2.7E-03	2.8E-03	3.7E-08	NV	1.1E-05	2.5E-04	2.6E-04
Cadmium	7.4E-06	NV	7.8E-06	2.7E-03	2.7E-03	7.4E-06	NV	8.4E-05	2.0E-02	2.0E-02	2.2E-06	NV	2.3E-06	7.9E-04	7.9E-04	2.2E-06	NV	2.5E-05	5.9E-03	5.9E-03
Chromium, Hexavalent	1.3E-07	NV	NA	7.7E-05	7.7E-05	1.3E-07	NV	NA	7.3E-06	7.4E-06	1.4E-07	NV	NA	8.4E-05	8.4E-05	1.4E-07	NV	NA	7.9E-06	8.0E-06
Copper	2.3E-08	NV	4.8E-05	1.7E-03	1.7E-03	2.3E-08	NV	6.5E-06	1.5E-04	1.6E-04	1.8E-08	NV	3.7E-05	1.3E-03	1.3E-03	1.8E-08	NV	5.1E-06	1.2E-04	1.3E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.3E-07	NV	1.3E-05	4.4E-04	4.5E-04	1.3E-07	NV	1.7E-06	4.1E-05	4.3E-05	1.1E-07	NV	1.1E-05	3.7E-04	3.8E-04	1.1E-07	NV	1.5E-06	3.5E-05	3.7E-05
Zinc	5.2E-09	NV	1.1E-05	3.8E-04	3.9E-04	5.2E-09	NV	1.5E-06	3.5E-05	3.7E-05	3.4E-09	NV	7.1E-06	2.5E-04	2.5E-04	3.4E-09	NV	9.7E-07	2.3E-05	2.4E-05
Volatile Organic Compounds																				
Bromomethane	ND	8.9E-05	ND	ND	8.9E-05	ND	8.9E-05	ND	ND	8.9E-05	1.7E-10	8.9E-05	3.1E-06	1.1E-05	1.0E-04	1.7E-10	8.9E-05	4.3E-07	1.0E-06	9.1E-05
Chloro methane	ND	2.6E-06	ND	ND	2.6E-06	ND	2.6E-06	ND	ND	2.6E-06	3.9E-12	2.6E-06	8.3E-08	2.9E-07	3.0E-06	3.9E-12	2.6E-06	1.1E-08	2.7E-08	2.7E-06
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	6.8E-12	1.2E-08	2.2E-07	5.0E-07	7.3E-07	6.8E-12	1.2E-08	2.9E-08	4.7E-08	8.8E-08	4.7E-12	1.2E-08	1.5E-07	3.4E-07	5.0E-07	4.7E-12	1.2E-08	2.0E-08	3.2E-08	6.4E-08
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	4.6E-13	NV	1.4E-08	3.3E-08	4.8E-08	4.6E-13	NV	2.0E-09	3.1E-09	5.1E-09
Anthracene	3.7E-12	1.5E-09	1.2E-07	2.7E-07	3.9E-07	3.7E-12	1.5E-09	1.6E-08	2.5E-08	4.3E-08	2.1E-12	1.5E-09	6.6E-08	1.5E-07	2.2E-07	2.1E-12	1.5E-09	9.0E-09	1.4E-08	2.5E-08
Benzo (a) anthracene	1.7E-10	6.1E-09	5.4E-06	1.3E-05	1.8E-05	1.7E-10	6.1E-09	7.4E-07	1.2E-06	1.9E-06	1.1E-10	6.1E-09	3.4E-06	7.8E-06	1.1E-05	1.1E-10	6.1E-09	4.6E-07	7.3E-07	1.2E-06
Benzo (a) pyrene	6.1E-06	NV	3.2E-04	7.4E-04	1.1E-03	6.1E-06	NV	4.4E-05	6.9E-05	1.2E-04	3.8E-06	NV	2.0E-04	4.6E-04	6.7E-04	3.8E-06	NV	2.7E-05	4.3E-05	7.5E-05
Benzo (b) fluoranthene	1.4E-10	NV	4.4E-06	1.0E-05	1.4E-05	1.4E-10	NV	6.0E-07	9.5E-07	1.5E-06	9.2E-11	NV	2.9E-06	6.7E-06	9.6E-06	9.2E-11	NV	4.0E-07	6.2E-07	1.0E-06
Benzo (ghi) perylene	5.7E-11	NV	1.8E-06	4.1E-06	5.9E-06	5.7E-11	NV	2.4E-07	3.9E-07	6.3E-07	5.2E-11	NV	1.6E-06	3.7E-06	5.4E-06	5.2E-11	NV	2.2E-07	3.5E-07	5.7E-07
Benzo (k) fluoranthene	6.8E-11	NV	2.1E-06	4.9E-06	7.1E-06	6.8E-11	NV	2.9E-07	4.6E-07	7.5E-07	3.8E-11	NV	1.2E-06	2.8E-06	4.0E-06	3.8E-11	NV	1.6E-07	2.6E-07	4.2E-07
Chrysene	1.5E-10	NV	4.8E-06	1.1E-05	1.6E-05	1.5E-10	NV	6.6E-07	1.0E-06	1.7E-06	7.8E-11	NV	2.5E-06	5.6E-06	8.1E-06	7.8E-11	NV	3.4E-07	5.3E-07	8.7E-07
Dibenzo (a,h) anthracene	8.5E-06	NV	4.5E-04	1.0E-03	1.5E-03	8.5E-06	NV	6.1E-05	9.7E-05	1.7E-04	5.7E-06	NV	3.0E-04	6.9E-04	1.0E-03	5.7E-06	NV	4.1E-05	6.5E-05	1.1E-04
Fluoranthene	3.3E-10	NV	1.1E-05	2.4E-05	3.5E-05	3.3E-10	NV	1.4E-06	2.3E-06	3.7E-06	1.7E-10	NV	5.4E-06	1.2E-05	1.8E-05	1.7E-10	NV	7.3E-07	1.2E-06	1.9E-06
Fluorene	1.9E-12	2.9E-09	5.8E-08	1.3E-07	2.0E-07	1.9E-12	2.9E-09	8.0E-09	1.3E-08	2.4E-08	1.4E-12	2.9E-09	4.4E-08	1.0E-07	1.5E-07	1.4E-12	2.9E-09	6.1E-09	9.6E-09	1.9E-08
Indeno (1,2,3-cd) pyrene	6.5E-11	NV	2.0E-06	4.7E-06	6.7E-06	6.5E-11	NV	2.8E-07	4.4E-07	7.2E-07	3.7E-11	NV	1.2E-06	2.7E-06	3.9E-06	3.7E-11	NV	1.6E-07	2.5E-07	4.1E-07
Naphthalene	6.9E-11	8.2E-07	8.1E-08	1.9E-07	1.1E-06	6.9E-11	8.2E-07	1.1E-08	1.8E-08	8.5E-07	5.5E-11	8.2E-07	6.5E-08	1.5E-07	1.0E-06	5.5E-11	8.2E-07	8.9E-09	1.4E-08	8.5E-07
Phenanthrene	1.6E-11	NV	5.2E-07	1.2E-06	1.7E-06	1.6E-11	NV	7.1E-08	1.1E-07	1.8E-07	8.9E-12	NV	2.8E-07	6.5E-07	9.3E-07	8.9E-12	NV	3.8E-08	6.1E-08	9.9E-08
Pyrene	3.6E-10	1.9E-08	1.1E-05	2.6E-05	3.8E-05	3.6E-10	1.9E-08	1.6E-06	2.5E-06	4.0E-06	2.0E-10	1.9E-08	6.2E-06	1.4E-05	2.1E-05	2.0E-10	1.9E-08	8.5E-07	1.3E-06	2.2E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.4E-08	2.0E-05	4.5E-04	1.0E-03	1.5E-03	1.4E-08	2.0E-05	6.1E-05	9.7E-05	1.8E-04	1.2E-08	2.0E-05	3.8E-04	8.7E-04	1.3E-03	1.2E-08	2.0E-05	5.1E-05	8.1E-05	1.5E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	4.1E-09	3.8E-03	1.4E-04	4.9E-04	4.4E-03	4.1E-09	3.8E-03	1.9E-05	4.5E-05	3.9E-03	7.0E-09	3.8E-03	2.4E-04	8.2E-04	4.9E-03	7.0E-09	3.8E-03	3.3E-05	7.7E-05	3.9E-03
TPH as motor oil	2.6E-09	NV	5.5E-05	1.9E-04	2.5E-04	2.6E-09	NV	7.6E-06	1.8E-05	2.5E-05	5.2E-09	NV	1.1E-04	3.7E-04	4.8E-04	5.2E-09	NV	1.5E-05	3.5E-05	5.0E-05
Dioxins/Furans																				
TEQ Human	2.8E-08	4.9E-06	2.5E-03	2.9E-02	3.1E-02	2.8E-08	4.9E-06	3.4E-04	2.7E-03	3.0E-03	1.9E-08	4.9E-06	1.7E-03	1.9E-02	2.1E-02	1.9E-08	4.9E-06	2.3E-04	1.8E-03	2.1E-03
Total Hazard Index	2E-05	4E-03	4E-03	4E-02	5E-02	2E-05	4E-03	6E-04	2E-02	3E-02	1E-05	4E-03	3E-03	3E-02	4E-02	1E-05	4E-03	4E-04	8E-03	1E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.4c
Baseline Scenario HIs for COPCs in AOC 27 Soil Using Area-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	ND	NV	ND	ND	--	ND	NV	ND	ND	--	3.7E-06	NV	1.4E-04	1.9E-04	3.3E-04	3.7E-06	NV	1.2E-04	7.8E-05	2.0E-04
Cadmium	7.4E-04	NV	1.4E-05	1.9E-04	9.5E-04	7.4E-04	NV	9.7E-04	6.2E-03	7.9E-03	2.2E-04	NV	4.2E-06	5.5E-05	2.8E-04	2.2E-04	NV	2.8E-04	1.8E-03	2.3E-03
Chromium, Hexavalent	1.3E-05	NV	NA	5.4E-06	1.8E-05	1.3E-05	NV	NA	2.2E-06	1.5E-05	1.4E-05	NV	NA	5.9E-06	2.0E-05	1.4E-05	NV	NA	2.4E-06	1.6E-05
Copper	2.3E-06	NV	8.7E-05	1.2E-04	2.1E-04	2.3E-06	NV	7.5E-05	4.8E-05	1.2E-04	1.8E-06	NV	6.8E-05	9.1E-05	1.6E-04	1.8E-06	NV	5.8E-05	3.7E-05	9.8E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.3E-05	NV	2.3E-05	3.1E-05	6.7E-05	1.3E-05	NV	2.0E-05	1.3E-05	4.6E-05	1.1E-05	NV	2.0E-05	2.6E-05	5.7E-05	1.1E-05	NV	1.7E-05	1.1E-05	3.9E-05
Zinc	5.2E-07	NV	2.0E-05	2.7E-05	4.7E-05	5.2E-07	NV	1.7E-05	1.1E-05	2.9E-05	3.4E-07	NV	1.3E-05	1.7E-05	3.1E-05	3.4E-07	NV	1.1E-05	7.1E-06	1.9E-05
Volatile Organic Compounds																				
Bromomethane	ND	5.6E-06	ND	ND	5.6E-06	ND	5.6E-06	ND	ND	5.6E-06	1.7E-08	5.6E-06	5.7E-06	7.6E-07	1.2E-05	1.7E-08	5.6E-06	4.9E-06	3.1E-07	1.1E-05
Chloro methane	ND	1.7E-07	ND	ND	1.7E-07	ND	1.7E-07	ND	ND	1.7E-07	4.0E-10	1.7E-07	1.5E-07	2.0E-08	3.4E-07	4.0E-10	1.7E-07	1.3E-07	8.3E-09	3.0E-07
Polycyclic Aromatic Hydrocarbons																				
Acenaphthene	6.9E-10	7.7E-10	3.9E-07	3.5E-08	4.3E-07	6.9E-10	7.7E-10	3.4E-07	1.4E-08	3.5E-07	4.7E-10	7.7E-10	2.7E-07	2.4E-08	2.9E-07	4.7E-10	7.7E-10	2.3E-07	9.9E-09	2.4E-07
Acenaphthylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	4.6E-11	NV	2.6E-08	2.3E-09	2.9E-08	4.6E-11	NV	2.2E-08	9.6E-10	2.3E-08
Anthracene	3.7E-10	9.2E-11	2.1E-07	1.9E-08	2.3E-07	3.7E-10	9.2E-11	1.8E-07	7.8E-09	1.9E-07	2.1E-10	9.2E-11	1.2E-07	1.1E-08	1.3E-07	2.1E-10	9.2E-11	1.0E-07	4.4E-09	1.1E-07
Benzo (a) anthracene	1.7E-08	3.8E-10	9.9E-06	8.8E-07	1.1E-05	1.7E-08	3.8E-10	8.5E-06	3.6E-07	8.9E-06	1.1E-08	3.8E-10	6.1E-06	5.5E-07	6.7E-06	1.1E-08	3.8E-10	5.3E-06	2.3E-07	5.5E-06
Benzo (a) pyrene	6.1E-04	NV	5.9E-04	5.2E-05	1.3E-03	6.1E-04	NV	5.0E-04	2.1E-05	1.1E-03	3.8E-04	NV	3.7E-04	3.2E-05	7.8E-04	3.8E-04	NV	3.1E-04	1.3E-05	7.1E-04
Benzo (b) fluoranthene	1.4E-08	NV	8.0E-06	7.1E-07	8.7E-06	1.4E-08	NV	6.8E-06	2.9E-07	7.2E-06	9.2E-09	NV	5.3E-06	4.7E-07	5.7E-06	9.2E-09	NV	4.5E-06	1.9E-07	4.7E-06
Benzo (ghi) perylene	5.7E-09	NV	3.3E-06	2.9E-07	3.5E-06	5.7E-09	NV	2.8E-06	1.2E-07	2.9E-06	5.2E-09	NV	3.0E-06	2.6E-07	3.2E-06	5.2E-09	NV	2.5E-06	1.1E-07	2.7E-06
Benzo (k) fluoranthene	6.8E-09	NV	3.9E-06	3.5E-07	4.3E-06	6.8E-09	NV	3.3E-06	1.4E-07	3.5E-06	3.8E-09	NV	2.2E-06	1.9E-07	2.4E-06	3.8E-09	NV	1.9E-06	8.0E-08	2.0E-06
Chrysene	1.5E-08	NV	8.8E-06	7.8E-07	9.6E-06	1.5E-08	NV	7.5E-06	3.2E-07	7.9E-06	7.8E-09	NV	4.5E-06	4.0E-07	4.9E-06	7.8E-09	NV	3.8E-06	1.6E-07	4.0E-06
Dibenzo (a,h) anthracene	8.6E-04	NV	8.2E-04	7.3E-05	1.7E-03	8.6E-04	NV	7.0E-04	3.0E-05	1.6E-03	5.8E-04	NV	5.5E-04	4.9E-05	1.2E-03	5.8E-04	NV	4.7E-04	2.0E-05	1.1E-03
Fluoranthene	3.3E-08	NV	1.9E-05	1.7E-06	2.1E-05	3.3E-08	NV	1.6E-05	7.0E-07	1.7E-05	1.7E-08	NV	9.8E-06	8.7E-07	1.1E-05	1.7E-08	NV	8.4E-06	3.6E-07	8.8E-06
Fluorene	1.9E-10	1.8E-10	1.1E-07	9.5E-09	1.2E-07	1.9E-10	1.8E-10	9.1E-08	3.9E-09	9.5E-08	1.4E-10	1.8E-10	8.1E-08	7.2E-09	8.8E-08	1.4E-10	1.8E-10	6.9E-08	3.0E-09	7.3E-08
Indeno (1,2,3-cd) pyrene	6.5E-09	NV	3.7E-06	3.3E-07	4.1E-06	6.5E-09	NV	3.2E-06	1.4E-07	3.3E-06	3.7E-09	NV	2.1E-06	1.9E-07	2.3E-06	3.7E-09	NV	1.8E-06	7.8E-08	1.9E-06
Naphthalene	6.9E-09	5.2E-08	1.5E-07	1.3E-08	2.2E-07	6.9E-09	5.2E-08	1.3E-07	5.4E-09	1.9E-07	5.5E-09	5.2E-08	1.2E-07	1.1E-08	1.9E-07	5.5E-09	5.2E-08	1.0E-07	4.3E-09	1.6E-07
Phenanthrene	1.6E-09	NV	9.4E-07	8.4E-08	1.0E-06	1.6E-09	NV	8.1E-07	3.5E-08	8.5E-07	8.9E-10	NV	5.1E-07	4.5E-08	5.6E-07	8.9E-10	NV	4.4E-07	1.9E-08	4.6E-07
Pyrene	3.6E-08	1.2E-09	2.1E-05	1.8E-06	2.3E-05	3.6E-08	1.2E-09	1.8E-05	7.6E-07	1.9E-05	2.0E-08	1.2E-09	1.1E-05	1.0E-06	1.2E-05	2.0E-08	1.2E-09	9.7E-06	4.1E-07	1.0E-05
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.4E-06	1.3E-06	8.2E-04	7.3E-05	8.9E-04	1.4E-06	1.3E-06	7.0E-04	3.0E-05	7.3E-04	1.2E-06	1.3E-06	6.8E-04	6.1E-05	7.5E-04	1.2E-06	1.3E-06	5.9E-04	2.5E-05	6.1E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	4.1E-07	2.4E-04	2.6E-04	3.4E-05	5.3E-04	4.1E-07	2.4E-04	2.2E-04	1.4E-05	4.7E-04	7.0E-07	2.4E-04	4.3E-04	5.8E-05	7.3E-04	7.0E-07	2.4E-04	3.7E-04	2.4E-05	6.4E-04
TPH as motor oil	2.6E-07	NV	1.0E-04	1.3E-05	1.1E-04	2.6E-07	NV	8.6E-05	5.5E-06	9.2E-05	5.2E-07	NV	2.0E-04	2.6E-05	2.2E-04	5.2E-07	NV	1.7E-04	1.1E-05	1.8E-04
Dioxins/Furans																				
TEQ Human	2.8E-06	3.0E-07	4.5E-03	2.0E-03	6.6E-03	2.8E-06	3.0E-07	3.9E-03	8.3E-04	4.7E-03	1.9E-06	3.0E-07	3.1E-03	1.4E-03	4.4E-03	1.9E-06	3.0E-07	2.6E-03	5.6E-04	3.2E-03
Total Hazard Index	2E-03	2E-04	7E-03	3E-03	1E-02	2E-03	2E-04	7E-03	7E-03	2E-02	1E-03	2E-04	6E-03	2E-03	9E-03	1E-03	2E-04	5E-03	3E-03	9E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table AOC27-B2.5a

Baseline Scenario Risk Evaluation for Lead in AOC 27 Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	125	73.2	29.4	23.9
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.016	0.010	0.004	0.003
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.03	0.02	0.01	0.01
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC27-B2.5b

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Recreational User (Hiker)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	125
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.063	0.116	0.14	0.17	0.19	1079
BLOOD Pb, PICA CHILD	0.126	0.23	0.27	0.33	0.38	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	5.2E-04	1%		5.2E-04	0.4%
Soil Ingestion	5.0E-4	6.3E-02	99%	1.0E-3	1.3E-01	100%
Inhalation	1.4E-7	1.7E-05	0.03%		1.7E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC27-B2.5c

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Recreational User (Hiker)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	73.2
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.037	0.068	0.08	0.10	0.11	1079
BLOOD Pb, PICA CHILD	0.074	0.14	0.16	0.19	0.22	542

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	3.0E-04	1%		3.0E-04	0.4%
Soil Ingestion	5.0E-4	3.7E-02	99%	1.0E-3	7.4E-02	100%
Inhalation	1.4E-7	1.0E-05	0.03%		1.0E-05	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC27-B2.5d

Baseline Scenario Risk Evaluation for Lead in AOC 27 Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	125
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.022	0.039	0.05	0.06	0.06
BLOOD Pb, PICA CHILD	0.128	0.23	0.28	0.34	0.38

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	2.1E-03	10%		2.1E-03	1.6%
Soil Ingestion	1.6E-4	1.9E-02	90%	1.0E-3	1.3E-01	98%
Inhalation	8.7E-9	1.1E-06	0.01%		1.1E-06	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table AOC27-B2.5e

**Baseline Scenario Risk Evaluation for Lead in AOC 27 Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	73.2
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.013	0.023	0.03	0.03	0.04	3180
BLOOD Pb, PICA CHILD	0.075	0.14	0.16	0.20	0.22	535

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	1.2E-03	10%		1.2E-03	1.6%
Soil Ingestion	1.6E-4	1.1E-02	90%	1.0E-3	7.4E-02	98%
Inhalation	8.7E-9	6.4E-07	0.01%		6.4E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at AOC 27 Using
Depth-Weighted EPCs and Area-Weighted EPCs



Attachment AOC27-C**Dose and Risk Calculations for Ecological Receptors at AOC 27 Using Depth-Weighted EPCs and Area-Weighted EPCs**

Table AOC27-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 27
Table AOC27-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 27
Table AOC27-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 27
Table AOC27-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27
Table AOC27-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 27
Table AOC27-C.6	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 27
Table AOC27-C.7	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 27
Table AOC27-C.8	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 27
Table AOC27-C.9	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27
Table AOC27-C.10	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 27
Table AOC27-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC27-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC 27

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	2.25E+00	5	5E-01	ND	78	ND
Cadmium	2.30E+00	32	7E-02	2.30E+00	140	2E-02
Chromium, hexavalent	1.30E+00	1	1E+00	1.12E+00	0.4	3E+00
Copper	2.76E+02	70	4E+00	2.76E+02	80	3E+00
Lead	2.33E+02	120	2E+00	2.33E+02	1700	1E-01
Mercury	1.75E-01	0.3	6E-01	1.68E-01	0.1	2E+00
Zinc	5.47E+02	160	3E+00	5.47E+02	120	5E+00
Volatile Organic Compounds						
Bromomethane	2.60E-02	--	No SL	ND	0.002	ND
Chloro methane	1.10E-02	--	No SL	ND	--	ND
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	2.01E+00	10	2E-01	2.01E+00	29	7E-02
PAH High molecular weight	2.23E+01	1.2	2E+01	2.23E+01	18	1E+00
Polychlorinated Biphenyls						
Total PCBs	2.47E-02	40	6E-04	2.47E-02	1	2E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.90E+01	--	No SL	1.90E+01	8800	2E-03

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 NOAEL = no-observed adverse effect level
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC27-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Cadmium	Gambel's Quail	2.3E+00	m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	1.1E+00		100% Plants	1.0E-01	5.3E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	2.8E+02		100% Plants	1.0E-01	1.8E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.3E+02		100% Plants	1.0E-01	5.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.7E-01		100% Plants	1.0E-01	1.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	5.5E+02		100% Plants	1.0E-01	1.6E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chloro methane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	2.0E+00		100% Plants	1.0E-01	3.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	2.2E+01		100% Plants	1.0E-01	3.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	2.5E-02		100% Plants	1.0E-01	2.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.2E+02		100% Plants	1.0E-01	6.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	1.1E+02		100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Cadmium	Cactus Wren	2.3E+00	m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	1.1E+00		100% Insects	9.3E-02	3.4E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	2.8E+02		100% Insects	9.3E-02	1.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.3E+02		100% Insects	9.3E-02	6.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.7E-01		100% Insects	9.3E-02	5.1E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	5.5E+02		100% Insects	9.3E-02	6.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds										
Bromomethane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chloro methane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	2.0E+00		100% Insects	9.3E-02	6.1E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	2.2E+01		100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	2.5E-02		100% Insects	9.3E-02	2.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	1.2E+02		100% Insects	9.3E-02	7.9E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	1.1E+02		100% Insects	9.3E-02	7.2E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Cadmium	Desert Shrew	2.3E+00	m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	1.1E+00		100% Insects	2.0E-02	3.4E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	2.8E+02		100% Insects	2.0E-02	1.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+02		100% Insects	2.0E-02	6.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.7E-01		100% Insects	2.0E-02	5.1E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	5.5E+02		100% Insects	2.0E-02	6.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds										
Bromomethane	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chloro methane	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	2.0E+00		100% Insects	2.0E-02	6.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	2.2E+01		100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	2.5E-02		100% Insects	2.0E-02	2.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	1.2E+02		100% Insects	2.0E-02	7.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.1E+02		100% Insects	2.0E-02	7.2E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	2.3E+00	m	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Cadmium	Merriam's Kangaroo Rat	2.3E+00	m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.3E+00		100% Plants	2.4E-02	5.3E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.8E+02		100% Plants	2.4E-02	1.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+02		100% Plants	2.4E-02	5.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.8E-01		100% Plants	2.4E-02	1.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	5.5E+02		100% Plants	2.4E-02	1.6E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds										

Table AOC27-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	3.2E-03	--	--	--	3.2E-03	--	--	--	--
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.7E-02	1.5E+00	6.4E+00	3E-02	7E-03
Chromium, hexavalent	Gambel's Quail	2.0E-03	--	--	4.5E-03	6.5E-03	2.5E+00	2.5E+01	3E-03	3E-04
Copper	Gambel's Quail	6.8E-01	--	--	1.1E+00	1.8E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Gambel's Quail	2.2E-01	--	--	9.3E-01	1.1E+00	1.6E+00	3.3E+00	7E-01	4E-01
Mercury	Gambel's Quail	5.5E-03	--	--	6.7E-04	6.2E-03	3.9E-02	1.8E-01	2E-01	3E-02
Zinc	Gambel's Quail	6.1E+00	--	--	2.2E+00	8.3E+00	6.6E+01	1.7E+02	1E-01	5E-02
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	1.4E-02	--	--	8.0E-03	2.2E-02	2.3E+01	2.3E+02	1E-03	1E-04
PAH High molecular weight	Gambel's Quail	1.3E-01	--	--	8.9E-02	2.2E-01	1.0E+01	1.0E+02	2E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	9.5E-06	--	--	9.8E-05	1.1E-04	9.0E-02	1.3E+00	1E-03	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	2.6E-02	--	--	4.8E-01	5.0E-01	1.4E+01	1.4E+02	4E-02	4E-03
TEQ Mammals	Gambel's Quail	2.4E-02	--	--	4.4E-01	4.7E-01	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	1.5E+00	6.4E+00	2E+00	5E-01
Chromium, hexavalent	Cactus Wren	--	6.3E-02	--	1.9E-02	8.2E-02	2.5E+00	2.5E+01	3E-02	3E-03
Copper	Cactus Wren	--	2.6E+01	--	4.7E+00	3.1E+01	4.1E+00	1.2E+01	8E+00	3E+00
Lead	Cactus Wren	--	1.2E+01	--	4.0E+00	1.6E+01	1.6E+00	3.3E+00	1E+01	5E+00
Mercury	Cactus Wren	--	9.3E-02	--	2.9E-03	9.6E-02	3.9E-02	1.8E-01	2E+00	5E-01
Zinc	Cactus Wren	--	1.2E+02	--	9.3E+00	1.3E+02	6.6E+01	1.7E+02	2E+00	8E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	1.1E+00	--	3.4E-02	1.2E+00	2.3E+01	2.3E+02	5E-02	5E-03
PAH High molecular weight	Cactus Wren	--	1.1E+01	--	3.8E-01	1.1E+01	1.0E+01	1.0E+02	1E+00	1E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	4.9E-03	--	4.2E-04	5.3E-03	9.0E-02	1.3E+00	6E-02	4E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.5E+02	--	2.0E+00	1.5E+02	1.4E+01	1.4E+02	1E+01	1E+00
TEQ Mammals	Cactus Wren	--	1.3E+02	--	1.9E+00	1.3E+02	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	7.7E-01	7.7E+00	4E+00	4E-01
Chromium, hexavalent	Desert Shrew	--	7.0E-02	--	4.5E-03	7.4E-02	9.2E+00	3.8E+01	8E-03	2E-03
Copper	Desert Shrew	--	2.9E+01	--	1.1E+00	3.0E+01	9.4E+00	1.6E+01	3E+00	2E+00
Lead	Desert Shrew	--	1.3E+01	--	9.5E-01	1.4E+01	4.7E+00	8.9E+00	3E+00	2E+00
Mercury	Desert Shrew	--	1.0E-01	--	6.8E-04	1.0E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.4E+02	--	2.2E+00	1.4E+02	7.5E+01	3.0E+02	2E+00	5E-01
Volatile Organic Compounds										
Bromomethane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	1.2E+00	--	8.1E-03	1.2E+00	6.6E+01	3.3E+02	2E-02	4E-03
PAH High molecular weight	Desert Shrew	--	1.2E+01	--	9.0E-02	1.2E+01	6.2E-01	3.1E+00	2E+01	4E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	5.4E-03	--	1.0E-04	5.5E-03	3.6E-01	1.3E+00	2E-02	4E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.6E+02	--	4.9E-01	1.6E+02	--	--	--	--
TEQ Mammals	Desert Shrew	--	1.5E+02	--	4.5E-01	1.5E+02	1.0E+00	1.0E+01	1E+02	1E+01
Inorganics										
Antimony	Merriam's Kangaroo Rat	6.9E-03	--	--	4.4E-03	1.1E-02	5.9E-02	5.9E-01	2E-01	2E-02
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	7.7E-01	7.7E+00	1E-01	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	4.4E-03	--	--	2.6E-03	6.9E-03	9.2E+00	3.8E+01	8E-04	2E-04
Copper	Merriam's Kangaroo Rat	1.5E+00	--	--	5.4E-01	2.0E+00	9.0E+00	1.5E+01	2E-01	1E-01
Lead	Merriam's Kangaroo Rat	4.6E-01	--	--	4.6E-01	9.2E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Merriam's Kangaroo Rat	1.2E-02	--	--	3.5E-04	1.2E-02	2.5E-01	4.0E+00	5E-02	3E-03
Zinc	Merriam's Kangaroo Rat	1.3E+01	--	--	1.1E+00	1.4E+01	7.5E+01	3.0E+02	2E-01	5E-02
Volatile Organic Compounds										

Table AOC27-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	m	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Bromomethane	Merriam's Kangaroo Rat	2.6E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chloro methane	Merriam's Kangaroo Rat	1.1E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	2.0E+00		100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	2.2E+01		100% Plants	2.4E-02	3.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.5E-02		100% Plants	2.4E-02	2.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.2E+02		100% Plants	2.4E-02	6.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.1E+02		100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Bromomethane	Merriam's Kangaroo Rat	0.0E+00	--	--	5.1E-05	5.1E-05	--	--	--	--
Chloro methane	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.0E-02	--	--	4.0E-03	3.4E-02	6.6E+01	3.3E+02	5E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	2.8E-01	--	--	4.4E-02	3.3E-01	6.2E-01	3.1E+00	5E-01	1E-01
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.0E-05	--	--	4.9E-05	6.9E-05	3.6E-01	1.3E+00	2E-04	5E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	5.5E-02	--	--	2.4E-01	2.9E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	5.1E-02	--	--	2.2E-01	2.7E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Cadmium	Gambel's Quail	2.3E+00 m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	2.8E+02	100% Plants	1.0E-01	1.8E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.3E+02	100% Plants	1.0E-01	5.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.7E-01	100% Plants	1.0E-01	1.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	5.5E+02	100% Plants	1.0E-01	1.6E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.5E-02	100% Plants	1.0E-01	2.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Cadmium	Cactus Wren	2.3E+00 m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	2.8E+02	100% Insects	9.3E-02	1.4E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.3E+02	100% Insects	9.3E-02	6.5E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.7E-01	100% Insects	9.3E-02	5.1E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	5.5E+02	100% Insects	9.3E-02	6.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.5E-02	100% Insects	9.3E-02	2.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Cadmium	Desert Shrew	2.3E+00 m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	2.8E+02	100% Insects	2.0E-02	1.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+02	100% Insects	2.0E-02	6.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.7E-01	100% Insects	2.0E-02	5.1E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	5.5E+02	100% Insects	2.0E-02	6.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	2.0E+00	100% Insects	2.0E-02	6.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	2.2E+01	100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.5E-02	100% Insects	2.0E-02	2.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Cadmium	Merriam's Kangaroo Rat	2.3E+00 m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.8E+02	100% Plants	2.4E-02	1.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+02	100% Plants	2.4E-02	5.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.8E-01	100% Plants	2.4E-02	1.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	5.5E+02	100% Plants	2.4E-02	1.6E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	2.0E+00	100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	2.2E+01	100% Plants	2.4E-02	3.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.5E-02	100% Plants	2.4E-02	2.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.7E-02	7.0E-01	1.0E+01	7E-02	4E-03
Copper	Gambel's Quail	6.8E-01	--	--	1.1E+00	1.8E+00	2.3E+00	5.2E+01	8E-01	3E-02
Lead	Gambel's Quail	2.2E-01	--	--	9.3E-01	1.1E+00	1.4E-02	8.8E+00	8E+01	1E-01
Mercury	Gambel's Quail	5.5E-03	--	--	6.7E-04	6.2E-03	3.9E-02	1.8E-01	2E-01	3E-02
Zinc	Gambel's Quail	6.1E+00	--	--	2.2E+00	8.3E+00	1.7E+01	1.7E+02	5E-01	5E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	9.5E-06	--	--	9.8E-05	1.1E-04	9.0E-02	1.3E+00	1E-03	8E-05
Inorganics										
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	7.0E-01	1.0E+01	4E+00	3E-01
Copper	Cactus Wren	--	2.6E+01	--	4.7E+00	3.1E+01	2.3E+00	5.2E+01	1E+01	6E-01
Lead	Cactus Wren	--	1.2E+01	--	4.0E+00	1.6E+01	1.4E-02	8.8E+00	1E+03	2E+00
Mercury	Cactus Wren	--	9.3E-02	--	2.9E-03	9.6E-02	3.9E-02	1.8E-01	2E+00	5E-01
Zinc	Cactus Wren	--	1.2E+02	--	9.3E+00	1.3E+02	1.7E+01	1.7E+02	8E+00	8E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	4.9E-03	--	4.2E-04	5.3E-03	9.0E-02	1.3E+00	6E-02	4E-03
Inorganics										
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	6.0E-02	2.6E+00	5E+01	1E+00
Copper	Desert Shrew	--	2.9E+01	--	1.1E+00	3.0E+01	2.7E+00	6.3E+02	1E+01	5E-02
Lead	Desert Shrew	--	1.3E+01	--	9.5E-01	1.4E+01	1.0E+00	2.4E+02	1E+01	6E-02
Mercury	Desert Shrew	--	1.0E-01	--	6.8E-04	1.0E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.4E+02	--	2.2E+00	1.4E+02	9.6E+00	4.1E+02	1E+01	3E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	1.2E+00	--	8.1E-03	1.2E+00	5.0E+01	1.5E+02	2E-02	8E-03
PAH High molecular weight	Desert Shrew	--	1.2E+01	--	9.0E-02	1.2E+01	1.3E+00	3.3E+01	9E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	5.4E-03	--	1.0E-04	5.5E-03	3.6E-01	1.3E+00	2E-02	4E-03
Inorganics										
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	6.0E-02	2.6E+00	1E+00	3E-02
Copper	Merriam's Kangaroo Rat	1.5E+00	--	--	5.4E-01	2.0E+00	2.7E+00	6.3E+02	8E-01	3E-03
Lead	Merriam's Kangaroo Rat	4.6E-01	--	--	4.6E-01	9.2E-01	1.0E+00	2.4E+02	9E-01	4E-03
Mercury	Merriam's Kangaroo Rat	1.2E-02	--	--	3.5E-04	1.2E-02	2.5E-01	4.0E+00	5E-02	3E-03
Zinc	Merriam's Kangaroo Rat	1.3E+01	--	--	1.1E+00	1.4E+01	9.6E+00	4.1E+02	1E+00	3E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.0E-02	--	--	4.0E-03	3.4E-02	5.0E+01	1.5E+02	7E-04	2E-04
PAH High molecular weight	Merriam's Kangaroo Rat	2.8E-01	--	--	4.4E-02	3.3E-01	1.3E+00	3.3E+01	2E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.0E-05	--	--	4.9E-05	6.9E-05	3.6E-01	1.3E+00	2E-04	5E-05

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Cadmium	Gambel's Quail	2.3E+00	m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Chromium, hexavalent	Gambel's Quail	1.1E+00		100% Plants	1.0E-01	5.3E-02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Copper	Gambel's Quail	2.8E+02		100% Plants	1.0E-01	1.8E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Lead	Gambel's Quail	2.3E+02		100% Plants	1.0E-01	5.6E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Mercury	Gambel's Quail	1.7E-01		100% Plants	1.0E-01	1.4E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Zinc	Gambel's Quail	5.5E+02		100% Plants	1.0E-01	1.6E+02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Chloro methane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	2.0E+00		100% Plants	1.0E-01	3.7E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
PAH High molecular weight	Gambel's Quail	2.2E+01		100% Plants	1.0E-01	3.4E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	2.5E-02		100% Plants	1.0E-01	2.5E-04	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.2E+02		100% Plants	1.0E-01	6.7E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
TEQ Mammals	Gambel's Quail	1.1E+02		100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Cadmium	Cactus Wren	2.3E+00	m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Chromium, hexavalent	Cactus Wren	1.1E+00		100% Insects	9.3E-02	3.4E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Copper	Cactus Wren	2.8E+02		100% Insects	9.3E-02	1.4E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Lead	Cactus Wren	2.3E+02		100% Insects	9.3E-02	6.5E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Mercury	Cactus Wren	1.7E-01		100% Insects	9.3E-02	5.1E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Zinc	Cactus Wren	5.5E+02		100% Insects	9.3E-02	6.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Chloro methane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	2.0E+00		100% Insects	9.3E-02	6.1E+00	3.9E-02	1.8E-01	1.7E-02	7.9E-01
PAH High molecular weight	Cactus Wren	2.2E+01		100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	2.5E-02		100% Insects	9.3E-02	2.7E-02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	1.2E+02		100% Insects	9.3E-02	7.9E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
TEQ Mammals	Cactus Wren	1.1E+02		100% Insects	9.3E-02	7.2E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Inorganics										
Antimony	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Cadmium	Desert Shrew	2.3E+00	m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	1.1E+00		100% Insects	2.0E-02	3.4E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	2.8E+02		100% Insects	2.0E-02	1.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+02		100% Insects	2.0E-02	6.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.7E-01		100% Insects	2.0E-02	5.1E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	5.5E+02		100% Insects	2.0E-02	6.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds										
Bromomethane	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chloro methane	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	2.0E+00		100% Insects	2.0E-02	6.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	2.2E+01		100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	2.5E-02		100% Insects	2.0E-02	2.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	1.2E+02		100% Insects	2.0E-02	7.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.1E+02		100% Insects	2.0E-02	7.2E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC27-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	3.2E-03	--	--	--	3.4E-04	--	--	--	--
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.9E-03	1.5E+00	6.4E+00	3E-03	8E-04
Chromium, hexavalent	Gambel's Quail	2.0E-03	--	--	4.5E-03	6.9E-04	2.5E+00	2.5E+01	3E-04	3E-05
Copper	Gambel's Quail	6.8E-01	--	--	1.1E+00	1.9E-01	4.1E+00	1.2E+01	5E-02	2E-02
Lead	Gambel's Quail	2.2E-01	--	--	9.3E-01	1.2E-01	1.6E+00	3.3E+00	7E-02	4E-02
Mercury	Gambel's Quail	5.5E-03	--	--	6.7E-04	6.5E-04	3.9E-02	1.8E-01	2E-02	4E-03
Zinc	Gambel's Quail	6.1E+00	--	--	2.2E+00	8.7E-01	6.6E+01	1.7E+02	1E-02	5E-03
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	1.4E-02	--	--	8.0E-03	2.3E-03	2.3E+01	2.3E+02	1E-04	1E-05
PAH High molecular weight	Gambel's Quail	1.3E-01	--	--	8.9E-02	2.3E-02	1.0E+01	1.0E+02	2E-03	2E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	9.5E-06	--	--	9.8E-05	1.1E-05	9.0E-02	1.3E+00	1E-04	9E-06
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	2.6E-02	--	--	4.8E-01	5.3E-02	1.4E+01	1.4E+02	4E-03	4E-04
TEQ Mammals	Gambel's Quail	2.4E-02	--	--	4.4E-01	4.9E-02	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	2.3E+00	1.5E+00	6.4E+00	2E+00	4E-01
Chromium, hexavalent	Cactus Wren	--	6.3E-02	--	1.9E-02	6.4E-02	2.5E+00	2.5E+01	3E-02	3E-03
Copper	Cactus Wren	--	2.6E+01	--	4.7E+00	2.4E+01	4.1E+00	1.2E+01	6E+00	2E+00
Lead	Cactus Wren	--	1.2E+01	--	4.0E+00	1.3E+01	1.6E+00	3.3E+00	8E+00	4E+00
Mercury	Cactus Wren	--	9.3E-02	--	2.9E-03	7.5E-02	3.9E-02	1.8E-01	2E+00	4E-01
Zinc	Cactus Wren	--	1.2E+02	--	9.3E+00	1.0E+02	6.6E+01	1.7E+02	2E+00	6E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	1.1E+00	--	3.4E-02	9.1E-01	2.3E+01	2.3E+02	4E-02	4E-03
PAH High molecular weight	Cactus Wren	--	1.1E+01	--	3.8E-01	8.6E+00	1.0E+01	1.0E+02	9E-01	9E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	4.9E-03	--	4.2E-04	4.2E-03	9.0E-02	1.3E+00	5E-02	3E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.5E+02	--	2.0E+00	1.2E+02	1.4E+01	1.4E+02	8E+00	8E-01
TEQ Mammals	Cactus Wren	--	1.3E+02	--	1.9E+00	1.1E+02	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	7.7E-01	7.7E+00	4E+00	4E-01
Chromium, hexavalent	Desert Shrew	--	7.0E-02	--	4.5E-03	7.4E-02	9.2E+00	3.8E+01	8E-03	2E-03
Copper	Desert Shrew	--	2.9E+01	--	1.1E+00	3.0E+01	9.4E+00	1.6E+01	3E+00	2E+00
Lead	Desert Shrew	--	1.3E+01	--	9.5E-01	1.4E+01	4.7E+00	8.9E+00	3E+00	2E+00
Mercury	Desert Shrew	--	1.0E-01	--	6.8E-04	1.0E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.4E+02	--	2.2E+00	1.4E+02	7.5E+01	3.0E+02	2E+00	5E-01
Volatile Organic Compounds										
Bromomethane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	1.2E+00	--	8.1E-03	1.2E+00	6.6E+01	3.3E+02	2E-02	4E-03
PAH High molecular weight	Desert Shrew	--	1.2E+01	--	9.0E-02	1.2E+01	6.2E-01	3.1E+00	2E+01	4E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	5.4E-03	--	1.0E-04	5.5E-03	3.6E-01	1.3E+00	2E-02	4E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.6E+02	--	4.9E-01	1.6E+02	--	--	--	--
TEQ Mammals	Desert Shrew	--	1.5E+02	--	4.5E-01	1.5E+02	1.0E+00	1.0E+01	1E+02	1E+01

Table AOC27-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Merriam's Kangaroo Rat	2.3E+00	m	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Cadmium	Merriam's Kangaroo Rat	2.3E+00	m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	1.3E+00		100% Plants	2.4E-02	5.3E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.8E+02		100% Plants	2.4E-02	1.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+02		100% Plants	2.4E-02	5.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.8E-01		100% Plants	2.4E-02	1.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	5.5E+02		100% Plants	2.4E-02	1.6E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds										
Bromomethane	Merriam's Kangaroo Rat	2.6E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chloro methane	Merriam's Kangaroo Rat	1.1E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	2.0E+00		100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	2.2E+01		100% Plants	2.4E-02	3.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.5E-02		100% Plants	2.4E-02	2.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.2E+02		100% Plants	2.4E-02	6.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.1E+02		100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Merriam's Kangaroo Rat	6.9E-03	--	--	4.4E-03	1.1E-02	5.9E-02	5.9E-01	2E-01	2E-02
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	7.7E-01	7.7E+00	1E-01	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	4.4E-03	--	--	2.6E-03	6.9E-03	9.2E+00	3.8E+01	8E-04	2E-04
Copper	Merriam's Kangaroo Rat	1.5E+00	--	--	5.4E-01	2.0E+00	9.0E+00	1.5E+01	2E-01	1E-01
Lead	Merriam's Kangaroo Rat	4.6E-01	--	--	4.6E-01	9.2E-01	4.7E+00	8.9E+00	2E-01	1E-01
Mercury	Merriam's Kangaroo Rat	1.2E-02	--	--	3.5E-04	1.2E-02	2.5E-01	4.0E+00	5E-02	3E-03
Zinc	Merriam's Kangaroo Rat	1.3E+01	--	--	1.1E+00	1.4E+01	7.5E+01	3.0E+02	2E-01	5E-02
Volatile Organic Compounds										
Bromomethane	Merriam's Kangaroo Rat	0.0E+00	--	--	5.1E-05	5.1E-05	--	--	--	--
Chloro methane	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.0E-02	--	--	4.0E-03	3.4E-02	6.6E+01	3.3E+02	5E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	2.8E-01	--	--	4.4E-02	3.3E-01	6.2E-01	3.1E+00	5E-01	1E-01
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.0E-05	--	--	4.9E-05	6.9E-05	3.6E-01	1.3E+00	2E-04	5E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	5.5E-02	--	--	2.4E-01	2.9E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	5.1E-02	--	--	2.2E-01	2.7E-01	1.0E+00	1.0E+01	3E-01	3E-02

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Cadmium	Gambel's Quail	2.3E+00 m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Copper	Gambel's Quail	2.8E+02	100% Plants	1.0E-01	1.8E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Lead	Gambel's Quail	2.3E+02	100% Plants	1.0E-01	5.6E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Mercury	Gambel's Quail	1.7E-01	100% Plants	1.0E-01	1.4E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Zinc	Gambel's Quail	5.5E+02	100% Plants	1.0E-01	1.6E+02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	2.5E-02	100% Plants	1.0E-01	2.5E-04	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Inorganics									
Cadmium	Cactus Wren	2.3E+00 m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Copper	Cactus Wren	2.8E+02	100% Insects	9.3E-02	1.4E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Lead	Cactus Wren	2.3E+02	100% Insects	9.3E-02	6.5E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Mercury	Cactus Wren	1.7E-01	100% Insects	9.3E-02	5.1E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Zinc	Cactus Wren	5.5E+02	100% Insects	9.3E-02	6.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	2.5E-02	100% Insects	9.3E-02	2.7E-02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Inorganics									
Cadmium	Desert Shrew	2.3E+00 m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	2.8E+02	100% Insects	2.0E-02	1.4E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+02	100% Insects	2.0E-02	6.5E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.7E-01	100% Insects	2.0E-02	5.1E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	5.5E+02	100% Insects	2.0E-02	6.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	2.0E+00	100% Insects	2.0E-02	6.1E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	2.2E+01	100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	2.5E-02	100% Insects	2.0E-02	2.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Cadmium	Merriam's Kangaroo Rat	2.3E+00 m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.8E+02	100% Plants	2.4E-02	1.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+02	100% Plants	2.4E-02	5.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.8E-01	100% Plants	2.4E-02	1.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	5.5E+02	100% Plants	2.4E-02	1.6E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	2.0E+00	100% Plants	2.4E-02	3.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	2.2E+01	100% Plants	2.4E-02	3.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	2.5E-02	100% Plants	2.4E-02	2.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.9E-03	7.0E-01	1.0E+01	7E-03	5E-04
Copper	Gambel's Quail	6.8E-01	--	--	1.1E+00	1.9E-01	2.3E+00	5.2E+01	8E-02	4E-03
Lead	Gambel's Quail	2.2E-01	--	--	9.3E-01	1.2E-01	1.4E-02	8.8E+00	9E+00	1E-02
Mercury	Gambel's Quail	5.5E-03	--	--	6.7E-04	6.5E-04	3.9E-02	1.8E-01	2E-02	4E-03
Zinc	Gambel's Quail	6.1E+00	--	--	2.2E+00	8.7E-01	1.7E+01	1.7E+02	5E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	9.5E-06	--	--	9.8E-05	1.1E-05	9.0E-02	1.3E+00	1E-04	9E-06
Inorganics										
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	2.3E+00	7.0E-01	1.0E+01	3E+00	2E-01
Copper	Cactus Wren	--	2.6E+01	--	4.7E+00	2.4E+01	2.3E+00	5.2E+01	1E+01	5E-01
Lead	Cactus Wren	--	1.2E+01	--	4.0E+00	1.3E+01	1.4E-02	8.8E+00	9E+02	1E+00
Mercury	Cactus Wren	--	9.3E-02	--	2.9E-03	7.5E-02	3.9E-02	1.8E-01	2E+00	4E-01
Zinc	Cactus Wren	--	1.2E+02	--	9.3E+00	1.0E+02	1.7E+01	1.7E+02	6E+00	6E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	4.9E-03	--	4.2E-04	4.2E-03	9.0E-02	1.3E+00	5E-02	3E-03
Inorganics										
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	6.0E-02	2.6E+00	5E+01	1E+00
Copper	Desert Shrew	--	2.9E+01	--	1.1E+00	3.0E+01	2.7E+00	6.3E+02	1E+01	5E-02
Lead	Desert Shrew	--	1.3E+01	--	9.5E-01	1.4E+01	1.0E+00	2.4E+02	1E+01	6E-02
Mercury	Desert Shrew	--	1.0E-01	--	6.8E-04	1.0E-01	2.5E-01	4.0E+00	4E-01	3E-02
Zinc	Desert Shrew	--	1.4E+02	--	2.2E+00	1.4E+02	9.6E+00	4.1E+02	1E+01	3E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	1.2E+00	--	8.1E-03	1.2E+00	5.0E+01	1.5E+02	2E-02	8E-03
PAH High molecular weight	Desert Shrew	--	1.2E+01	--	9.0E-02	1.2E+01	1.3E+00	3.3E+01	9E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	5.4E-03	--	1.0E-04	5.5E-03	3.6E-01	1.3E+00	2E-02	4E-03
Inorganics										
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	6.0E-02	2.6E+00	1E+00	3E-02
Copper	Merriam's Kangaroo Rat	1.5E+00	--	--	5.4E-01	2.0E+00	2.7E+00	6.3E+02	8E-01	3E-03
Lead	Merriam's Kangaroo Rat	4.6E-01	--	--	4.6E-01	9.2E-01	1.0E+00	2.4E+02	9E-01	4E-03
Mercury	Merriam's Kangaroo Rat	1.2E-02	--	--	3.5E-04	1.2E-02	2.5E-01	4.0E+00	5E-02	3E-03
Zinc	Merriam's Kangaroo Rat	1.3E+01	--	--	1.1E+00	1.4E+01	9.6E+00	4.1E+02	1E+00	3E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	3.0E-02	--	--	4.0E-03	3.4E-02	5.0E+01	1.5E+02	7E-04	2E-04
PAH High molecular weight	Merriam's Kangaroo Rat	2.8E-01	--	--	4.4E-02	3.3E-01	1.3E+00	3.3E+01	2E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.0E-05	--	--	4.9E-05	6.9E-05	3.6E-01	1.3E+00	2E-04	5E-05

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.6

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for AOC 27

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	2.25E+00	5	5E-01	ND	78	ND
Cadmium	2.30E+00	32	7E-02	2.30E+00	140	2E-02
Chromium, hexavalent	4.63E-01	1	5E-01	3.97E-01	0.4	1E+00
Copper	1.13E+02	70	2E+00	1.13E+02	80	1E+00
Lead	1.25E+02	120	1E+00	1.25E+02	1700	7E-02
Mercury	1.21E-01	0.3	4E-01	1.21E-01	0.1	1E+00
Zinc	1.94E+02	160	1E+00	1.94E+02	120	2E+00
Volatile Organic Compounds						
Bromomethane	2.60E-02	--	No SL	ND	0.002	ND
Chloro methane	1.10E-02	--	No SL	ND	--	ND
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	7.62E-01	10	8E-02	7.62E-01	29	3E-02
PAH High molecular weight	4.56E+00	1.2	4E+00	4.56E+00	18	3E-01
Polychlorinated Biphenyls						
Total PCBs	3.53E-02	40	9E-04	3.53E-02	1	4E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.90E+01	--	No SL	1.90E+01	8800	2E-03

Notes:

	HQ greater than or equal to 1
	HQ greater than or equal to 10
	HQ greater than or equal to 100

Abbreviations:

AOC = area of concern
 COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 ng/kg = nanograms per kilogram
 no SL = no screening level available
 NOAEL = no-observed adverse effect level
 PAH = polycyclic aromatic hydrocarbon
 PCB = polychlorinated biphenyl

Table AOC27-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Cadmium	Gambel's Quail	2.3E+00	m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	4.0E-01		100% Plants	1.0E-01	1.9E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.1E+02		100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.3E+02		100% Plants	1.0E-01	4.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.2E-01		100% Plants	1.0E-01	1.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.9E+02		100% Plants	1.0E-01	8.9E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chloro methane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	7.6E-01		100% Plants	1.0E-01	2.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	4.6E+00		100% Plants	1.0E-01	7.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.5E-02		100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.4E+01		100% Plants	1.0E-01	1.9E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	3.4E+01		100% Plants	1.0E-01	1.9E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Cadmium	Cactus Wren	2.3E+00	m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	4.0E-01		100% Insects	9.3E-02	1.2E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.1E+02		100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.3E+02		100% Insects	9.3E-02	4.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.2E-01		100% Insects	9.3E-02	4.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.9E+02		100% Insects	9.3E-02	4.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds										
Bromomethane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chloro methane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	7.6E-01		100% Insects	9.3E-02	2.3E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	4.6E+00		100% Insects	9.3E-02	1.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.5E-02		100% Insects	9.3E-02	4.3E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	3.4E+01		100% Insects	9.3E-02	1.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	3.4E+01		100% Insects	9.3E-02	1.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00

Table AOC27-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	3.2E-03	--	--	--	3.2E-03	--	--	--	--
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.7E-02	1.5E+00	6.4E+00	3E-02	7E-03
Chromium, hexavalent	Gambel's Quail	7.3E-04	--	--	1.6E-03	2.3E-03	2.5E+00	2.5E+01	9E-04	9E-05
Copper	Gambel's Quail	4.8E-01	--	--	4.5E-01	9.3E-01	4.1E+00	1.2E+01	2E-01	8E-02
Lead	Gambel's Quail	1.5E-01	--	--	5.0E-01	6.5E-01	1.6E+00	3.3E+00	4E-01	2E-01
Mercury	Gambel's Quail	4.5E-03	--	--	4.8E-04	5.0E-03	3.9E-02	1.8E-01	1E-01	3E-02
Zinc	Gambel's Quail	3.4E+00	--	--	7.7E-01	4.2E+00	6.6E+01	1.7E+02	6E-02	2E-02
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	9.0E-03	--	--	3.0E-03	1.2E-02	2.3E+01	2.3E+02	5E-04	5E-05
PAH High molecular weight	Gambel's Quail	2.9E-02	--	--	1.8E-02	4.8E-02	1.0E+01	1.0E+02	5E-03	5E-04
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-05	--	--	1.4E-04	1.5E-04	9.0E-02	1.3E+00	2E-03	1E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	7.4E-03	--	--	1.4E-01	1.4E-01	1.4E+01	1.4E+02	1E-02	1E-03
TEQ Mammals	Gambel's Quail	7.3E-03	--	--	1.4E-01	1.4E-01	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	1.5E+00	6.4E+00	2E+00	5E-01
Chromium, hexavalent	Cactus Wren	--	2.2E-02	--	6.8E-03	2.9E-02	2.5E+00	2.5E+01	1E-02	1E-03
Copper	Cactus Wren	--	1.1E+01	--	1.9E+00	1.3E+01	4.1E+00	1.2E+01	3E+00	1E+00
Lead	Cactus Wren	--	7.3E+00	--	2.1E+00	9.4E+00	1.6E+00	3.3E+00	6E+00	3E+00
Mercury	Cactus Wren	--	8.3E-02	--	2.1E-03	8.5E-02	3.9E-02	1.8E-01	2E+00	5E-01
Zinc	Cactus Wren	--	8.8E+01	--	3.3E+00	9.2E+01	6.6E+01	1.7E+02	1E+00	5E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	4.2E-01	--	1.3E-02	4.4E-01	2.3E+01	2.3E+02	2E-02	2E-03
PAH High molecular weight	Cactus Wren	--	2.2E+00	--	7.8E-02	2.3E+00	1.0E+01	1.0E+02	2E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	7.9E-03	--	6.0E-04	8.5E-03	9.0E-02	1.3E+00	9E-02	7E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	3.3E+01	--	5.9E-01	3.4E+01	1.4E+01	1.4E+02	2E+00	2E-01
TEQ Mammals	Cactus Wren	--	3.3E+01	--	5.8E-01	3.3E+01	--	--	--	--

Table AOC27-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Antimony	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Cadmium	Desert Shrew	2.3E+00	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	4.0E-01	100% Insects	2.0E-02	1.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.1E+02	100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+02	100% Insects	2.0E-02	4.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.2E-01	100% Insects	2.0E-02	4.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.9E+02	100% Insects	2.0E-02	4.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chloro methane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	7.6E-01	100% Insects	2.0E-02	2.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.6E+00	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	3.5E-02	100% Insects	2.0E-02	4.3E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Antimony	Merriam's Kangaroo Rat	2.3E+00	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Cadmium	Merriam's Kangaroo Rat	2.3E+00	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	4.6E-01	100% Plants	2.4E-02	1.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	4.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.9E+02	100% Plants	2.4E-02	8.9E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Merriam's Kangaroo Rat	2.6E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chloro methane	Merriam's Kangaroo Rat	1.1E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	7.6E-01	100% Plants	2.4E-02	2.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.6E+00	100% Plants	2.4E-02	7.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	3.4E+01	100% Plants	2.4E-02	1.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	3.4E+01	100% Plants	2.4E-02	1.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	7.7E-01	7.7E+00	4E+00	4E-01
Chromium, hexavalent	Desert Shrew	--	2.5E-02	--	1.6E-03	2.6E-02	9.2E+00	3.8E+01	3E-03	7E-04
Copper	Desert Shrew	--	1.2E+01	--	4.6E-01	1.2E+01	9.4E+00	1.6E+01	1E+00	8E-01
Lead	Desert Shrew	--	8.0E+00	--	5.1E-01	8.5E+00	4.7E+00	8.9E+00	2E+00	1E+00
Mercury	Desert Shrew	--	9.2E-02	--	4.9E-04	9.3E-02	2.5E-01	4.0E+00	4E-01	2E-02
Zinc	Desert Shrew	--	9.8E+01	--	7.9E-01	9.9E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Bromomethane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	4.7E-01	--	3.1E-03	4.7E-01	6.6E+01	3.3E+02	7E-03	1E-03
PAH High molecular weight	Desert Shrew	--	2.4E+00	--	1.9E-02	2.4E+00	6.2E-01	3.1E+00	4E+00	8E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	8.8E-03	--	1.4E-04	8.9E-03	3.6E-01	1.3E+00	2E-02	7E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	3.7E+01	--	1.4E-01	3.7E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	3.6E+01	--	1.4E-01	3.6E+01	1.0E+00	1.0E+01	4E+01	4E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	6.9E-03	--	--	4.4E-03	1.1E-02	5.9E-02	5.9E-01	2E-01	2E-02
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	7.7E-01	7.7E+00	1E-01	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	1.6E-03	--	--	9.1E-04	2.5E-03	9.2E+00	3.8E+01	3E-04	6E-05
Copper	Merriam's Kangaroo Rat	1.0E+00	--	--	2.2E-01	1.3E+00	9.0E+00	1.5E+01	1E-01	8E-02
Lead	Merriam's Kangaroo Rat	3.3E-01	--	--	2.5E-01	5.7E-01	4.7E+00	8.9E+00	1E-01	6E-02
Mercury	Merriam's Kangaroo Rat	9.6E-03	--	--	2.4E-04	9.9E-03	2.5E-01	4.0E+00	4E-02	2E-03
Zinc	Merriam's Kangaroo Rat	7.4E+00	--	--	3.8E-01	7.7E+00	7.5E+01	3.0E+02	1E-01	3E-02
Volatile Organic Compounds										
Bromomethane	Merriam's Kangaroo Rat	0.0E+00	--	--	5.1E-05	5.1E-05	--	--	--	--
Chloro methane	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.9E-02	--	--	1.5E-03	2.1E-02	6.6E+01	3.3E+02	3E-04	6E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.3E-02	--	--	9.0E-03	7.2E-02	6.2E-01	3.1E+00	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	7.0E-05	9.9E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.6E-02	--	--	6.8E-02	8.4E-02	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	1.6E-02	--	--	6.7E-02	8.2E-02	1.0E+00	1.0E+01	8E-02	8E-03

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Cadmium	Gambel's Quail	2.3E+00	m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.1E+02		100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.3E+02		100% Plants	1.0E-01	4.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	1.2E-01		100% Plants	1.0E-01	1.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.9E+02		100% Plants	1.0E-01	8.9E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.5E-02		100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Cadmium	Cactus Wren	2.3E+00	m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.1E+02		100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.3E+02		100% Insects	9.3E-02	4.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	1.2E-01		100% Insects	9.3E-02	4.5E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.9E+02		100% Insects	9.3E-02	4.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.5E-02		100% Insects	9.3E-02	4.3E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Cadmium	Desert Shrew	2.3E+00	m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.1E+02		100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+02		100% Insects	2.0E-02	4.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.2E-01		100% Insects	2.0E-02	4.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.9E+02		100% Insects	2.0E-02	4.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	7.6E-01		100% Insects	2.0E-02	2.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.6E+00		100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	3.5E-02		100% Insects	2.0E-02	4.3E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Cadmium	Merriam's Kangaroo Rat	2.3E+00	m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.1E+02		100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+02		100% Plants	2.4E-02	4.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.2E-01		100% Plants	2.4E-02	1.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.9E+02		100% Plants	2.4E-02	8.9E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	7.6E-01		100% Plants	2.4E-02	2.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.6E+00		100% Plants	2.4E-02	7.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	3.5E-02		100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.7E-02	7.0E-01	1.0E+01	7E-02	4E-03
Copper	Gambel's Quail	4.8E-01	--	--	4.5E-01	9.3E-01	2.3E+00	5.2E+01	4E-01	2E-02
Lead	Gambel's Quail	1.5E-01	--	--	5.0E-01	6.5E-01	1.4E-02	8.8E+00	5E+01	7E-02
Mercury	Gambel's Quail	4.5E-03	--	--	4.8E-04	5.0E-03	3.9E-02	1.8E-01	1E-01	3E-02
Zinc	Gambel's Quail	3.4E+00	--	--	7.7E-01	4.2E+00	1.7E+01	1.7E+02	2E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-05	--	--	1.4E-04	1.5E-04	9.0E-02	1.3E+00	2E-03	1E-04
Inorganics										
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	7.0E-01	1.0E+01	4E+00	3E-01
Copper	Cactus Wren	--	1.1E+01	--	1.9E+00	1.3E+01	2.3E+00	5.2E+01	5E+00	2E-01
Lead	Cactus Wren	--	7.3E+00	--	2.1E+00	9.4E+00	1.4E-02	8.8E+00	7E+02	1E+00
Mercury	Cactus Wren	--	8.3E-02	--	2.1E-03	8.5E-02	3.9E-02	1.8E-01	2E+00	5E-01
Zinc	Cactus Wren	--	8.8E+01	--	3.3E+00	9.2E+01	1.7E+01	1.7E+02	5E+00	5E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	7.9E-03	--	6.0E-04	8.5E-03	9.0E-02	1.3E+00	9E-02	7E-03
Inorganics										
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	6.0E-02	2.6E+00	5E+01	1E+00
Copper	Desert Shrew	--	1.2E+01	--	4.6E-01	1.2E+01	2.7E+00	6.3E+02	5E+00	2E-02
Lead	Desert Shrew	--	8.0E+00	--	5.1E-01	8.5E+00	1.0E+00	2.4E+02	9E+00	4E-02
Mercury	Desert Shrew	--	9.2E-02	--	4.9E-04	9.3E-02	2.5E-01	4.0E+00	4E-01	2E-02
Zinc	Desert Shrew	--	9.8E+01	--	7.9E-01	9.9E+01	9.6E+00	4.1E+02	1E+01	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	4.7E-01	--	3.1E-03	4.7E-01	5.0E+01	1.5E+02	9E-03	3E-03
PAH High molecular weight	Desert Shrew	--	2.4E+00	--	1.9E-02	2.4E+00	1.3E+00	3.3E+01	2E+00	7E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	8.8E-03	--	1.4E-04	8.9E-03	3.6E-01	1.3E+00	2E-02	7E-03
Inorganics										
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	6.0E-02	2.6E+00	1E+00	3E-02
Copper	Merriam's Kangaroo Rat	1.0E+00	--	--	2.2E-01	1.3E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Merriam's Kangaroo Rat	3.3E-01	--	--	2.5E-01	5.7E-01	1.0E+00	2.4E+02	6E-01	2E-03
Mercury	Merriam's Kangaroo Rat	9.6E-03	--	--	2.4E-04	9.9E-03	2.5E-01	4.0E+00	4E-02	2E-03
Zinc	Merriam's Kangaroo Rat	7.4E+00	--	--	3.8E-01	7.7E+00	9.6E+00	4.1E+02	8E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.9E-02	--	--	1.5E-03	2.1E-02	5.0E+01	1.5E+02	4E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.3E-02	--	--	9.0E-03	7.2E-02	1.3E+00	3.3E+01	5E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	7.0E-05	9.9E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Antimony	Gambel's Quail	ND	nd	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Cadmium	Gambel's Quail	2.3E+00	m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Chromium, hexavalent	Gambel's Quail	4.0E-01		100% Plants	1.0E-01	1.9E-02	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Copper	Gambel's Quail	1.1E+02		100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Lead	Gambel's Quail	1.3E+02		100% Plants	1.0E-01	4.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Mercury	Gambel's Quail	1.2E-01		100% Plants	1.0E-01	1.2E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Zinc	Gambel's Quail	1.9E+02		100% Plants	1.0E-01	8.9E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Chloro methane	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	7.6E-01		100% Plants	1.0E-01	2.4E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
PAH High molecular weight	Gambel's Quail	4.6E+00		100% Plants	1.0E-01	7.7E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	3.5E-02		100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.4E+01		100% Plants	1.0E-01	1.9E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
TEQ Mammals	Gambel's Quail	3.4E+01		100% Plants	1.0E-01	1.9E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Inorganics										
Antimony	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Cadmium	Cactus Wren	2.3E+00	m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Chromium, hexavalent	Cactus Wren	4.0E-01		100% Insects	9.3E-02	1.2E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Copper	Cactus Wren	1.1E+02		100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Lead	Cactus Wren	1.3E+02		100% Insects	9.3E-02	4.0E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Mercury	Cactus Wren	1.2E-01		100% Insects	9.3E-02	4.5E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Zinc	Cactus Wren	1.9E+02		100% Insects	9.3E-02	4.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Chloro methane	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	7.6E-01		100% Insects	9.3E-02	2.3E+00	3.9E-02	1.8E-01	1.7E-02	7.9E-01
PAH High molecular weight	Cactus Wren	4.6E+00		100% Insects	9.3E-02	1.2E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	3.5E-02		100% Insects	9.3E-02	4.3E-02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	3.4E+01		100% Insects	9.3E-02	1.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
TEQ Mammals	Cactus Wren	3.4E+01		100% Insects	9.3E-02	1.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01

Table AOC27-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	3.2E-03	--	--	--	3.4E-04	--	--	--	--
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.9E-03	1.5E+00	6.4E+00	3E-03	8E-04
Chromium, hexavalent	Gambel's Quail	7.3E-04	--	--	1.6E-03	2.4E-04	2.5E+00	2.5E+01	1E-04	1E-05
Copper	Gambel's Quail	4.8E-01	--	--	4.5E-01	9.9E-02	4.1E+00	1.2E+01	2E-02	8E-03
Lead	Gambel's Quail	1.5E-01	--	--	5.0E-01	6.9E-02	1.6E+00	3.3E+00	4E-02	2E-02
Mercury	Gambel's Quail	4.5E-03	--	--	4.8E-04	5.3E-04	3.9E-02	1.8E-01	1E-02	3E-03
Zinc	Gambel's Quail	3.4E+00	--	--	7.7E-01	4.4E-01	6.6E+01	1.7E+02	7E-03	3E-03
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	9.0E-03	--	--	3.0E-03	1.3E-03	2.3E+01	2.3E+02	6E-05	6E-06
PAH High molecular weight	Gambel's Quail	2.9E-02	--	--	1.8E-02	5.0E-03	1.0E+01	1.0E+02	5E-04	5E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-05	--	--	1.4E-04	1.6E-05	9.0E-02	1.3E+00	2E-04	1E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	7.4E-03	--	--	1.4E-01	1.5E-02	1.4E+01	1.4E+02	1E-03	1E-04
TEQ Mammals	Gambel's Quail	7.3E-03	--	--	1.4E-01	1.5E-02	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	2.3E+00	1.5E+00	6.4E+00	2E+00	4E-01
Chromium, hexavalent	Cactus Wren	--	2.2E-02	--	6.8E-03	2.3E-02	2.5E+00	2.5E+01	9E-03	9E-04
Copper	Cactus Wren	--	1.1E+01	--	1.9E+00	9.9E+00	4.1E+00	1.2E+01	2E+00	8E-01
Lead	Cactus Wren	--	7.3E+00	--	2.1E+00	7.4E+00	1.6E+00	3.3E+00	5E+00	2E+00
Mercury	Cactus Wren	--	8.3E-02	--	2.1E-03	6.7E-02	3.9E-02	1.8E-01	2E+00	4E-01
Zinc	Cactus Wren	--	8.8E+01	--	3.3E+00	7.2E+01	6.6E+01	1.7E+02	1E+00	4E-01
Volatile Organic Compounds										
Bromomethane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	4.2E-01	--	1.3E-02	3.4E-01	2.3E+01	2.3E+02	2E-02	2E-03
PAH High molecular weight	Cactus Wren	--	2.2E+00	--	7.8E-02	1.8E+00	1.0E+01	1.0E+02	2E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	7.9E-03	--	6.0E-04	6.7E-03	9.0E-02	1.3E+00	7E-02	5E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	3.3E+01	--	5.9E-01	2.7E+01	1.4E+01	1.4E+02	2E+00	2E-01
TEQ Mammals	Cactus Wren	--	3.3E+01	--	5.8E-01	2.6E+01	--	--	--	--

Table AOC27-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Antimony	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Cadmium	Desert Shrew	2.3E+00	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	4.0E-01	100% Insects	2.0E-02	1.2E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.1E+02	100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+02	100% Insects	2.0E-02	4.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.2E-01	100% Insects	2.0E-02	4.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.9E+02	100% Insects	2.0E-02	4.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chloro methane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	7.6E-01	100% Insects	2.0E-02	2.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.6E+00	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	3.5E-02	100% Insects	2.0E-02	4.3E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	3.4E+01	100% Insects	2.0E-02	1.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Antimony	Merriam's Kangaroo Rat	2.3E+00	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Cadmium	Merriam's Kangaroo Rat	2.3E+00	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	4.6E-01	100% Plants	2.4E-02	1.9E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	4.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.9E+02	100% Plants	2.4E-02	8.9E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Merriam's Kangaroo Rat	2.6E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chloro methane	Merriam's Kangaroo Rat	1.1E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	7.6E-01	100% Plants	2.4E-02	2.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.6E+00	100% Plants	2.4E-02	7.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	3.4E+01	100% Plants	2.4E-02	1.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	3.4E+01	100% Plants	2.4E-02	1.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	7.7E-01	7.7E+00	4E+00	4E-01
Chromium, hexavalent	Desert Shrew	--	2.5E-02	--	1.6E-03	2.6E-02	9.2E+00	3.8E+01	3E-03	7E-04
Copper	Desert Shrew	--	1.2E+01	--	4.6E-01	1.2E+01	9.4E+00	1.6E+01	1E+00	8E-01
Lead	Desert Shrew	--	8.0E+00	--	5.1E-01	8.5E+00	4.7E+00	8.9E+00	2E+00	1E+00
Mercury	Desert Shrew	--	9.2E-02	--	4.9E-04	9.3E-02	2.5E-01	4.0E+00	4E-01	2E-02
Zinc	Desert Shrew	--	9.8E+01	--	7.9E-01	9.9E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Bromomethane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	4.7E-01	--	3.1E-03	4.7E-01	6.6E+01	3.3E+02	7E-03	1E-03
PAH High molecular weight	Desert Shrew	--	2.4E+00	--	1.9E-02	2.4E+00	6.2E-01	3.1E+00	4E+00	8E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	8.8E-03	--	1.4E-04	8.9E-03	3.6E-01	1.3E+00	2E-02	7E-03
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	3.7E+01	--	1.4E-01	3.7E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	3.6E+01	--	1.4E-01	3.6E+01	1.0E+00	1.0E+01	4E+01	4E+00
Inorganics										
Antimony	Merriam's Kangaroo Rat	6.9E-03	--	--	4.4E-03	1.1E-02	5.9E-02	5.9E-01	2E-01	2E-02
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	7.7E-01	7.7E+00	1E-01	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	1.6E-03	--	--	9.1E-04	2.5E-03	9.2E+00	3.8E+01	3E-04	6E-05
Copper	Merriam's Kangaroo Rat	1.0E+00	--	--	2.2E-01	1.3E+00	9.0E+00	1.5E+01	1E-01	8E-02
Lead	Merriam's Kangaroo Rat	3.3E-01	--	--	2.5E-01	5.7E-01	4.7E+00	8.9E+00	1E-01	6E-02
Mercury	Merriam's Kangaroo Rat	9.6E-03	--	--	2.4E-04	9.9E-03	2.5E-01	4.0E+00	4E-02	2E-03
Zinc	Merriam's Kangaroo Rat	7.4E+00	--	--	3.8E-01	7.7E+00	7.5E+01	3.0E+02	1E-01	3E-02
Volatile Organic Compounds										
Bromomethane	Merriam's Kangaroo Rat	0.0E+00	--	--	5.1E-05	5.1E-05	--	--	--	--
Chloro methane	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.9E-02	--	--	1.5E-03	2.1E-02	6.6E+01	3.3E+02	3E-04	6E-05
PAH High molecular weight	Merriam's Kangaroo Rat	6.3E-02	--	--	9.0E-03	7.2E-02	6.2E-01	3.1E+00	1E-01	2E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	7.0E-05	9.9E-05	3.6E-01	1.3E+00	3E-04	8E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.6E-02	--	--	6.8E-02	8.4E-02	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	1.6E-02	--	--	6.7E-02	8.2E-02	1.0E+00	1.0E+01	8E-02	8E-03

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC ^a (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Cadmium	Gambel's Quail	2.3E+00 m	100% Plants	1.0E-01	9.8E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Copper	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	1.3E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Lead	Gambel's Quail	1.3E+02	100% Plants	1.0E-01	4.0E+00	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Mercury	Gambel's Quail	1.2E-01	100% Plants	1.0E-01	1.2E-01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Zinc	Gambel's Quail	1.9E+02	100% Plants	1.0E-01	8.9E+01	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	3.5E-02	100% Plants	1.0E-01	3.5E-04	1.7E-01	3.8E-02	4.0E-03	1.1E-01
Inorganics									
Cadmium	Cactus Wren	2.3E+00 m	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Copper	Cactus Wren	1.1E+02	100% Insects	9.3E-02	5.8E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Lead	Cactus Wren	1.3E+02	100% Insects	9.3E-02	4.0E+01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Mercury	Cactus Wren	1.2E-01	100% Insects	9.3E-02	4.5E-01	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Zinc	Cactus Wren	1.9E+02	100% Insects	9.3E-02	4.8E+02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	3.5E-02	100% Insects	9.3E-02	4.3E-02	3.9E-02	1.8E-01	1.7E-02	7.9E-01
Inorganics									
Cadmium	Desert Shrew	2.3E+00 m	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.1E+02	100% Insects	2.0E-02	5.8E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+02	100% Insects	2.0E-02	4.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	1.2E-01	100% Insects	2.0E-02	4.5E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.9E+02	100% Insects	2.0E-02	4.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	7.6E-01	100% Insects	2.0E-02	2.3E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	4.6E+00	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	3.5E-02	100% Insects	2.0E-02	4.3E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Cadmium	Merriam's Kangaroo Rat	2.3E+00 m	100% Plants	2.4E-02	9.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	1.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+02	100% Plants	2.4E-02	4.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	1.2E-01	100% Plants	2.4E-02	1.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.9E+02	100% Plants	2.4E-02	8.9E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	7.6E-01	100% Plants	2.4E-02	2.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	4.6E+00	100% Plants	2.4E-02	7.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-02	100% Plants	2.4E-02	3.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-C.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose ^b (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless) ^c	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Cadmium	Gambel's Quail	3.8E-02	--	--	9.2E-03	4.9E-03	7.0E-01	1.0E+01	7E-03	5E-04
Copper	Gambel's Quail	4.8E-01	--	--	4.5E-01	9.9E-02	2.3E+00	5.2E+01	4E-02	2E-03
Lead	Gambel's Quail	1.5E-01	--	--	5.0E-01	6.9E-02	1.4E-02	8.8E+00	5E+00	8E-03
Mercury	Gambel's Quail	4.5E-03	--	--	4.8E-04	5.3E-04	3.9E-02	1.8E-01	1E-02	3E-03
Zinc	Gambel's Quail	3.4E+00	--	--	7.7E-01	4.4E-01	1.7E+01	1.7E+02	3E-02	3E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-05	--	--	1.4E-04	1.6E-05	9.0E-02	1.3E+00	2E-04	1E-05
Inorganics										
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	2.3E+00	7.0E-01	1.0E+01	3E+00	2E-01
Copper	Cactus Wren	--	1.1E+01	--	1.9E+00	9.9E+00	2.3E+00	5.2E+01	4E+00	2E-01
Lead	Cactus Wren	--	7.3E+00	--	2.1E+00	7.4E+00	1.4E-02	8.8E+00	5E+02	8E-01
Mercury	Cactus Wren	--	8.3E-02	--	2.1E-03	6.7E-02	3.9E-02	1.8E-01	2E+00	4E-01
Zinc	Cactus Wren	--	8.8E+01	--	3.3E+00	7.2E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	7.9E-03	--	6.0E-04	6.7E-03	9.0E-02	1.3E+00	7E-02	5E-03
Inorganics										
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	6.0E-02	2.6E+00	5E+01	1E+00
Copper	Desert Shrew	--	1.2E+01	--	4.6E-01	1.2E+01	2.7E+00	6.3E+02	5E+00	2E-02
Lead	Desert Shrew	--	8.0E+00	--	5.1E-01	8.5E+00	1.0E+00	2.4E+02	9E+00	4E-02
Mercury	Desert Shrew	--	9.2E-02	--	4.9E-04	9.3E-02	2.5E-01	4.0E+00	4E-01	2E-02
Zinc	Desert Shrew	--	9.8E+01	--	7.9E-01	9.9E+01	9.6E+00	4.1E+02	1E+01	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	4.7E-01	--	3.1E-03	4.7E-01	5.0E+01	1.5E+02	9E-03	3E-03
PAH High molecular weight	Desert Shrew	--	2.4E+00	--	1.9E-02	2.4E+00	1.3E+00	3.3E+01	2E+00	7E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	8.8E-03	--	1.4E-04	8.9E-03	3.6E-01	1.3E+00	2E-02	7E-03
Inorganics										
Cadmium	Merriam's Kangaroo Rat	8.1E-02	--	--	4.5E-03	8.5E-02	6.0E-02	2.6E+00	1E+00	3E-02
Copper	Merriam's Kangaroo Rat	1.0E+00	--	--	2.2E-01	1.3E+00	2.7E+00	6.3E+02	5E-01	2E-03
Lead	Merriam's Kangaroo Rat	3.3E-01	--	--	2.5E-01	5.7E-01	1.0E+00	2.4E+02	6E-01	2E-03
Mercury	Merriam's Kangaroo Rat	9.6E-03	--	--	2.4E-04	9.9E-03	2.5E-01	4.0E+00	4E-02	2E-03
Zinc	Merriam's Kangaroo Rat	7.4E+00	--	--	3.8E-01	7.7E+00	9.6E+00	4.1E+02	8E-01	2E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	1.9E-02	--	--	1.5E-03	2.1E-02	5.0E+01	1.5E+02	4E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	6.3E-02	--	--	9.0E-03	7.2E-02	1.3E+00	3.3E+01	5E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-05	--	--	7.0E-05	9.9E-05	3.6E-01	1.3E+00	3E-04	8E-05

See Notes and Abbreviations following Table AOC27-C.10.

Table AOC27-C Table Notes
Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

ATTACHMENT D

Dose and Risk Calculations for Ecological Receptors at AOC 27 Using
Maximum Depth-Weighted EPCs



Attachment AOC27-D**Dose and Risk Calculations for Ecological Receptors at AOC 27 Using Maximum Depth-Weighted EPCs**

Table AOC27-D.1	Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 27
Table AOC27-D.2	Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 27
Table AOC27-D.3	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 27
Table AOC27-D.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC 27
Table AOC27-D.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC 27
Table AOC27-D Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC27-D.1

Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for AOC 27

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics									
Antimony	mg/kg	--	1.83E+00	2.25E+00	--	6.95E-02	8.44E-02	--	0.00E+00
Cadmium	mg/kg	2.30E+00	2.63E+00	2.90E+00	9.80E-01	1.05E+00	1.11E+00	1.61E+01	4.22E-01
Chromium, hexavalent	mg/kg	2.70E+00	3.13E+00	2.98E+00	1.11E-01	1.28E-01	1.22E-01	8.26E-01	4.81E-01
Copper	mg/kg	5.80E+02	7.20E+02	6.95E+02	2.39E+01	2.61E+01	2.57E+01	2.99E+02	1.93E+01
Lead	mg/kg	6.30E+02	4.32E+02	3.42E+02	9.86E+00	7.98E+00	7.00E+00	1.46E+02	1.87E+01
Mercury	mg/kg	5.10E-01	5.30E-01	5.90E-01	2.56E-01	2.61E-01	2.77E-01	7.37E-01	9.79E-02
Zinc	mg/kg	1.20E+03	8.09E+02	7.96E+02	2.45E+02	1.97E+02	1.95E+02	8.75E+02	1.30E+02
Volatile Organic Compounds									
Bromomethane	mg/kg	--	2.60E-02	2.35E-02	--	0.00E+00	0.00E+00	--	--
Chloro methane	mg/kg	--	1.10E-02	1.01E-02	--	0.00E+00	0.00E+00	--	--
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	mg/kg	3.88E+00	2.60E+00	1.31E+00	4.94E-01	4.12E-01	3.02E-01	1.18E+01	0.00E+00
PAH High molecular weight	mg/kg	3.15E+01	2.29E+01	1.34E+01	4.78E+00	3.53E+00	2.13E+00	8.19E+01	0.00E+00
Polychlorinated Biphenyls									
Total PCBs	mg/kg	4.90E-02	4.75E-02	4.75E-02	4.90E-04	4.75E-04	4.75E-04	6.76E-02	1.69E-03
Dioxins									
TEQ Avian	ng/kg	1.20E+02	1.60E+02	1.67E+02	6.72E-01	8.96E-01	9.35E-01	7.94E+02	1.10E+02
TEQ Mammals	ng/kg	1.20E+02	1.50E+02	1.52E+02	6.72E-01	8.40E-01	8.51E-01	7.94E+02	1.10E+02
2,3,7,8-TCDD	ng/ka	1.90E+01	1.46E+01	1.67E+01	--	--	--	--	--

Notes:

a. Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

b. Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).**Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

Table AOC27-D.2

Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs								
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	
Inorganics																			
Antimony	5E-01	ND	--	--	--	--	--	--	2E-01	2E-02	--	--	--	--	--	--	--	--	
Cadmium	9E-02	2E-02	4E-02	8E-03	2E+00	5E-01	4E+00	4E-01	1E-01	1E-02	7E-02	5E-03	4E+00	3E-01	5E+01	1E+00	2E+00	4E-02	
Chromium, hexavalent	3E+00	7E+00	6E-03	6E-04	8E-02	8E-03	2E-02	5E-03	2E-03	4E-04	--	--	--	--	--	--	--	--	
Copper	1E+01	7E+00	8E-01	3E-01	2E+01	5E+00	7E+00	4E+00	4E-01	2E-01	1E+00	6E-02	3E+01	1E+00	2E+01	1E-01	1E+00	6E-03	
Lead	5E+00	4E-01	2E+00	9E-01	2E+01	1E+01	7E+00	4E+00	4E-01	2E-01	2E+02	3E-01	3E+03	4E+00	3E+01	1E-01	2E+00	9E-03	
Mercury	2E+00	5E+00	3E-01	7E-02	4E+00	8E-01	6E-01	4E-02	1E-01	6E-03	3E-01	7E-02	4E+00	8E-01	6E-01	4E-02	1E-01	6E-03	
Zinc	8E+00	1E+01	2E-01	8E-02	3E+00	1E+00	2E+00	6E-01	3E-01	8E-02	8E-01	8E-02	1E+01	1E+00	2E+01	4E-01	2E+00	5E-02	
Volatile Organic Compounds																			
Bromomethane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloro methane	No SL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH Low molecular weight	4E-01	1E-01	2E-03	2E-04	1E-01	1E-02	4E-02	7E-03	7E-04	1E-04	--	--	--	--	5E-02	2E-02	1E-03	3E-04	
PAH High molecular weight	3E+01	2E+00	3E-02	3E-03	2E+00	2E-01	3E+01	5E+00	7E-01	1E-01	--	--	--	--	1E+01	5E-01	3E-01	1E-02	
Polychlorinated Biphenyls																			
Total PCBs	1E-03	5E-02	2E-03	2E-04	1E-01	1E-02	4E-02	1E-02	4E-04	1E-04	2E-03	2E-04	1E-01	1E-02	4E-02	1E-02	4E-04	1E-04	
Dioxins																			
2,3,7,8-TCDD	No SL	2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Avian	--	--	4E-02	4E-03	1E+01	1E+00	--	--	--	--	--	--	--	--	--	--	--	--	
TEQ Mammals	--	--	--	--	--	--	2E+02	2E+01	4E-01	4E-02	--	--	--	--	--	--	--	--	

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level

NOAEL = no-observed adverse effect level
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table AOC27-D.3

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Antimony	2.25E+00	5	5E-01	ND	78	ND
Cadmium	2.90E+00	32	9E-02	2.30E+00	140	2E-02
Chromium, hexavalent	3.13E+00	1	3E+00	2.70E+00	0.4	7E+00
Copper	7.20E+02	70	1E+01	5.80E+02	80	7E+00
Lead	6.30E+02	120	5E+00	6.30E+02	1700	4E-01
Mercury	5.90E-01	0.3	2E+00	5.10E-01	0.1	5E+00
Zinc	1.20E+03	160	8E+00	1.20E+03	120	1E+01
Volatile Organic Compounds						
Bromomethane	2.60E-02	--	No SL	ND	0.002	ND
Chloro methane	1.10E-02	--	No SL	ND	--	ND
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	3.88E+00	10	4E-01	3.88E+00	29	1E-01
PAH High molecular weight	3.15E+01	1.2	3E+01	3.15E+01	18	2E+00
Polychlorinated Biphenyls						
Total PCBs	4.90E-02	40	1E-03	4.90E-02	1	5E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	1.90E+01	--	No SL	1.90E+01	8800	2E-03

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
mg/kg = milligrams per kilogram
ND = not detected in the applicable depth interval
ng/kg = nanograms per kilogram
no SL = no screening level available
NOAEL = no-observed adverse effect level
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl

Table AOC27-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Antimony	Gambel's Quail	ND	100% Plants	1.0E-01	8.4E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Cadmium	Gambel's Quail	2.3E+00	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, hexavalent	Gambel's Quail	2.7E+00	100% Plants	1.0E-01	1.3E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	5.8E+02	100% Plants	1.0E-01	2.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	6.3E+02	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	5.1E-01	100% Plants	1.0E-01	2.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.2E+03	100% Plants	1.0E-01	2.5E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Gambel's Quail	ND	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chloro methane	Gambel's Quail	ND	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	3.9E+00	100% Plants	1.0E-01	4.9E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	3.2E+01	100% Plants	1.0E-01	4.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.9E-02	100% Plants	1.0E-01	4.9E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	1.2E+02	100% Plants	1.0E-01	9.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	1.2E+02	100% Plants	1.0E-01	8.5E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Antimony	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Cadmium	Cactus Wren	2.3E+00	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, hexavalent	Cactus Wren	2.7E+00	100% Insects	9.3E-02	8.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	5.8E+02	100% Insects	9.3E-02	3.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	6.3E+02	100% Insects	9.3E-02	1.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	5.1E-01	100% Insects	9.3E-02	7.4E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.2E+03	100% Insects	9.3E-02	8.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds									
Bromomethane	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chloro methane	Cactus Wren	ND	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	3.9E+00	100% Insects	9.3E-02	1.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	3.2E+01	100% Insects	9.3E-02	8.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.9E-02	100% Insects	9.3E-02	6.8E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	1.2E+02	100% Insects	9.3E-02	7.9E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	1.2E+02	100% Insects	9.3E-02	7.9E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Antimony	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Cadmium	Desert Shrew	2.3E+00	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, hexavalent	Desert Shrew	2.7E+00	100% Insects	2.0E-02	8.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	5.8E+02	100% Insects	2.0E-02	3.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	6.3E+02	100% Insects	2.0E-02	1.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	5.1E-01	100% Insects	2.0E-02	7.4E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.2E+03	100% Insects	2.0E-02	8.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chloro methane	Desert Shrew	ND	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.9E+00	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	3.2E+01	100% Insects	2.0E-02	8.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.9E-02	100% Insects	2.0E-02	6.8E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	1.2E+02	100% Insects	2.0E-02	7.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.2E+02	100% Insects	2.0E-02	7.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00

Table AOC27-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Gambel's Quail	3.2E-03	--	--	--	3.2E-03	--	--	--	--
Cadmium	Gambel's Quail	4.3E-02	--	--	9.2E-03	5.2E-02	1.5E+00	6.4E+00	4E-02	8E-03
Chromium, hexavalent	Gambel's Quail	4.9E-03	--	--	1.1E-02	1.6E-02	2.5E+00	2.5E+01	6E-03	6E-04
Copper	Gambel's Quail	1.0E+00	--	--	2.3E+00	3.3E+00	4.1E+00	1.2E+01	8E-01	3E-01
Lead	Gambel's Quail	3.8E-01	--	--	2.5E+00	2.9E+00	1.6E+00	3.3E+00	2E+00	9E-01
Mercury	Gambel's Quail	1.1E-02	--	--	2.0E-03	1.3E-02	3.9E-02	1.8E-01	3E-01	7E-02
Zinc	Gambel's Quail	9.4E+00	--	--	4.8E+00	1.4E+01	6.6E+01	1.7E+02	2E-01	8E-02
Volatile Organic Compounds										
Bromomethane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	1.9E-02	--	--	1.5E-02	3.4E-02	2.3E+01	2.3E+02	2E-03	2E-04
PAH High molecular weight	Gambel's Quail	1.8E-01	--	--	1.3E-01	3.1E-01	1.0E+01	1.0E+02	3E-02	3E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.9E-05	--	--	2.0E-04	2.1E-04	9.0E-02	1.3E+00	2E-03	2E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	3.6E-02	--	--	4.8E-01	5.1E-01	1.4E+01	1.4E+02	4E-02	4E-03
TEQ Mammals	Gambel's Quail	3.3E-02	--	--	4.8E-01	5.1E-01	--	--	--	--
Inorganics										
Antimony	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	1.5E+00	6.4E+00	2E+00	5E-01
Chromium, hexavalent	Cactus Wren	--	1.5E-01	--	4.6E-02	2.0E-01	2.5E+00	2.5E+01	8E-02	8E-03
Copper	Cactus Wren	--	5.5E+01	--	9.9E+00	6.5E+01	4.1E+00	1.2E+01	2E+01	5E+00
Lead	Cactus Wren	--	2.7E+01	--	1.1E+01	3.8E+01	1.6E+00	3.3E+00	2E+01	1E+01
Mercury	Cactus Wren	--	1.4E-01	--	8.7E-03	1.4E-01	3.9E-02	1.8E-01	4E+00	8E-01
Zinc	Cactus Wren	--	1.6E+02	--	2.0E+01	1.8E+02	6.6E+01	1.7E+02	3E+00	1E+00
Volatile Organic Compounds										
Bromomethane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	2.2E+00	--	6.6E-02	2.2E+00	2.3E+01	2.3E+02	1E-01	1E-02
PAH High molecular weight	Cactus Wren	--	1.5E+01	--	5.4E-01	1.6E+01	1.0E+01	1.0E+02	2E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.2E-02	--	8.4E-04	1.3E-02	9.0E-02	1.3E+00	1E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.5E+02	--	2.0E+00	1.5E+02	1.4E+01	1.4E+02	1E+01	1E+00
TEQ Mammals	Cactus Wren	--	1.5E+02	--	2.0E+00	1.5E+02	--	--	--	--
Inorganics										
Antimony	Desert Shrew	--	--	--	--	0.0E+00	5.9E-02	5.9E-01	--	--
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	7.7E-01	7.7E+00	4E+00	4E-01
Chromium, hexavalent	Desert Shrew	--	1.7E-01	--	1.1E-02	1.8E-01	9.2E+00	3.8E+01	2E-02	5E-03
Copper	Desert Shrew	--	6.1E+01	--	2.4E+00	6.3E+01	9.4E+00	1.6E+01	7E+00	4E+00
Lead	Desert Shrew	--	3.0E+01	--	2.6E+00	3.2E+01	4.7E+00	8.9E+00	7E+00	4E+00
Mercury	Desert Shrew	--	1.5E-01	--	2.1E-03	1.5E-01	2.5E-01	4.0E+00	6E-01	4E-02
Zinc	Desert Shrew	--	1.8E+02	--	4.9E+00	1.8E+02	7.5E+01	3.0E+02	2E+00	6E-01
Volatile Organic Compounds										
Bromomethane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Chloro methane	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.4E+00	--	1.6E-02	2.4E+00	6.6E+01	3.3E+02	4E-02	7E-03
PAH High molecular weight	Desert Shrew	--	1.7E+01	--	1.3E-01	1.7E+01	6.2E-01	3.1E+00	3E+01	5E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.4E-02	--	2.0E-04	1.4E-02	3.6E-01	1.3E+00	4E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.6E+02	--	4.9E-01	1.6E+02	--	--	--	--
TEQ Mammals	Desert Shrew	--	1.6E+02	--	4.9E-01	1.6E+02	1.0E+00	1.0E+01	2E+02	2E+01

Table AOC27-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Antimony	Merriam's Kangaroo Rat	2.3E+00	100% Plants	2.4E-02	8.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Cadmium	Merriam's Kangaroo Rat	2.9E+00	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, hexavalent	Merriam's Kangaroo Rat	3.1E+00	100% Plants	2.4E-02	1.3E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	7.2E+02	100% Plants	2.4E-02	2.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	6.3E+02	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	5.9E-01	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.2E+03	100% Plants	2.4E-02	2.5E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds									
Bromomethane	Merriam's Kangaroo Rat	2.6E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chloro methane	Merriam's Kangaroo Rat	1.1E-02	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.9E+00	100% Plants	2.4E-02	4.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	3.2E+01	100% Plants	2.4E-02	4.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.9E-02	100% Plants	2.4E-02	4.9E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	1.7E+02	100% Plants	2.4E-02	9.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.5E+02	100% Plants	2.4E-02	8.5E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-D.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Antimony	Merriam's Kangaroo Rat	6.9E-03	--	--	4.4E-03	1.1E-02	5.9E-02	5.9E-01	2E-01	2E-02
Cadmium	Merriam's Kangaroo Rat	9.1E-02	--	--	5.7E-03	9.7E-02	7.7E-01	7.7E+00	1E-01	1E-02
Chromium, hexavalent	Merriam's Kangaroo Rat	1.1E-02	--	--	6.2E-03	1.7E-02	9.2E+00	3.8E+01	2E-03	4E-04
Copper	Merriam's Kangaroo Rat	2.1E+00	--	--	1.4E+00	3.6E+00	9.0E+00	1.5E+01	4E-01	2E-01
Lead	Merriam's Kangaroo Rat	8.1E-01	--	--	1.2E+00	2.1E+00	4.7E+00	8.9E+00	4E-01	2E-01
Mercury	Merriam's Kangaroo Rat	2.3E-02	--	--	1.2E-03	2.4E-02	2.5E-01	4.0E+00	1E-01	6E-03
Zinc	Merriam's Kangaroo Rat	2.0E+01	--	--	2.4E+00	2.3E+01	7.5E+01	3.0E+02	3E-01	8E-02
Volatile Organic Compounds										
Bromomethane	Merriam's Kangaroo Rat	0.0E+00	--	--	5.1E-05	5.1E-05	--	--	--	--
Chloro methane	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	--	--	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	4.1E-02	--	--	7.7E-03	4.8E-02	6.6E+01	3.3E+02	7E-04	1E-04
PAH High molecular weight	Merriam's Kangaroo Rat	3.9E-01	--	--	6.2E-02	4.6E-01	6.2E-01	3.1E+00	7E-01	1E-01
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	4.0E-05	--	--	9.7E-05	1.4E-04	3.6E-01	1.3E+00	4E-04	1E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	7.7E-02	--	--	3.3E-01	4.1E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	7.0E-02	--	--	3.0E-01	3.7E-01	1.0E+00	1.0E+01	4E-01	4E-02

See Notes and Abbreviations following Table AOC27-D.5.

Table AOC27-D.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Cadmium	Gambel's Quail	2.3E+00	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	5.8E+02	100% Plants	1.0E-01	2.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	6.3E+02	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Mercury	Gambel's Quail	5.1E-01	100% Plants	1.0E-01	2.8E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	1.2E+03	100% Plants	1.0E-01	2.5E+02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	4.9E-02	100% Plants	1.0E-01	4.9E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Cadmium	Cactus Wren	2.3E+00	100% Insects	9.3E-02	1.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	5.8E+02	100% Insects	9.3E-02	3.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	6.3E+02	100% Insects	9.3E-02	1.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Mercury	Cactus Wren	5.1E-01	100% Insects	9.3E-02	7.4E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	1.2E+03	100% Insects	9.3E-02	8.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	4.9E-02	100% Insects	9.3E-02	6.8E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Cadmium	Desert Shrew	2.3E+00	100% Insects	2.0E-02	1.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	5.8E+02	100% Insects	2.0E-02	3.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	6.3E+02	100% Insects	2.0E-02	1.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Mercury	Desert Shrew	5.1E-01	100% Insects	2.0E-02	7.4E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	1.2E+03	100% Insects	2.0E-02	8.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	3.9E+00	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	3.2E+01	100% Insects	2.0E-02	8.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	4.9E-02	100% Insects	2.0E-02	6.8E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Cadmium	Merriam's Kangaroo Rat	2.9E+00	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	7.2E+02	100% Plants	2.4E-02	2.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	6.3E+02	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Mercury	Merriam's Kangaroo Rat	5.9E-01	100% Plants	2.4E-02	2.8E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	1.2E+03	100% Plants	2.4E-02	2.5E+02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	3.9E+00	100% Plants	2.4E-02	4.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	3.2E+01	100% Plants	2.4E-02	4.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	4.9E-02	100% Plants	2.4E-02	4.9E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC27-D.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for AOC 27

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Cadmium	Gambel's Quail	4.3E-02	--	--	9.2E-03	5.2E-02	7.0E-01	1.0E+01	7E-02	5E-03
Copper	Gambel's Quail	1.0E+00	--	--	2.3E+00	3.3E+00	2.3E+00	5.2E+01	1E+00	6E-02
Lead	Gambel's Quail	3.8E-01	--	--	2.5E+00	2.9E+00	1.4E-02	8.8E+00	2E+02	3E-01
Mercury	Gambel's Quail	1.1E-02	--	--	2.0E-03	1.3E-02	3.9E-02	1.8E-01	3E-01	7E-02
Zinc	Gambel's Quail	9.4E+00	--	--	4.8E+00	1.4E+01	1.7E+01	1.7E+02	8E-01	8E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.9E-05	--	--	2.0E-04	2.1E-04	9.0E-02	1.3E+00	2E-03	2E-04
Inorganics										
Cadmium	Cactus Wren	--	2.9E+00	--	3.9E-02	3.0E+00	7.0E-01	1.0E+01	4E+00	3E-01
Copper	Cactus Wren	--	5.5E+01	--	9.9E+00	6.5E+01	2.3E+00	5.2E+01	3E+01	1E+00
Lead	Cactus Wren	--	2.7E+01	--	1.1E+01	3.8E+01	1.4E-02	8.8E+00	3E+03	4E+00
Mercury	Cactus Wren	--	1.4E-01	--	8.7E-03	1.4E-01	3.9E-02	1.8E-01	4E+00	8E-01
Zinc	Cactus Wren	--	1.6E+02	--	2.0E+01	1.8E+02	1.7E+01	1.7E+02	1E+01	1E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.2E-02	--	8.4E-04	1.3E-02	9.0E-02	1.3E+00	1E-01	1E-02
Inorganics										
Cadmium	Desert Shrew	--	3.3E+00	--	9.3E-03	3.3E+00	6.0E-02	2.6E+00	5E+01	1E+00
Copper	Desert Shrew	--	6.1E+01	--	2.4E+00	6.3E+01	2.7E+00	6.3E+02	2E+01	1E-01
Lead	Desert Shrew	--	3.0E+01	--	2.6E+00	3.2E+01	1.0E+00	2.4E+02	3E+01	1E-01
Mercury	Desert Shrew	--	1.5E-01	--	2.1E-03	1.5E-01	2.5E-01	4.0E+00	6E-01	4E-02
Zinc	Desert Shrew	--	1.8E+02	--	4.9E+00	1.8E+02	9.6E+00	4.1E+02	2E+01	4E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	2.4E+00	--	1.6E-02	2.4E+00	5.0E+01	1.5E+02	5E-02	2E-02
PAH High molecular weight	Desert Shrew	--	1.7E+01	--	1.3E-01	1.7E+01	1.3E+00	3.3E+01	1E+01	5E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.4E-02	--	2.0E-04	1.4E-02	3.6E-01	1.3E+00	4E-02	1E-02
Inorganics										
Cadmium	Merriam's Kangaroo Rat	9.1E-02	--	--	5.7E-03	9.7E-02	6.0E-02	2.6E+00	2E+00	4E-02
Copper	Merriam's Kangaroo Rat	2.1E+00	--	--	1.4E+00	3.6E+00	2.7E+00	6.3E+02	1E+00	6E-03
Lead	Merriam's Kangaroo Rat	8.1E-01	--	--	1.2E+00	2.1E+00	1.0E+00	2.4E+02	2E+00	9E-03
Mercury	Merriam's Kangaroo Rat	2.3E-02	--	--	1.2E-03	2.4E-02	2.5E-01	4.0E+00	1E-01	6E-03
Zinc	Merriam's Kangaroo Rat	2.0E+01	--	--	2.4E+00	2.3E+01	9.6E+00	4.1E+02	2E+00	5E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	4.1E-02	--	--	7.7E-03	4.8E-02	5.0E+01	1.5E+02	1E-03	3E-04
PAH High molecular weight	Merriam's Kangaroo Rat	3.9E-01	--	--	6.2E-02	4.6E-01	1.3E+00	3.3E+01	3E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	4.0E-05	--	--	9.7E-05	1.4E-04	3.6E-01	1.3E+00	4E-04	1E-04

See Notes and Abbreviations following Table AOC27-D.5.

Table AOC27-D Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times \text{SIR}) + (C_{\text{plants}} \times \text{FIR} \times F_{\text{plants}}) + (C_{\text{insects}} \times \text{FIR} \times F_{\text{insects}}) + (C_{\text{mammals}} \times \text{FIR} \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.

Appendix AOC28

Soil HHERA for AOC 28 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC28 SOIL HHERA FOR AOC 28 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes, creating a complex, angular form that extends towards the bottom right edge.

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SOIL HHRA FOR AOC 28 EXPOSURE AREA

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AOC28-4.2c	Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers: COPCs in AOC 28 Subsurface I Soil (0 to 6 feet bgs)
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APPENDIX AOC28
SOIL HHERA FOR AOC 28 EXPOSURE AREA

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FIGURE

AOC28-1.1	Soil Sampling Locations AOC 28 Exposure Area
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ATTACHMENTS

- A Dataset and Exposure Point Concentration Calculations for the AOC 28 HHERA
- B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 28 Using Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

AOC	area of concern
Arcadis	Arcadis U.S., Inc.
B(a)PEQ	benzo(a)pyrene equivalent
BCW	Bat Cave Wash
bgs	below ground surface
BTEX	benzene, ethylbenzene, toluene, xylenes
CDI	chronic daily intake
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
LMW	low molecular weight
main report	Soil Human Health and Ecological Risk Assessment Report
mg/kg	milligram per kilogram
NA	not applicable
OCS	outside the compressor station
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl

APPENDIX AOC28
SOIL HHERA FOR AOC 28 EXPOSURE AREA

PG&E	Pacific Gas and Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
SWMU	solid waste management unit
T&E	threatened and endangered
TCS	Topock Compressor Station
TPH	total petroleum hydrocarbons
TRV	toxicity reference value
UA	undesignated area
VOC	volatile organic compound

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern 28a,b,c (AOC 28) potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 28 potential exposure area, shown on Figure AOC28-1.1, is approximately 0.04 acre and includes sample locations shown in Table AOC28-1.1 of this appendix. Available soil data from the AOC 28 potential exposure area were used to conduct a quantitative HHERA as presented herein. A summary of the human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are presented in Sections 5 and 6, respectively of the Soil Human Health and Ecological Risk Assessment Report (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the AOC 28 potential exposure area and the HHERA methodologies are provided in the main report and the Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways and the results of the HHERA risk characterization for soil in the AOC 28 potential exposure area. Tables and figures specific to the AOC 28 potential exposure area HHERA are also presented in this appendix.

1.1 Summary of Site Use

AOC 28, also referred to as the Pipeline Drip Legs Area, consists of four drip legs associated with 300A and 300B pipelines (Figure 2-1a in main report). Three of these legs are located east of the TCS, and a drip leg for the 300B pipeline is downstream of the TCS in Bat Cave Wash (BCW). A drip leg is designed to collect pipeline liquids by gravity. Each drip leg is connected to a valve used to drain the pipeline liquids to a portable tank. AOC 28 is located on Pacific Gas and Electric Company (PG&E) and Havasu National Wildlife Refuge property.

The 300A pipeline drip legs AOC 28a and AOC 28b, were installed in the early 1950s. The drip leg associated with AOC 28c: 300B Pipeline Drip East of Compressor Station was installed the mid-1950s. The drip leg associated with AOC 28d: 300B Drip in BCW was installed in the late 1990s. The 300B dog-leg drip was formerly connected to the 300B Pipeline Liquids Tank, which was investigated separately as Undesignated Area (UA) 2.

All drip legs are currently drained to portable tanks on a monthly basis. A historical procedure for draining pipeline drips confirms this frequency (PG&E 1989) is consistent with past practices. It is possible that some spillage could occur or may have historically occurred during the transfer process. All potential releases at the drip legs would be surface releases, and the releases would be confined to a very small area in the immediate vicinity of the drip legs. If released, volatile organic compounds (VOCs) in surface soil would be expected to have been degraded by heat and light and are likely no longer present. Therefore, surface soil is the primary source medium.

APPENDIX AOC28
SOIL HHERA FOR AOC 28 EXPOSURE AREA

Since the early 1980s, PG&E has been conducting annual polychlorinated biphenyl (PCB) testing on the collected pipeline liquids from the incoming 300A and 300B transmission pipelines. No PCBs have been detected (at detection limits ranging from 0.005 to 5 milligram per kilogram [mg/kg]) coming into the compressor station through those pipelines. After PG&E discovered the presence of PCBs in some pipeline liquids from Transwestern at Topock in the late 1990s, PG&E installed protective equipment and cleaned portions of the pipeline system to remove PCB contamination. Subsequently, PG&E implemented a monthly PCB monitoring program along the entire downstream Line 300 gas pipeline system. Since the initiation of this testing protocol, only low levels of PCBs have been detected in the downstream pipelines.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 28 potential exposure area HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 28 potential exposure area.

All soil sampling locations at the AOC 28 potential exposure area are presented on Figure AOC28-1.1 and in Table AOC28-1.1. The data were evaluated based on the methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report Volume 3 being prepared by Jacobs.

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. All available soil data for the AOC 28 potential exposure area are presented in Attachment AOC28-A1. For the AOC 28 potential exposure area, soil data are available from 14 samples collected from 0 to 10 feet (ft) below ground surface (bgs) and all of them were considered for use in the HHERA as potential soil contact does not extend below 10 ft (Table AOC28-1.1). Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo(a)pyrene equivalent [B(a)PEQ], and PCBs) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 28 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 28 potential exposure area), presented in Attachment AOC28-A1. Only two metals (molybdenum and zinc) were above background levels in the AOC 28 potential exposure area soil. However, these constituents were analyzed only in deeper soil (i.e., greater than 6 ft bgs) and, therefore, are included as COPCs in the subsurface I soil baseline scenario evaluated in the HHRA, but not as COPECs for the ERA.

B(a)PEQ was within the range of background; therefore, B(a)PEQ and associated carcinogenic PAHs (i.e., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, chrysene, and indeno[1,2,3-cd]pyrene) were not selected as COPCs for the HHRA. HMW and LMW PAHs were within the range of background concentrations and were not selected as COPECs for the ERA.

All other detected organic constituents in the AOC 28 potential exposure area soil in the baseline exposure depths (see Section 3 of the main report) are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios (baseline) evaluated in the HHERA for the AOC 28 potential exposure area are summarized in Table AOC28-2.1a through AOC28-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 28 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 28 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC28-A2. The summary statistics for these AOC 28 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015).

Per the RAWP documents (Arcadis 2008, 2009, 2015), area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (i.e., cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to potential ecological receptors (i.e., hazard quotient [HQ] exceeds 1 for any COPEC). Area-weighted EPCs were not deemed necessary for the HHRA or the ERA and, therefore, were not calculated.

Soil summary statistics for constituents measured at the AOC 28 potential exposure area¹ and detected at least once and depth-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed above for the AOC 28 potential exposure area are presented in Table AOC28-3.1. Due to the small dataset sizes for the surface, shallow, subsurface I, and subsurface II soil datasets in the AOC 28 potential exposure area (i.e., insufficient data to calculate upper confidence limits on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

¹ The list of constituents shown in the main report Section 3 tables is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) and measured at the AOC 28 potential exposure area.

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 28 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the AOC 28 potential exposure area are presented in Attachment AOC28-B.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like AOC 28 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/solid waste management unit (SWMU)/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in the AOC 28 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for potential receptors potentially exposed to COPCs in soil present at the AOC 28 potential exposure area. The potential receptors and exposure pathways evaluated for the AOC 28 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and off-highway vehicle [OHV] rider)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 28 potential exposure area were selected in accordance with the RAWP documents (Arcadis 2008, 2009, 2015) and as described in Section 3.4 of the main report. Data used in the COPC selection process are presented in Attachment AOC28-A1. COPCs for the four exposure depths and one scenario (baseline) evaluated for the AOC 28 potential exposure area HHRA are summarized in Table AOC28-4.1 (details are presented in Tables AOC28-2.1a through AOC28-2.1d).

COPCs included two metals (molybdenum and zinc), PAHs, total petroleum hydrocarbon (TPH) as diesel, and TPH as motor oil in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC28-A2. Depth-weighted EPCs for COPCs in soil and predicted outdoor air concentrations used to estimate risk in the HHRA are summarized in Tables AOC28-4.2a through AOC28-4.2h for the four exposure depths in the baseline scenario. Tables are presented for each potential receptor type with the EPCs for soil depths relevant to that potential receptor.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Workers** – surface, shallow, subsurface I, and subsurface II soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and OHV rider)** – surface and shallow soil
- **Tribal Users** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values are presented in Tables AOC28-B.1a through AOC28-B.1h (carcinogenic effects) and Tables AOC28-B.2a through AOC28-B.2g (noncarcinogenic effects) in Attachment AOC28-B for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015).

Consistent with regulatory risk assessment policy, adverse health effects resulting from chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to the California Department of Toxic Substances (DTSC) guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the AOC 28 potential exposure area, the incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} ; risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks with between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (United States Environmental Protection Agency 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC28-4.3 summarizes cumulative ILCRs and HIs estimated using depth-weighted EPCs for potential exposure to soil for each potential human receptor evaluated at the AOC 28 potential exposure area in the baseline scenario. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC28-B.3a through AOC28B.3g) and noncancer hazard calculations (Tables AOC28-B.4a through AOC28-B.4g) are presented in Attachment AOC28-B.

Risk and hazard estimates for the AOC 28 potential exposure area are summarized in the tables below. Assuming that lifetime soil contact is limited to the AOC 28 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for each potential receptor potentially exposed to COPCs in AOC 28 potential exposure area soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively.

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
	Surface	2E-11	NA	0.03	NA
	Shallow	2E-11	NA	0.03	NA

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Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Subsurface I	2E-11	NA	0.03	NA
	Subsurface II	2E-11	NA	0.04	NA
Long-Term Maintenance Worker	Surface	2E-10	NA	0.004	NA
	Shallow	2E-10	NA	0.004	NA
	Subsurface I	1E-10	NA	0.004	NA
	Subsurface II	2E-10	NA	0.004	NA

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.
NA = not applicable

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	5E-11	NA	0.005	NA
	Shallow	5E-11	NA	0.005	NA
Hiker	Surface	1E-10	NA	0.01	NA
	Shallow	1E-10	NA	0.01	NA
Hunter	Surface	3E-11	NA	0.004	NA
	Shallow	3E-11	NA	0.004	NA
OHV Rider	Surface	1E-10	NA	0.002	NA
	Shallow	1E-10	NA	0.002	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	4E-12	NA	0.0003	NA
	Shallow	4E-12	NA	0.0003	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

4.6.2 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 28 potential exposure area are discussed below.

Uncertainties for the AOC 28 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC 28-3.1. As stated in Section 3, due to the small dataset sizes for the surface, shallow, subsurface I, and subsurface II soil datasets in the AOC 28 potential exposure area (i.e., insufficient data to calculate upper confidence limits on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs may not appropriately represent exposures and resulting risks/hazards for the short- and long-term maintenance workers, recreational users, and tribe user evaluated in the AOC 28 potential exposure area HHRA.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach and presents the COPECs selected for the ERA. TPHs were the only COPECs selected for soil in the depth intervals contacted by potential ecological receptors (0 to 6 ft bgs). Because TPHs are evaluated using indicator compounds (as described below in Section 5.2), EPCs and dose and risk calculations for the AOC 28 potential exposure area were not necessary. Details of the overall ERA approach are presented in Section 6 of the main report.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil at the AOC 28 potential exposure area. These potential receptors included plants, invertebrates, and small home-range receptors:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammalian indicator receptors evaluated in this ERA for the AOC 28 potential exposure area were:
 - **Merriam's Kangaroo Rat**– representative of granivorous small mammal populations exposed to surface, shallow, and/or subsurface I soil (incidental and through biota uptake)
 - **Desert Shrew**– representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the AOC 28 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations exposed only to surface soil (incidental and through biota uptake)
 - **Gambel's Quail** – representative of granivorous bird populations exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Potential large home-range receptors (i.e., desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the AOC 28 potential exposure area were estimated and characterized as part of the evaluation of all AOCs outside the compressor station (OCS) and all AOCs outside the compressor station excluding BCW+AOC4

(OCSxBCW+AOC4); please see Appendix OCS and Appendix OCSxBCW+AOC4 for risk characterization for these large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Potential habitat exists for special-status² species at or near the site but none have been observed at the AOC 28 potential exposure area. The primary vegetation present at the AOC 28 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed T&E plants or candidates for listing were found at the site, including the AOC 28 potential exposure area.

Several species of mammals and birds have been observed at or near the site (see Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E species or candidates for listing were observed at the AOC 28 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA, where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical potential receptors at the site within that group, use of no-effects-based toxicity values) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 28 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 28 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC28-A1.

Because a potential ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario. Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate) are not typically evaluated in ERAs and were not selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC28-5.1.

COPECs included only TPH as diesel and TPH as motor oil, which were detected in all three exposure depths. Hexavalent chromium was the only inorganic constituent measured in soil in the 0- to 6-ft bgs depth interval, and concentrations were below background threshold values. Individual organic compounds were either not detected or were below background threshold values.

² Special-status species include both state- and federal-listed fully protected threatened and endangered (T&E) species, state/federal species of concern, and traditional culturally significant plants; however, protection at the no-observed adverse effects level is warranted only for fully protected species.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix.

For the AOC 28 potential exposure area, risks to potential ecological receptors were evaluated using indicator chemicals for TPHs using depth-weighted data and EPCs based on the maximum depth-weighted concentrations, as summarized in Table AOC28-3.1. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC28-A2.

5.4 Ecological Risk Characterization for TPHs

The risk characterization typically integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both those efforts. Appropriate screening values and toxicity reference values (TRVs) are not available for TPH mixtures. Therefore, indicator chemicals (i.e., benzene, toluene, ethylbenzene, and xylenes [BTEX], and LMW and HMW PAHs), if detected, are typically used to characterize potential risk for TPHs. At the AOC 28 potential exposure area, BTEX were not detected in any samples (Attachment AOC28-A1) and LMW and HMW PAHs were detected but not selected as COPECs as they are below background. Consequently, no quantitative HQ estimates were calculated. No unacceptable risk to plant and invertebrate communities or to populations of or individual potential wildlife receptors from exposure to TPHs at the AOC 28 potential exposure area is expected.

The lack of screening values and TRVs and the impact to the uncertainties for the ERA are discussed in Section 6 of the main report.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for potential human receptors were estimated, as presented above in Section 4. For potential ecological receptors, the absence of potential risks are discussed in Section 5. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Sections 5.6 and 6.7 of the main report, and uncertainties specific to the AOC 28 potential exposure area are discussed in this appendix. For the AOC 28 potential exposure area, the HHRA and ERA presented above were conducted per methodology presented in the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline [no scouring]) was evaluated. Risks were estimated for various potential receptors using depth-weighted EPCs, which were based on the maximum depth-weighted concentrations due to the small sample sizes for this exposure area.

At the AOC 28 potential exposure area, the COPCs identified for the HHRA include metals (molybdenum and zinc), PAHs, TPH as diesel, and TPH as motor oil. For the ERA, except for hexavalent chromium, metals were not analyzed in soil samples collected from depths included in the ERA (0 to 6 ft bgs). Hexavalent chromium was not detected in soil samples collected from 0 to 6 ft bgs; therefore, only TPH mixtures were selected as COPECs for the ERA.

A summary of the results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the AOC 28 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process is presented in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HI associated with potential exposure to COPCs in soil at the AOC 28 potential exposure area using depth-weighted EPCs under the baseline scenario were estimated. Assuming lifetime soil contact is limited to the AOC 28 potential exposure area for the receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-Wt	Depth-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1
Long-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 28 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-Wt	Depth-Wt
Camper	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Hiker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Hunter	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
OHV Rider	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1

Note:

wt = weighted

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated, including Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User
- **ILCR $\leq 1 \times 10^{-6}$ all soil depths** – All potential receptors evaluated, including: Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the AOC 28 potential exposure area, the estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 28 potential exposure area using depth-weighted EPCs for all receptors, that is the short- and long-term maintenance workers, recreational users, and tribal user are below 1×10^{-6} and 1, respectively.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area like AOC 28 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential

health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in AOC 28 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 28 potential exposure area, only TPH as diesel and TPH as motor oil were identified as COPECs for the ERA. Although molybdenum and zinc are also identified as COPECs for the AOC 28 potential exposure area, they were detected in soil deeper than 6 ft bgs (not in the exposure depths relevant for potential ecological receptors).

Appropriate screening values and TRVs are not available for TPHs; therefore, indicator chemicals (e.g. BTEX and PAHs if detected and above background) were used to characterize TPH risks. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7 of the main report.

Risks were estimated using depth-weighted EPCs for indicator chemicals. A summary of the risk results for TPHs are presented in Table AOC28-6.1. The depth-weighted EPCs are based on the maximum depth-weighted concentration due to the small samples sizes for this exposure area. Conclusions for the baseline scenario evaluations are as follows:

- Potential risk to all potential ecological receptors is expected to be *de minimis* from exposure to TPHs in soil at the AOC 28 potential exposure area. BTEX were not detected in any samples (Attachment AOC28-A1) and LMW and HMW PAHs were not selected as COPECs, as concentrations are less than the background.
- No T&E small home-range potential wildlife receptors have been observed in the AOC 28 potential exposure area. Concentrations of COPECs at the AOC 28 potential exposure area do not pose unacceptable risk to potential individual receptors.

Based on the results of the ERA, potential exposures to COPECs in soil at the AOC 28 potential exposure area are not expected to pose unacceptable risk to ecological receptors.

6.2.1 Potential Risk Drivers for the AOC 28 Exposure Area

As presented in Table AOC28-6.1 and summarized in the table below, no risk drivers were identified for the AOC 28 potential exposure area, COPECs were limited to TPHs, and indicator chemicals for TPHs were either not detected or below background levels. Therefore, potential HQs for TPHs are expected to be less than 1 for all potential receptors.

Scenario	Potential Receptors and Risk Drivers at the AOC 28 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's kangaroo rat)	Invertivorous Mammals (desert shrew)	Granivorous Birds (Gambel's quail)	Insectivorous Birds (cactus wren)
Baseline	None	None	None	None	None	None

7 REFERENCES

Arcadis. 2008. Human Health and Ecological Risk Assessment Work Plan (RAWP), Topock Compressor Station, Needles, California. August.

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DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. California Environmental Protection Agency, Department of Toxic Substances Control. October.

PG&E 1989. Procedure for Draining Line Drips, Line 300A & 300B, Needles District. October 11.

United States Environmental Protection Agency. 1989. Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part A). Interim Final. Office of Emergency and Remedial Response. EPA-540/1-89/002. Washington, DC. December.

TABLES



Table AOC28-1.1
Samples and Sampling Locations Included in the AOC 28 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
300a-09-1000	04/06/11	AOC28-OS1	0	0.5	0.5	0-0.5	--
300a-09-1001	04/06/11	AOC28-OS1	2.5	3	3	0-03	--
300a-09-1002	04/06/11	AOC28-OS1	5.5	6	6	0-06	--
300a-09-1003	04/06/11	AOC28-OS1	9	9.5	9.5	0-10	--
300b-17-1070	04/06/11	AOC28-OS2	0	0.5	0.5	0-0.5	--
300b-17-1071	04/06/11	AOC28-OS2	2.5	3	3	0-03	--
300b-17-1072	04/06/11	AOC28-OS2	5.5	6	6	0-06	--
300b-17-1073	04/06/11	AOC28-OS2	8.5	9	9	0-10	--
AOC28a-01-34000	12/17/15	AOC28a-01	0	0.5	0.5	0-0.5	--
AOC28a-01-34001	12/17/15	AOC28a-01	2	3	3	0-03	--
AOC28a-01-34002	12/17/15	AOC28a-01	2	3	3	0-03	--
AOC28b-01-34003	12/17/15	AOC28b-01	0	0.5	0.5	0-0.5	--
AOC28c-01-34004	12/17/15	AOC28c-01	0	0.5	0.5	0-0.5	--
AOC28c-01-34005	12/17/15	AOC28c-01	2	3	3	0-03	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

Table AOC28-2.1a

Chemicals Included in the Risk Assessment: AOC 28 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 1	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 1	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 1	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 1	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 1	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 1	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	5 / 5	0 - 167	ug/kg	No	Within Background
PAH Low molecular weight	5 / 5	0 - 7.8	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 5	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 5	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 5	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 5	ND	ug/kg	No	Not Detected
Anthracene	0 / 5	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^b	1 / 5	8.5	ug/kg	No	Within Background
Benzo (a) pyrene ^b	1 / 5	15	ug/kg	No	Within Background
Benzo (b) fluoranthene ^b	3 / 5	6.0 - 38	ug/kg	No	Within Background
Benzo (ghi) perylene	0 / 5	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^b	1 / 5	13	ug/kg	No	Within Background
Chrysene ^b	1 / 5	19	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^b	0 / 5	ND	ug/kg	No	Not Detected
Fluoranthene	2 / 5	5.2 - 37	ug/kg	Yes	Detected
Fluorene	0 / 5	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^b	0 / 5	ND	ug/kg	No	Not Detected
Naphthalene	1 / 5	5.7	ug/kg	Yes	Detected
Phenanthrene	1 / 5	7.8	ug/kg	Yes	Detected

Table AOC28-2.1a

Chemicals Included in the Risk Assessment: AOC 28 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Pyrene	1 / 5	36	ug/kg	Yes	Detected
B(a)P Equivalent ^c	3 / 5	6.5 - 23	ug/kg	No	Within Background
Pesticides					
Pentachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^d	0 / 5	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 5	32 - 50	mg/kg	Yes	Detected
TPH as motor oil	4 / 5	53 - 410	mg/kg	Yes	Detected

Table AOC28-2.1a

Chemicals Included in the Risk Assessment: AOC 28 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^c Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^d Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC28-2.1b

Chemicals Included in the Risk Assessment: AOC 28 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Chromium, Hexavalent	0 / 1	ND	mg/kg	No	Not Detected
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 2	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 2	ND	ug/kg	No	Not Detected
Acetone	0 / 2	ND	ug/kg	No	Not Detected
Acrolein	0 / 2	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 2	ND	ug/kg	No	Not Detected

Table AOC28-2.1b

Chemicals Included in the Risk Assessment: AOC 28 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzene	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 2	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 2	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 2	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 2	ND	ug/kg	No	Not Detected
Bromoform	0 / 2	ND	ug/kg	No	Not Detected
Bromomethane	0 / 2	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 2	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 2	ND	ug/kg	No	Not Detected
Chloro methane	0 / 2	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
Chloroethane	0 / 2	ND	ug/kg	No	Not Detected
Chloroform	0 / 2	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 2	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 2	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 2	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 3	ND	ug/kg	No	Not Detected
Isophorone	0 / 2	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 2	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 2	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 2	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 2	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 2	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 2	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected

Table AOC28-2.1b

Chemicals Included in the Risk Assessment: AOC 28 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Styrene	0 / 2	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 2	ND	ug/kg	No	Not Detected
Toluene	0 / 2	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 2	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 2	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 2	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 2	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	9 / 9	0 - 167	ug/kg	No	Within Background
PAH Low molecular weight	9 / 9	0 - 7.8	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 9	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 9	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 9	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 9	ND	ug/kg	No	Not Detected
Anthracene	0 / 9	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^b	1 / 9	8.5	ug/kg	No	Within Background
Benzo (a) pyrene ^b	1 / 9	15	ug/kg	No	Within Background
Benzo (b) fluoranthene ^b	4 / 9	6.0 - 38	ug/kg	No	Within Background
Benzo (ghi) perylene	0 / 9	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^b	1 / 9	13	ug/kg	No	Within Background
Chrysene ^b	1 / 9	19	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^b	0 / 9	ND	ug/kg	No	Not Detected
Fluoranthene	3 / 9	5.2 - 37	ug/kg	Yes	Detected
Fluorene	0 / 9	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^b	0 / 9	ND	ug/kg	No	Not Detected
Naphthalene	1 / 9	5.7	ug/kg	Yes	Detected
Phenanthrene	1 / 9	7.8	ug/kg	Yes	Detected
Pyrene	2 / 9	6.8 - 36	ug/kg	Yes	Detected

Table AOC28-2.1b

Chemicals Included in the Risk Assessment: AOC 28 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
B(a)P Equivalent ^c	4 / 9	6.2 - 23	ug/kg	No	Within Background
Pesticides					
Pentachlorophenol	0 / 4	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^d	0 / 9	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	5 / 9	16 - 50	mg/kg	Yes	Detected
TPH as gasoline	0 / 4	ND	mg/kg	No	Not Detected
TPH as motor oil	8 / 9	15 - 410	mg/kg	Yes	Detected

Table AOC28-2.1b

Chemicals Included in the Risk Assessment: AOC 28 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^c Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^d Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC28-2.1c

Chemicals Included in the Risk Assessment: AOC 28 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Chromium, Hexavalent	0 / 1	ND	mg/kg	No	Not Detected
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 4	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 4	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 4	ND	ug/kg	No	Not Detected
Acetone	0 / 4	ND	ug/kg	No	Not Detected
Acrolein	0 / 4	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 4	ND	ug/kg	No	Not Detected

Table AOC28-2.1c

Chemicals Included in the Risk Assessment: AOC 28 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzene	0 / 4	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 3	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 3	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 4	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 4	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 4	ND	ug/kg	No	Not Detected
Bromoform	0 / 4	ND	ug/kg	No	Not Detected
Bromomethane	0 / 4	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 4	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 4	ND	ug/kg	No	Not Detected
Chloro methane	0 / 4	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
Chloroethane	0 / 4	ND	ug/kg	No	Not Detected
Chloroform	0 / 4	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 4	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 4	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 4	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 4	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 5	ND	ug/kg	No	Not Detected
Isophorone	0 / 3	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 4	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 4	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 4	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 4	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 3	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 4	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 4	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected

Table AOC28-2.1c

Chemicals Included in the Risk Assessment: AOC 28 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Styrene	0 / 4	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 4	ND	ug/kg	No	Not Detected
Toluene	0 / 4	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 4	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 4	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 4	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 4	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	11 / 11	0 - 167	ug/kg	No	Within Background
PAH Low molecular weight	11 / 11	0 - 7.8	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 11	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 11	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 11	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 11	ND	ug/kg	No	Not Detected
Anthracene	0 / 11	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^b	1 / 11	8.5	ug/kg	No	Within Background
Benzo (a) pyrene ^b	1 / 11	15	ug/kg	No	Within Background
Benzo (b) fluoranthene ^b	4 / 11	6.0 - 38	ug/kg	No	Within Background
Benzo (ghi) perylene	0 / 11	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^b	1 / 11	13	ug/kg	No	Within Background
Chrysene ^b	1 / 11	19	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^b	0 / 11	ND	ug/kg	No	Not Detected
Fluoranthene	3 / 11	5.2 - 37	ug/kg	Yes	Detected
Fluorene	0 / 11	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^b	0 / 11	ND	ug/kg	No	Not Detected
Naphthalene	1 / 11	5.7	ug/kg	Yes	Detected
Phenanthrene	1 / 11	7.8	ug/kg	Yes	Detected
Pyrene	2 / 11	6.8 - 36	ug/kg	Yes	Detected

Table AOC28-2.1c

Chemicals Included in the Risk Assessment: AOC 28 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
B(a)P Equivalent ^c	4 / 11	6.2 - 23	ug/kg	No	Within Background
Pesticides					
Pentachlorophenol	0 / 6	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^d	0 / 11	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	6 / 11	16 - 50	mg/kg	Yes	Detected
TPH as gasoline	0 / 6	ND	mg/kg	No	Not Detected
TPH as motor oil	9 / 11	15 - 410	mg/kg	Yes	Detected

Table AOC28-2.1c

Chemicals Included in the Risk Assessment: AOC 28 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^c Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^d Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC28-2.1d

Chemicals Included in the Risk Assessment: AOC 28 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Antimony	0 / 1	ND	mg/kg	No	Not Detected
Arsenic	1 / 1	9.3	mg/kg	No	Within Background
Barium	1 / 1	240	mg/kg	No	Within Background
Beryllium	0 / 1	ND	mg/kg	No	Not Detected
Cadmium	0 / 1	ND	mg/kg	No	Not Detected
Chromium, Hexavalent	0 / 3	ND	mg/kg	No	Not Detected
Chromium, total	2 / 2	17 - 24	mg/kg	No	Within Background
Cobalt	1 / 1	9.1	mg/kg	No	Within Background
Copper	0 / 1	ND	mg/kg	No	Not Detected
Lead	1 / 1	7.2	mg/kg	No	Within Background
Mercury (inorganic)	0 / 1	ND	mg/kg	No	Not Detected
Molybdenum	2 / 2	3.7 - 5.0	mg/kg	Yes	Above Background
Nickel	1 / 1	17	mg/kg	No	Within Background
Selenium	0 / 1	ND	mg/kg	No	Not Detected
Silver	0 / 1	ND	mg/kg	No	Not Detected
Thallium	0 / 1	ND	mg/kg	No	Not Detected
Vanadium	1 / 1	45	mg/kg	No	Within Background
Zinc	1 / 1	70	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected

Table AOC28-2.1d

Chemicals Included in the Risk Assessment: AOC 28 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,2-Dibromo-3-chloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 4	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 4	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 6	ND	ug/kg	No	Not Detected
Acetone	0 / 6	ND	ug/kg	No	Not Detected
Acrolein	0 / 6	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 6	ND	ug/kg	No	Not Detected
Benzene	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 4	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 4	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 6	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromoform	0 / 6	ND	ug/kg	No	Not Detected
Bromomethane	0 / 6	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 6	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 6	ND	ug/kg	No	Not Detected
Chloro methane	0 / 6	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Chloroethane	0 / 6	ND	ug/kg	No	Not Detected
Chloroform	0 / 6	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected

Table AOC28-2.1d

Chemicals Included in the Risk Assessment: AOC 28 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
cis-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 6	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 6	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 7	ND	ug/kg	No	Not Detected
Isophorone	0 / 4	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 6	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 6	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 4	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 6	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Styrene	0 / 6	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 6	ND	ug/kg	No	Not Detected
Toluene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 6	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 6	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 6	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 6	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	13 / 13	0 - 167	ug/kg	No	Within Background
PAH Low molecular weight	13 / 13	0 - 7.8	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 13	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 13	ND	ug/kg	No	Not Detected

Table AOC28-2.1d

Chemicals Included in the Risk Assessment: AOC 28 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Acenaphthene	0 / 13	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 13	ND	ug/kg	No	Not Detected
Anthracene	0 / 13	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^b	2 / 13	8.5 - 8.8	ug/kg	No	Within Background
Benzo (a) pyrene ^b	1 / 13	15	ug/kg	No	Within Background
Benzo (b) fluoranthene ^b	4 / 13	6.0 - 38	ug/kg	No	Within Background
Benzo (ghi) perylene	0 / 13	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^b	1 / 13	13	ug/kg	No	Within Background
Chrysene ^b	2 / 13	19 - 37	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^b	0 / 13	ND	ug/kg	No	Not Detected
Fluoranthene	3 / 13	5.2 - 37	ug/kg	Yes	Detected
Fluorene	0 / 13	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^b	0 / 13	ND	ug/kg	No	Not Detected
Naphthalene	1 / 13	5.7	ug/kg	Yes	Detected
Phenanthrene	1 / 13	7.8	ug/kg	Yes	Detected
Pyrene	3 / 13	6.8 - 36	ug/kg	Yes	Detected
B(a)P Equivalent ^c	5 / 13	6.2 - 23	ug/kg	No	Within Background
Pesticides					
Pentachlorophenol	0 / 8	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^d	0 / 13	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	8 / 13	12 - 160	mg/kg	Yes	Detected
TPH as gasoline	0 / 8	ND	mg/kg	No	Not Detected
TPH as motor oil	11 / 13	15 - 700	mg/kg	Yes	Detected

Table AOC28-2.1d

Chemicals Included in the Risk Assessment: AOC 28 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^c Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^d Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL	Depth-Weighted UCL Basis			
Soil Depth Interval: 0-0.5 ft bgs																		
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-0.5	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Butylbenzylphthalate	µg/kg	0-0.5	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Isophorone	µg/kg	0-0.5	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-0.5	2 / 5	40	5.7	7.8	0	0	6.75	2.7	6.75	2.205	1.485	--	--	--		
PAH high molecular weight	µg/kg	0-0.5	3 / 5	60	6	167	0	0	62.07	37.24	13.2	8271	90.95	--	--	--		
1-Methyl naphthalene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
2-Methyl naphthalene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.55	25	NA	NA	NA	NA	NA	--	--	--		
Acenaphthene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Acenaphthylene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Anthracene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Benzo (a) anthracene	µg/kg	0-0.5	1 / 5	20	8.5	8.5	2.5	2.6	8.5	3.7	8.5	NA	NA	X	8.5	Max Detect		
Benzo (a) pyrene	µg/kg	0-0.5	1 / 5	20	15	15	2.5	2.6	15	5	15	NA	NA	X	15	Max Detect		
Benzo (b) fluoranthene	µg/kg	0-0.5	3 / 5	60	6	38	2.5	2.55	17.33	11.4	8	321.3	17.93	X	38	Max Detect		
Benzo (ghi) perylene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Benzo (k) fluoranthene	µg/kg	0-0.5	1 / 5	20	13	13	2.5	2.6	13	4.6	13	NA	NA	X	13	Max Detect		
Chrysene	µg/kg	0-0.5	1 / 5	20	19	19	2.5	2.6	19	5.8	19	NA	NA	X	19	Max Detect		
Dibenzo (a,h) anthracene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Fluoranthene	µg/kg	0-0.5	2 / 5	40	5.2	37	2.5	2.55	21.1	9.94	21.1	505.6	22.49	X	37	Max Detect		
Fluorene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	25	NA	NA	NA	NA	NA	--	--	--		
Naphthalene	µg/kg	0-0.5	1 / 5	20	5.7	5.7	2.55	25	5.7	3.338	5.7	NA	NA	X	5.7	Max Detect		
Phenanthrene	µg/kg	0-0.5	1 / 5	20	7.8	7.8	2.5	2.6	7.8	3.56	7.8	NA	NA	X	7.8	Max Detect		
Pyrene	µg/kg	0-0.5	1 / 5	20	36	36	2.5	2.6	36	9.2	36	NA	NA	X	36	Max Detect		
B(a)P equivalent	µg/kg	0-0.5	3 / 5	60	6.5	23	5.8	5.9	12.63	9.9	8.4	81.5	9.028	--	--	--		
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-0.5	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--		
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	2 / 5	40	32	50	5	5	41	19.4	41	162	12.73	X	50	Max Detect		
TPH as motor oil	mg/kg	0-0.5	4 / 5	80	53	410	5	5	185.8	149.6	140	24099	155.2	X	410	Max Detect		
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Chromium, hexavalent	mg/kg	0-3	0 / 1	0	NA	NA	0.2	0.2	NA	NA	NA	NA	NA	--	--	--		
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL	Depth-Weighted UCL Basis			
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Acetone	µg/kg	0-3	0 / 2	0	NA	NA	33	41.5	NA	NA	NA	NA	NA	--	--	--		
Bromomethane	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Chloro methane	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Chloroform	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Ethyl- benzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Isopropylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Methyl ethyl ketone	µg/kg	0-3	0 / 2	0	NA	NA	33	41.5	NA	NA	NA	NA	NA	--	--	--		
Methylene chloride	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
N-Butylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
N-Propylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
sec-Butylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Toluene	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Xylene, m,p-	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Xylene, o-	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Xylenes, total	µg/kg	0-3	0 / 2	0	NA	NA	3.3	4.15	NA	NA	NA	NA	NA	--	--	--		
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-3	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Butylbenzylphthalate	µg/kg	0-3	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Di-n-butyl phthalate	µg/kg	0-3	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Isophorone	µg/kg	0-3	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-3	2 / 5	40	4.75	5.2	0	0	4.975	1.99	4.975	0.101	0.318	--	--	--		
PAH high molecular weight	µg/kg	0-3	3 / 5	60	5	118	0	0	43.93	26.36	8.8	4118	64.17	--	--	--		
1-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
2-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	25.1	NA	NA	NA	NA	NA	--	--	--		
Acenaphthene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Acenaphthylene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Benzo (a) anthracene	µg/kg	0-3	1 / 5	20	6.52	6.52	2.5	2.6	6.52	3.304	6.52	NA	NA	X	6.52	Max Detect		
Benzo (a) pyrene	µg/kg	0-3	1 / 5	20	10.9	10.9	2.5	2.6	10.9	4.18	10.9	NA	NA	X	10.9	Max Detect		
Benzo (b) fluoranthene	µg/kg	0-3	3 / 5	60	5.42	27.4	2.51	2.55	13.01	8.808	6.2	155.5	12.47	X	27.4	Max Detect		
Benzo (ghi) perylene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Benzo (k) fluoranthene	µg/kg	0-3	1 / 5	20	9.52	9.52	2.5	2.6	9.52	3.904	9.52	NA	NA	X	9.52	Max Detect		
Chrysene	µg/kg	0-3	1 / 5	20	13.5	13.5	2.5	2.6	13.5	4.7	13.5	NA	NA	X	13.5	Max Detect		
Dibenzo (a,h) anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		
Fluoranthene	µg/kg	0-3	2 / 5	40	4.33	27	2.5	2.55	15.67	7.766	15.67	257	16.03	X	27	Max Detect		
Fluorene	µg/kg	0-3	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--		

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets													COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL	Depth-Weighted UCL Basis			
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	0 / 5	0	NA	NA	2.51	21.3	NA	NA	NA	NA	NA	--	--	--		
Naphthalene	µg/kg	0-3	1 / 5	20	5.3	5.3	2.55	21.5	5.3	3.238	5.3	NA	NA	X	5.3	Max Detect		
Phenanthrene	µg/kg	0-3	1 / 5	20	6.05	6.05	2.5	2.6	6.05	3.21	6.05	NA	NA	X	6.05	Max Detect		
Pyrene	µg/kg	0-3	1 / 5	20	26.3	26.3	2.5	2.6	26.3	7.26	26.3	NA	NA	X	26.3	Max Detect		
B(a)P equivalent	µg/kg	0-3	3 / 5	60	6.33	17.4	5.82	5.9	10.57	8.668	7.97	35.69	5.974	--	--	--		
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-3	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--		
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-3	4 / 5	80	7	50	5	5	23.83	20.06	19.15	406	20.15	X	50	Max Detect		
TPH as gasoline	mg/kg	0-3	0 / 4	0	NA	NA	0.55	0.65	NA	NA	NA	NA	NA	--	--	--		
TPH as motor oil	mg/kg	0-3	5 / 5	100	10.3	410	NA	NA	149.3	149.3	128	24882	157.7	X	410	Max Detect		
Soil Depth Interval: 0-6 ft bgs																		
Inorganic Compounds																		
Chromium, hexavalent	mg/kg	0-6	0 / 1	0	NA	NA	0.2	0.2	NA	NA	NA	NA	NA	--	--	--		
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Acetone	µg/kg	0-6	0 / 2	0	NA	NA	33.5	40.9	NA	NA	NA	NA	NA	--	--	--		
Bromomethane	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Chloro methane	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Chloroform	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Ethyl- benzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Isopropylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Methyl ethyl ketone	µg/kg	0-6	0 / 2	0	NA	NA	33.5	40.9	NA	NA	NA	NA	NA	--	--	--		
Methylene chloride	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
N-Butylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
N-Propylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
sec-Butylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Toluene	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Xylene, m,p-	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Xylene, o-	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Xylenes, total	µg/kg	0-6	0 / 2	0	NA	NA	3.35	4.09	NA	NA	NA	NA	NA	--	--	--		
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-6	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Butylbenzylphthalate	µg/kg	0-6	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Di-n-butyl phthalate	µg/kg	0-6	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Isophorone	µg/kg	0-6	0 / 1	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--		
Polycyclic Aromatic Hydrocarbons																		

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
PAH low molecular weight	µg/kg	0-6	2 / 5	40	2.38	2.6	0	0	2.49	0.996	2.49	0.0242	0.156	--	--	--
PAH high molecular weight	µg/kg	0-6	3 / 5	60	2.5	69	0	0	25.3	15.18	4.4	1433	37.86	--	--	--
1-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.55	25.3	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-6	1 / 5	20	4.53	4.53	2.5	2.6	4.53	2.906	4.53	NA	NA	X	4.53	Max Detect
Benzo (a) pyrene	µg/kg	0-6	1 / 5	20	6.7	6.7	2.5	2.6	6.7	3.34	6.7	NA	NA	X	6.7	Max Detect
Benzo (b) fluoranthene	µg/kg	0-6	3 / 5	60	3.96	16.7	2.53	2.55	8.353	6.024	4.4	52.3	7.232	X	16.7	Max Detect
Benzo (ghi) perylene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Benzo (k) fluoranthene	µg/kg	0-6	1 / 5	20	6.03	6.03	2.5	2.6	6.03	3.206	6.03	NA	NA	X	6.03	Max Detect
Chrysene	µg/kg	0-6	1 / 5	20	8.03	8.03	2.5	2.6	8.03	3.606	8.03	NA	NA	X	8.03	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-6	2 / 5	40	3.47	17.1	2.5	2.55	10.29	5.614	10.29	92.89	9.638	X	17.1	Max Detect
Fluorene	µg/kg	0-6	0 / 5	0	NA	NA	2.5	2.6	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	11.9	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-6	1 / 5	20	4.35	4.35	2.55	12.8	4.35	3	4.35	NA	NA	X	4.35	Max Detect
Phenanthrene	µg/kg	0-6	1 / 5	20	4.3	4.3	2.5	2.6	4.3	2.86	4.3	NA	NA	X	4.3	Max Detect
Pyrene	µg/kg	0-6	1 / 5	20	16.5	16.5	2.5	2.6	16.5	5.3	16.5	NA	NA	X	16.5	Max Detect
B(a)P equivalent	µg/kg	0-6	3 / 5	60	6.17	11.8	5.86	5.9	8.283	7.314	6.88	9.401	3.066	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-6	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-6	4 / 5	80	11	50	5	5	24.2	20.36	17.9	322.4	17.96	X	50	Max Detect
TPH as gasoline	mg/kg	0-6	0 / 4	0	NA	NA	0.55	0.671	NA	NA	NA	NA	NA	--	--	--
TPH as motor oil	mg/kg	0-6	5 / 5	100	21	410	NA	NA	143.2	143.2	72.8	26424	162.6	X	410	Max Detect
Soil Depth Interval: 0-10 ft bgs																
Inorganic Compounds																
Antimony	mg/kg	0-10	0 / 1	0	NA	NA	1.05	1.05	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-10	1 / 1	100	9.3	9.3	NA	NA	9.3	NA	9.3	NA	NA	--	--	--
Barium	mg/kg	0-10	1 / 1	100	240	240	NA	NA	240	NA	240	NA	NA	--	--	--
Beryllium	mg/kg	0-10	0 / 1	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-10	0 / 1	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-10	0 / 2	0	NA	NA	0.201	0.205	NA	NA	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-10	2 / 2	100	17	24	NA	NA	20.5	20.5	20.5	24.5	4.95	--	--	--
Cobalt	mg/kg	0-10	1 / 1	100	9.1	9.1	NA	NA	9.1	NA	9.1	NA	NA	--	--	--
Copper	mg/kg	0-10	0 / 1	0	NA	NA	5	5	NA	NA	NA	NA	NA	--	--	--
Lead	mg/kg	0-10	1 / 1	100	7.2	7.2	NA	NA	7.2	NA	7.2	NA	NA	--	--	--

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
Mercury	mg/kg	0-10	0 / 1	0	NA	NA	0.05	0.05	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-10	2 / 2	100	3.7	5	NA	NA	4.35	4.35	4.35	0.845	0.919	X	5	Max Detect
Nickel	mg/kg	0-10	1 / 1	100	17	17	NA	NA	17	NA	17	NA	NA	--	--	--
Selenium	mg/kg	0-10	0 / 1	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Silver	mg/kg	0-10	0 / 1	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-10	0 / 1	0	NA	NA	1.05	1.05	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-10	1 / 1	100	45	45	NA	NA	45	NA	45	NA	NA	--	--	--
Zinc	mg/kg	0-10	1 / 1	100	70	70	NA	NA	70	NA	70	NA	NA	X	70	Max Detect
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-10	0 / 2	0	NA	NA	34.4	37.8	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Ethyl- benzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-10	0 / 2	0	NA	NA	34.4	37.8	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
N-Propylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Toluene	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Xylene, m,p-	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Xylene, o-	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Xylenes, total	µg/kg	0-10	0 / 2	0	NA	NA	3.44	3.78	NA	NA	NA	NA	NA	--	--	--
Semi-Volatile Organic Compounds																
4-Methylphenol	µg/kg	0-10	0 / 1	0	NA	NA	166	166	NA	NA	NA	NA	NA	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 1	0	NA	NA	166	166	NA	NA	NA	NA	NA	--	--	--
Butylbenzylphthalate	µg/kg	0-10	0 / 1	0	NA	NA	166	166	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 1	0	NA	NA	166	166	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-10	0 / 1	0	NA	NA	166	166	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH low molecular weight	µg/kg	0-10	2 / 5	40	1.43	1.56	0	0	1.495	0.598	1.495	0.00845	0.0919	--	--	--

Table AOC28-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 28 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
PAH high molecular weight	µg/kg	0-10	4 / 5	80	1.5	49.4	0	0	15.03	12.02	4.61	529.8	23.02	--	--	--
1-Methyl naphthalene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-10	0 / 5	0	NA	NA	2.55	25.4	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-10	2 / 5	40	3.16	3.74	2.51	2.6	3.45	2.886	3.45	0.168	0.41	X	3.74	Max Detect
Benzo (a) pyrene	µg/kg	0-10	1 / 5	20	5.04	5.04	2.51	2.6	5.04	3.016	5.04	NA	NA	X	5.04	Max Detect
Benzo (b) fluoranthene	µg/kg	0-10	3 / 5	60	3.38	12.5	2.54	2.55	6.52	4.928	3.68	26.84	5.181	X	12.5	Max Detect
Benzo (ghi) perylene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Benzo (k) fluoranthene	µg/kg	0-10	1 / 5	20	4.64	4.64	2.51	2.6	4.64	2.936	4.64	NA	NA	X	4.64	Max Detect
Chrysene	µg/kg	0-10	2 / 5	40	5.84	5.98	2.51	2.6	5.91	3.87	5.91	0.0098	0.099	X	5.98	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-10	2 / 5	40	3.12	13.1	2.51	2.55	8.11	4.75	8.11	49.8	7.057	X	13.1	Max Detect
Fluorene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.6	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	0 / 5	0	NA	NA	2.54	8.13	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-10	1 / 5	20	4.04	4.04	2.55	8.99	4.04	2.923	4.04	NA	NA	X	4.04	Max Detect
Phenanthrene	µg/kg	0-10	1 / 5	20	3.6	3.6	2.51	2.6	3.6	2.728	3.6	NA	NA	X	3.6	Max Detect
Pyrene	µg/kg	0-10	2 / 5	40	4.28	12.6	2.51	2.6	8.44	4.882	8.44	34.61	5.883	X	12.6	Max Detect
B(a)P equivalent	µg/kg	0-10	4 / 5	80	5.95	9.56	5.9	5.9	7.02	6.796	6.285	2.915	1.707	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-10	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-10	4 / 5	80	9.65	50	5	5	27.26	22.81	24.7	348.1	18.66	X	50	Max Detect
TPH as gasoline	mg/kg	0-10	0 / 4	0	NA	NA	0.55	0.718	NA	NA	NA	NA	NA	--	--	--
TPH as motor oil	mg/kg	0-10	5 / 5	100	19.7	410	NA	NA	154.4	154.4	124	25730	160.4	X	410	Max Detect

Notes:

- ^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
- ^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
- ^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

"--" = not applicable	EPC = exposure point concentration	mg/kg = milligrams per kilogram	PCB = polychlorinated biphenyls	UCL = upper confidence limit
AOC = area of concern	FOD = frequency of detection	NA = not applicable	PG&E = Pacific Gas and Electric Company	X = COPC/COPEC in the exposure depth interval
B(a)P equivalent = benzo(a)pyrene equivalent	ft bgs = feet below ground surface	ND = not detected	TCDD = Tetrachlorodibenzo-p-dioxin	
COPC = constituent of potential concern	KM = Kaplan-Meier	ng/kg = nanograms per kilogram	TEQ = toxic equivalent	
COPEC = constituent of potential ecological concern	µg/kg = micrograms per kilogram	PAH = polycyclic aromatic hydrocarbons	TPH = total petroleum hydrocarbons	

Table AOC28-4.1a

Summary of COPCs Evaluated in the HHRA for AOC 28: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Molybdenum	--	--	--	x
Zinc	--	--	--	x
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	x	x	x	x
Naphthalene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 28 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Molybdenum	NS	5.0E+00	NA	NV	NA	NV
Zinc	NS	7.0E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	3.7E-02	1.3E-02	3.7E-08	NV	3.7E-08	NV
Naphthalene	5.7E-03	4.0E-03	5.7E-09	3.5E-07	5.7E-09	6.4E-08
Phenanthrene	7.8E-03	3.6E-03	7.8E-09	NV	7.8E-09	NV
Pyrene	3.6E-02	1.3E-02	3.6E-08	2.1E-08	3.6E-08	3.8E-09
Total Petroleum Hydrocarbons						
TPH as diesel	5.0E+01	5.0E+01	5.0E-05	1.0E-01	5.0E-05	1.9E-02
TPH as motor oil	4.1E+02	4.1E+02	4.1E-04	NV	4.1E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0x10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 28 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Molybdenum	NS	5.0E+00	NA	NV	NA	NV
Zinc	NS	7.0E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	2.7E-02	1.3E-02	2.7E-08	NV	2.7E-08	NV
Naphthalene	5.3E-03	4.0E-03	5.3E-09	3.5E-07	5.3E-09	6.4E-08
Phenanthrene	6.1E-03	3.6E-03	6.1E-09	NV	6.1E-09	NV
Pyrene	2.6E-02	1.3E-02	2.6E-08	2.1E-08	2.6E-08	3.8E-09
Total Petroleum Hydrocarbons						
TPH as diesel	5.0E+01	5.0E+01	5.0E-05	1.0E-01	5.0E-05	1.9E-02
TPH as motor oil	4.1E+02	4.1E+02	4.1E-04	NV	4.1E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 28 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Molybdenum	NS	5.0E+00	NA	NV	NA	NV
Zinc	NS	7.0E+01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	1.7E-02	1.3E-02	1.7E-08	NV	1.7E-08	NV
Naphthalene	4.4E-03	4.0E-03	4.4E-09	3.5E-07	4.4E-09	6.4E-08
Phenanthrene	4.3E-03	3.6E-03	4.3E-09	NV	4.3E-09	NV
Pyrene	1.7E-02	1.3E-02	1.7E-08	2.1E-08	1.7E-08	3.8E-09
Total Petroleum Hydrocarbons						
TPH as diesel	5.0E+01	5.0E+01	5.0E-05	1.0E-01	5.0E-05	1.9E-02
TPH as motor oil	4.1E+02	4.1E+02	4.1E-04	NV	4.1E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 28 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Molybdenum	5.0E+00	5.0E-06	NV	5.0E-06	NV
Zinc	7.0E+01	7.0E-05	NV	7.0E-05	NV
Polycyclic Aromatic Hydrocarbons					
Fluoranthene	1.3E-02	1.3E-08	NV	1.3E-08	NV
Naphthalene	4.0E-03	4.0E-09	3.5E-07	4.0E-09	6.4E-08
Phenanthrene	3.6E-03	3.6E-09	NV	3.6E-09	NV
Pyrene	1.3E-02	1.3E-08	2.1E-08	1.3E-08	3.8E-09
Total Petroleum Hydrocarbons					
TPH as diesel	5.0E+01	5.0E-05	1.0E-01	5.0E-05	1.9E-02
TPH as motor oil	4.1E+02	4.1E-04	NV	4.1E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 28 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Molybdenum	NS	5.0E+00	NA	NV	NA	NV	NA	NV	NA	NV
Zinc	NS	7.0E+01	NA	NV	NA	NV	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	3.7E-02	1.3E-02	2.7E-11	NV	2.7E-11	NV	2.7E-11	NV	4.4E-08	NV
Naphthalene	5.7E-03	4.0E-03	4.2E-12	6.8E-08	4.2E-12	6.8E-08	4.2E-12	6.8E-08	6.7E-09	6.8E-08
Phenanthrene	7.8E-03	3.6E-03	5.7E-12	NV	5.7E-12	NV	5.7E-12	NV	9.2E-09	NV
Pyrene	3.6E-02	1.3E-02	2.6E-11	4.1E-09	2.6E-11	4.1E-09	2.6E-11	4.1E-09	4.3E-08	4.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	5.0E+01	5.0E+01	3.7E-08	2.0E-02	3.7E-08	2.0E-02	3.7E-08	2.0E-02	5.9E-05	2.0E-02
TPH as motor oil	4.1E+02	4.1E+02	3.0E-07	NV	3.0E-07	NV	3.0E-07	NV	4.8E-04	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC28-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 28 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Molybdenum	NS	5.0E+00	NA	NV	NA	NV	NA	NV	NA	NV
Zinc	NS	7.0E+01	NA	NV	NA	NV	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	2.7E-02	1.3E-02	2.0E-11	NV	2.0E-11	NV	2.0E-11	NV	3.2E-08	NV
Naphthalene	5.3E-03	4.0E-03	3.9E-12	6.8E-08	3.9E-12	6.8E-08	3.9E-12	6.8E-08	6.3E-09	6.8E-08
Phenanthrene	6.1E-03	3.6E-03	4.4E-12	NV	4.4E-12	NV	4.4E-12	NV	7.1E-09	NV
Pyrene	2.6E-02	1.3E-02	1.9E-11	4.1E-09	1.9E-11	4.1E-09	1.9E-11	4.1E-09	3.1E-08	4.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	5.0E+01	5.0E+01	3.7E-08	2.0E-02	3.7E-08	2.0E-02	3.7E-08	2.0E-02	5.9E-05	2.0E-02
TPH as motor oil	4.1E+02	4.1E+02	3.0E-07	NV	3.0E-07	NV	3.0E-07	NV	4.8E-04	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table AOC28-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 28 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Molybdenum	NS	5.0E+00	NA	NV
Zinc	NS	7.0E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	3.7E-02	1.3E-02	2.7E-11	NV
Naphthalene	5.7E-03	4.0E-03	4.2E-12	4.5E-08
Phenanthrene	7.8E-03	3.6E-03	5.7E-12	NV
Pyrene	3.6E-02	1.3E-02	2.6E-11	2.7E-09
Total Petroleum Hydrocarbons				
TPH as diesel	5.0E+01	5.0E+01	3.7E-08	1.3E-02
TPH as motor oil	4.1E+02	4.1E+02	3.0E-07	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4x10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 28 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Molybdenum	NS	5.0E+00	NA	NV
Zinc	NS	7.0E+01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	2.7E-02	1.3E-02	2.0E-11	NV
Naphthalene	5.3E-03	4.0E-03	3.9E-12	4.5E-08
Phenanthrene	6.1E-03	3.6E-03	4.4E-12	NV
Pyrene	2.6E-02	1.3E-02	1.9E-11	2.7E-09
Total Petroleum Hydrocarbons				
TPH as diesel	5.0E+01	5.0E+01	3.7E-08	1.3E-02
TPH as motor oil	4.1E+02	4.1E+02	3.0E-07	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10^9 m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC28-4.3

Human Health Risk and Hazard Estimate Summary at AOC 28 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	2E-11	3E-02
	Shallow	2E-11	3E-02
	Subsurface I	2E-11	3E-02
	Subsurface II	2E-11	4E-02
Long-Term Maintenance Worker	Surface	2E-10	4E-03
	Shallow	2E-10	4E-03
	Subsurface I	1E-10	4E-03
	Subsurface II	1E-10	4E-03
Recreational User - Camper	Surface	5E-11	5E-03
	Shallow	5E-11	5E-03
Recreational User - Hiker	Surface	1E-10	1E-02
	Shallow	1E-10	1E-02
Recreational User - Hunter	Surface	3E-11	4E-03
	Shallow	3E-11	4E-03
Recreational User - OHV Rider	Surface	1E-10	2E-03
	Shallow	1E-10	2E-03
Tribal User	Surface	4E-12	3E-04
	Shallow	4E-12	3E-04

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC28-5.1
Summary of COPECs Evaluated in the ERA for AOC 28

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Notes:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, PAHs, and dioxins (if sampled). All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC28 for details.

Abbreviations:

AOC = area of concern

COPEC = constituent of potential ecological concern

ERA = ecological risk assessment

ft bgs = feet below ground surface

NA = not analyzed in relevant exposure interval

PAH = polycyclic aromatic hydrocarbons

PG&E = Pacific Gas and Electric Company

TPH = total petroleum hydrocarbon

X = COPEC in that exposure depth interval

Table AOC28-6.1
Risk Conclusions and Lines of Evidence Summary for AOC 28

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Depth-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC 28 ^b	Plants	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected		No
	Soil Invertebrates	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected		No
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Cactus Wren	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No

Notes:
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

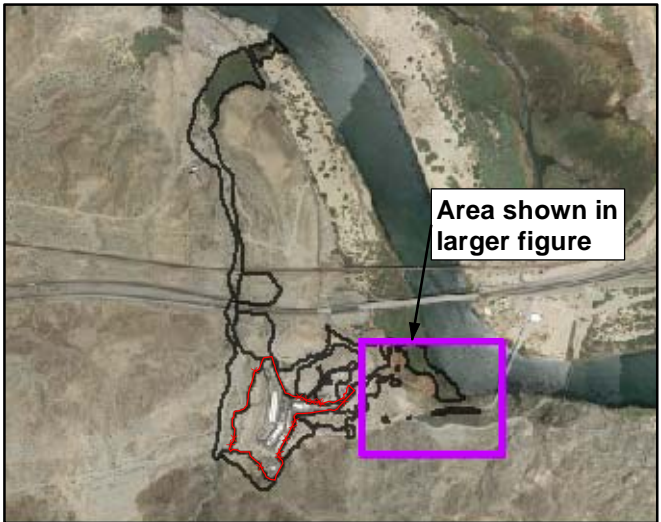
--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

Abbreviations:
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit

LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

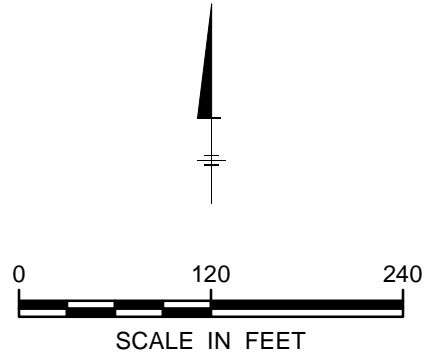
FIGURE





Legend:

- Soil Sampling Location
- Sediment Sampling Location
- Area of Concern
- AOC 28 Exposure Area
- Exposure Area
- Property Boundaries
- xxx Fencing
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- ▲ AOC 28 Label for Exposure Area
- ▲ AOC 28a Label for Area of Concern



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

SOIL SAMPLING LOCATIONS
AOC 28 EXPOSURE AREA



FIGURE
AOC28-1.1

Notes:
1. All sample locations with a labeled location ID are included in the AOC 28 exposure area.

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the AOC
28 HHERA



Attachment AOC28-A
Dataset and Exposure Point Concentration Calculations for the AOC 27 HHERA

Attachment AOC28-A1

Table AOC 27-A1 Dataset for AOC 28 HHERA

Attachment AOC28-A2 (provided separately as excel files)

Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-005
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-005_BaPTCDDupdate
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-03
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-03_BaPTCDDupdate
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-06
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-06_BaPTCDDupdate
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-10
Table AOC28-A2	Depth-Weighting Files: InputSamplesFor_AOC28a,b,c_Baseline_0-10_BaPTCDDupdate
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-005_ForProUCL
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-005_ForProUCL_BaPTCDDupdate
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-03_ForProUCL
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-03_ForProUCL_BaPTCDDupdate
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-06_ForProUCL
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-06_ForProUCL_BaPTCDDupdate
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-10_ForProUCL
Table AOC28-A2	ProUCL Input: AOC28a,b,c_0-10_ForProUCL_BaPTCDDupdate
Table AOC28-A2	ProUCL Output: AOC28_UCLs_BaPTCDDupdate

Table AOC28-A1
Dataset for AOC 28 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28a-01	AOC28a-01	AOC28a-01	AOC28b-01	AOC28c-01	AOC28c-01
	SAMPLE	300a-09-1000	300a-09-1001	300a-09-1002	300a-09-1003	300b-17-1070	300b-17-1071	300b-17-1072	300b-17-1073	AOC28a-01-34000	AOC28a-01-34001	AOC28a-01-34002	AOC28b-01-34003	AOC28c-01-34004	AOC28c-01-34005
	DATE	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015
SAMPLE TOP DEPTH (FT)		0	2.5	5.5	9	0	2.5	5.5	8.5	0	2	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS														
General															
pH	PHUNITS	8.9	8.8	8.1	9.8	8.4	8.2	8.4	8.1	--	--	--	--	--	--
Metals															
Antimony	mg/kg	--	--	--	--	--	--	--	2.1 UJ	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	--	--	--	--	9.3	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	240	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	1 UJ	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	1 UJ	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	--	--	--	0.41 UJ	--	0.4 UJ	--	0.41 UJ	--	--	--	--	--	--
Chromium, total	mg/kg	--	--	--	17	--	--	--	24	--	--	--	--	--	--
Cobalt	mg/kg	--	--	--	--	--	--	--	9.1	--	--	--	--	--	--
Copper	mg/kg	--	--	--	--	--	--	--	10 U	--	--	--	--	--	--
Lead	mg/kg	--	--	--	--	--	--	--	7.2	--	--	--	--	--	--
Mercury	mg/kg	--	--	--	--	--	--	--	0.1 UJ	--	--	--	--	--	--
Molybdenum	mg/kg	--	--	--	3.7	--	--	--	5	--	--	--	--	--	--
Nickel	mg/kg	--	--	--	--	--	--	--	17	--	--	--	--	--	--
Selenium	mg/kg	--	--	--	--	--	--	--	1 UJ	--	--	--	--	--	--
Silver	mg/kg	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--
Thallium	mg/kg	--	--	--	--	--	--	--	2.1 UJ	--	--	--	--	--	--
Vanadium	mg/kg	--	--	--	--	--	--	--	45	--	--	--	--	--	--
Zinc	mg/kg	--	--	--	--	--	--	--	70	--	--	--	--	--	--
Polychlorinated Biphenyls															
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	34 U	34 U	33 U	33 U	33 U	34 U	35 U	34 U	--	33 U	34 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U
Total PCBs	ug/kg	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	--	0 U	0 U	0 U
Polycyclic Aromatic Hydrocarbons															
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	50 U	51 U	51 U	51 U	50 U	50 U	50 U	51 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Anthracene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	5.8 U	5.9 U	5.9 U	6.6	8.4	5.8 U	5.8 U	5.9 U	6.5	6 U	--	5.9 U	23	6.2
Benzo (a) anthracene	ug/kg	5 U	5.1 U	5.1 U	8.8	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	8.5	5.1 U
Benzo (a) pyrene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	15 J	5.1 U
Benzo (b) fluoranthene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	6	5 U	5 U	5.1 U	8 J	5.2 U	--	5.1 U	38 J	6.1 J
Benzo (ghi) perylene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	13 J	5.1 U
Chrysene	ug/kg	5 U	5.1 U	5.1 U	37	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	19	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Fluoranthene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2	5.2 U	--	5.1 U	37	7.1
Fluorene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	50 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
Naphthalene	ug/kg	50 U	8.3 U	6.9 U	5.8 U	5.7	6.6 U	7.8 U	6 U	5.2 U	5.2 U	--	5.1 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	0	0	65.8	6	0	0	0	13.2	0	--	0	167	20
PAH Low molecular weight	ug/kg	0	0	0	0	5.7	0	0	0	0	0	--	0	7.8	0
Phenanthrene	ug/kg	5 U	5.1 U	5.1 U	5.1 U	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	7.8	5.1 U
Pyrene	ug/kg	5 U	5.1 U	5.1 U	20	5 U	5 U	5 U	5.1 U	5.2 U	5.2 U	--	5.1 U	36	6.8

Table AOC28-A1
Dataset for AOC 28 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28a-01	AOC28a-01	AOC28a-01	AOC28b-01	AOC28c-01	AOC28c-01
	SAMPLE	300a-09-1000	300a-09-1001	300a-09-1002	300a-09-1003	300b-17-1070	300b-17-1071	300b-17-1072	300b-17-1073	AOC28a-01-34000	AOC28a-01-34001	AOC28a-01-34002	AOC28b-01-34003	AOC28c-01-34004	AOC28c-01-34005
	DATE	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015
SAMPLE TOP DEPTH (FT)		0	2.5	5.5	9	0	2.5	5.5	8.5	0	2	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS														
Semi-Volatile Organic Compounds															
2-Chloro naphthalene	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	660 U	660 U	660 U	680 U	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	660 U	660 U	660 U	680 U	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	660 U	660 U	660 U	680 U	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	660 U	660 U	660 U	680 U	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Pentachlorophenol	ug/kg	330 U	330 U	340 U	340 U	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Total Petroleum Hydrocarbons															
TPH as diesel	mg/kg	32	16	17	160	10 U	17	10 U	12	10 U	--	17	50	10 U	10 U
TPH as gasoline	mg/kg	--	1.1 U	1.3 U	1.2 U	--	1.3 U	1.8 U	1.2 U	--	--	1.3 U	--	--	1.1 U
TPH as motor oil	mg/kg	150	15	34	700	10 U	37	10 U	39	130	--	210	410	53	17
Volatile Organic Compounds															
1,1-Dichloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--

Table AOC28-A1
Dataset for AOC 28 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28a-01	AOC28a-01	AOC28a-01	AOC28b-01	AOC28c-01	AOC28c-01
	SAMPLE	300a-09-1000	300a-09-1001	300a-09-1002	300a-09-1003	300b-17-1070	300b-17-1071	300b-17-1072	300b-17-1073	AOC28a-01-34000	AOC28a-01-34001	AOC28a-01-34002	AOC28b-01-34003	AOC28c-01-34004	AOC28c-01-34005
	DATE	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015
SAMPLE TOP DEPTH (FT)		0	2.5	5.5	9	0	2.5	5.5	8.5	0	2	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS														
1,2-Dichlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	330 U	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	330 U	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	330 U	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	330 U	6.6 U	7.8 U	6 U	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	8.3 UJ	6.9 UJ	5.8 UJ	--	6.6 UJ	7.8 UJ	6 UJ	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	330 U	--	330 U	340 U	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Acetone	ug/kg	--	83 U	69 U	58 U	--	66 U	78 U	60 U	--	--	--	--	--	--
Acrolein	ug/kg	--	170 U	140 U	120 U	--	130 U	160 U	120 U	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	83 U	69 U	58 U	--	66 U	78 U	60 U	--	--	--	--	--	--
Benzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Bromobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Bromoform	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Bromomethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Chloro methane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Chloroethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Chloroform	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Dibromomethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	8.3 U	6.9 U	5.8 U	660 U	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	83 U	69 U	58 U	--	66 U	78 U	60 U	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	83 U	69 U	58 U	--	66 U	78 U	60 U	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Methylene chloride	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	330 U	330 U	330 U	340 U	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Styrene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--

Table AOC28-A1
Dataset for AOC 28 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS1	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28-OS2	AOC28a-01	AOC28a-01	AOC28a-01	AOC28b-01	AOC28c-01	AOC28c-01
	SAMPLE	300a-09-1000	300a-09-1001	300a-09-1002	300a-09-1003	300b-17-1070	300b-17-1071	300b-17-1072	300b-17-1073	AOC28a-01-34000	AOC28a-01-34001	AOC28a-01-34002	AOC28b-01-34003	AOC28c-01-34004	AOC28c-01-34005
	DATE	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015	12/17/2015
SAMPLE TOP DEPTH (FT)		0	2.5	5.5	9	0	2.5	5.5	8.5	0	2	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	9.5	0.5	3	6	9	0.5	3	3	0.5	0.5	3
SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS														
tert-Butylbenzene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Toluene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Trichloroethene	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Xylene, o-	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--
Xylenes, total	ug/kg	--	8.3 U	6.9 U	5.8 U	--	6.6 U	7.8 U	6 U	--	--	--	--	--	--

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 28 Using Depth-Weighted EPCs



Attachment AOC28-B
Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 28
Using Depth-Weighted EPCs

Tables

AOC28-B.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC28-B.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC28-B.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC28-B.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC28-B.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC28-B.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC28-B.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User
AOC28-B.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC28-B.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC28-B.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC28-B.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC28-B.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC28-B.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC28-B.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User
AOC28-B.3a	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC28-B.3b	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC28-B.3c	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC28-B.3d	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC28-B.3e	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC28-B.3f	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC28-B.3g	Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User
AOC28-B.4a	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC28-B.4b	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC28-B.4c	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC28-B.4d	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC28-B.4e	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC28-B.4f	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC28-B.4g	Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User
AOC28-B.5a	Baseline Scenario Risk Evaluation for Lead in AOC28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC28-B.5b	Baseline Scenario Risk Evaluation for Lead in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Table AOC28-B.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS	NS	NC	NS	NS	NC	NC	NC	NC
Zinc	NS	NC	NS	NS	NS	NC	NS	NS	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	3.0E-12	1.8E-10	8.1E-11	3.7E-11	2.8E-12	1.8E-10	7.5E-11	3.4E-11	2.3E-12	1.8E-10	6.2E-11	2.8E-11	2.1E-12	1.8E-10	5.7E-11	2.6E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NC = Not considered a carcinogen.
NS = Not sampled.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS	NS	NC	NS	NS	NC	NC	NC	NC
Zinc	NS	NC	NS	NS	NS	NC	NS	NS	NS	NC	NS	NS	NC	NC	NC	NC
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	2.2E-11	2.5E-10	1.2E-09	2.8E-10	2.1E-11	2.5E-10	1.1E-09	2.6E-10	1.7E-11	2.5E-10	9.2E-10	2.1E-10	1.6E-11	2.5E-10	8.6E-10	2.0E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NC = Not considered a carcinogen.
NS = Not sampled.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:
Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS
Zinc	NS	NC	NS	NS	NS	NC	NS	NS
Polycyclic Aromatic Hydrocarbons								
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	3.4E-14	5.6E-10	9.0E-11	1.9E-10	3.2E-14	5.6E-10	8.4E-11	1.7E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:

Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS
Zinc	NS	NC	NS	NS	NS	NC	NS	NS
Polycyclic Aromatic Hydrocarbons								
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	6.8E-14	1.1E-09	1.8E-10	3.7E-10	6.3E-14	1.1E-09	1.7E-10	3.5E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS
Zinc	NS	NC	NS	NS	NS	NC	NS	NS
Polycyclic Aromatic Hydrocarbons								
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	3.4E-14	5.6E-10	3.7E-11	5.8E-11	3.2E-14	5.6E-10	3.4E-11	5.4E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Molybdenum	NS	NC	NS	NS	NS	NC	NS	NS
Zinc	NS	NC	NS	NS	NS	NC	NS	NS
Polycyclic Aromatic Hydrocarbons								
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	6.8E-12	6.9E-11	8.7E-10	4.8E-11	6.4E-12	6.9E-11	8.1E-10	4.4E-11
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.1g
Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 28 Soil Using
Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Molybdenum	NS	NC	NS	NC
Zinc	NS	NC	NS	NC
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	NC	NC	NC	NC
Naphthalene	9.8E-15	1.1E-10	9.2E-15	1.1E-10
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	1.8E-07	NV	3.3E-07	2.3E-06
Zinc	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	2.6E-06	NV	4.6E-06	3.2E-05
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	1.4E-09	NV	3.7E-08	1.7E-08	9.9E-10	NV	2.7E-08	1.2E-08	6.2E-10	NV	1.7E-08	7.7E-09	4.8E-10	NV	1.3E-08	5.9E-09
Naphthalene	2.1E-10	1.3E-08	5.7E-09	2.6E-09	1.9E-10	1.3E-08	5.3E-09	2.4E-09	1.6E-10	1.3E-08	4.3E-09	2.0E-09	1.5E-10	1.3E-08	4.0E-09	1.8E-09
Phenanthrene	2.8E-10	NV	7.7E-09	3.5E-09	2.2E-10	NV	6.0E-09	2.7E-09	1.6E-10	NV	4.3E-09	1.9E-09	1.3E-10	NV	3.6E-09	1.6E-09
Pyrene	1.3E-09	7.6E-10	3.6E-08	1.6E-08	9.6E-10	7.6E-10	2.6E-08	1.2E-08	6.0E-10	7.6E-10	1.6E-08	7.5E-09	4.6E-10	7.6E-10	1.2E-08	5.7E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.8E-06	3.8E-03	3.3E-05	2.3E-05	1.8E-06	3.8E-03	3.3E-05	2.3E-05	1.8E-06	3.8E-03	3.3E-05	2.3E-05	1.8E-06	3.8E-03	3.3E-05	2.3E-05
TPH as motor oil	1.5E-05	NV	2.7E-04	1.9E-04	1.5E-05	NV	2.7E-04	1.9E-04	1.5E-05	NV	2.7E-04	1.9E-04	1.5E-05	NV	2.7E-04	1.9E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	4.6E-08	NV	1.7E-07	5.7E-07
Zinc	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	6.4E-07	NV	2.3E-06	7.9E-06
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	3.4E-10	NV	1.8E-08	4.2E-09	2.5E-10	NV	1.3E-08	3.1E-09	1.6E-10	NV	8.5E-09	1.9E-09	1.2E-10	NV	6.5E-09	1.5E-09
Naphthalene	5.2E-11	5.8E-10	2.8E-09	6.4E-10	4.8E-11	5.8E-10	2.6E-09	6.0E-10	4.0E-11	5.8E-10	2.2E-09	4.9E-10	3.7E-11	5.8E-10	2.0E-09	4.6E-10
Phenanthrene	7.1E-11	NV	3.9E-09	8.8E-10	5.5E-11	NV	3.0E-09	6.8E-10	3.9E-11	NV	2.1E-09	4.9E-10	3.3E-11	NV	1.8E-09	4.1E-10
Pyrene	3.3E-10	3.5E-11	1.8E-08	4.1E-09	2.4E-10	3.5E-11	1.3E-08	3.0E-09	1.5E-10	3.5E-11	8.2E-09	1.9E-09	1.2E-10	3.5E-11	6.2E-09	1.4E-09
Total Petroleum Hydrocarbons																
TPH as diesel	4.6E-07	1.7E-04	1.7E-05	5.7E-06	4.6E-07	1.7E-04	1.7E-05	5.7E-06	4.6E-07	1.7E-04	1.7E-05	5.7E-06	4.6E-07	1.7E-04	1.7E-05	5.7E-06
TPH as motor oil	3.7E-06	NV	1.4E-04	4.6E-05	3.7E-06	NV	1.4E-04	4.6E-05	3.7E-06	NV	1.4E-04	4.6E-05	3.7E-06	NV	1.4E-04	4.6E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Zinc	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	6.0E-13	NV	4.7E-09	1.1E-08	6.0E-13	NV	6.4E-10	1.0E-09	4.4E-13	NV	3.4E-09	7.9E-09	4.4E-13	NV	4.7E-10	7.4E-10
Naphthalene	9.2E-14	1.5E-09	7.2E-10	1.7E-09	9.2E-14	1.5E-09	9.9E-11	1.6E-10	8.5E-14	1.5E-09	6.7E-10	1.5E-09	8.5E-14	1.5E-09	9.2E-11	1.5E-10
Phenanthrene	1.3E-13	NV	9.9E-10	2.3E-09	1.3E-13	NV	1.4E-10	2.1E-10	9.8E-14	NV	7.7E-10	1.8E-09	9.8E-14	NV	1.0E-10	1.7E-10
Pyrene	5.8E-13	8.9E-11	4.6E-09	1.1E-08	5.8E-13	8.9E-11	6.2E-10	9.9E-10	4.2E-13	8.9E-11	3.3E-09	7.7E-09	4.2E-13	8.9E-11	4.6E-10	7.2E-10
Total Petroleum Hydrocarbons																
TPH as diesel	8.1E-10	4.4E-04	4.2E-06	1.5E-05	8.1E-10	4.4E-04	5.8E-07	1.4E-06	8.1E-10	4.4E-04	4.2E-06	1.5E-05	8.1E-10	4.4E-04	5.8E-07	1.4E-06
TPH as motor oil	6.6E-09	NV	3.5E-05	1.2E-04	6.6E-09	NV	4.7E-06	1.1E-05	6.6E-09	NV	3.5E-05	1.2E-04	6.6E-09	NV	4.7E-06	1.1E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Zinc	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	1.2E-12	NV	9.4E-09	2.2E-08	1.2E-12	NV	1.3E-09	2.0E-09	8.7E-13	NV	6.9E-09	1.6E-08	8.7E-13	NV	9.4E-10	1.5E-09
Naphthalene	1.8E-13	3.0E-09	1.4E-09	3.3E-09	1.8E-13	3.0E-09	2.0E-10	3.1E-10	1.7E-13	3.0E-09	1.3E-09	3.1E-09	1.7E-13	3.0E-09	1.8E-10	2.9E-10
Phenanthrene	2.5E-13	NV	2.0E-09	4.6E-09	2.5E-13	NV	2.7E-10	4.3E-10	2.0E-13	NV	1.5E-09	3.5E-09	2.0E-13	NV	2.1E-10	3.3E-10
Pyrene	1.2E-12	1.8E-10	9.2E-09	2.1E-08	1.2E-12	1.8E-10	1.2E-09	2.0E-09	8.5E-13	1.8E-10	6.7E-09	1.5E-08	8.5E-13	1.8E-10	9.1E-10	1.4E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-09	8.9E-04	8.5E-06	2.9E-05	1.6E-09	8.9E-04	1.2E-06	2.7E-06	1.6E-09	8.9E-04	8.5E-06	2.9E-05	1.6E-09	8.9E-04	1.2E-06	2.7E-06
TPH as motor oil	1.3E-08	NV	6.9E-05	2.4E-04	1.3E-08	NV	9.5E-06	2.2E-05	1.3E-08	NV	6.9E-05	2.4E-04	1.3E-08	NV	9.5E-06	2.2E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS
Zinc	NS	NV	NS	NS	NS	NV	NS	NS
Polycyclic Aromatic Hydrocarbons								
Fluoranthene	6.0E-13	NV	6.4E-10	1.0E-09	4.4E-13	NV	4.7E-10	7.4E-10
Naphthalene	9.2E-14	1.5E-09	9.9E-11	1.6E-10	8.5E-14	1.5E-09	9.2E-11	1.5E-10
Phenanthrene	1.3E-13	NV	1.4E-10	2.1E-10	9.8E-14	NV	1.0E-10	1.7E-10
Pyrene	5.8E-13	8.9E-11	6.2E-10	9.9E-10	4.2E-13	8.9E-11	4.6E-10	7.2E-10
Total Petroleum Hydrocarbons								
TPH as diesel	8.1E-10	4.4E-04	5.8E-07	1.4E-06	8.1E-10	4.4E-04	5.8E-07	1.4E-06
TPH as motor oil	6.6E-09	NV	4.7E-06	1.1E-05	6.6E-09	NV	4.7E-06	1.1E-05

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

NS = Not sampled.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Molybdenum	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Zinc	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS
Polycyclic Aromatic Hydrocarbons																
Fluoranthene	1.2E-10	NV	1.7E-08	1.5E-09	1.2E-10	NV	1.5E-08	6.3E-10	8.7E-11	NV	1.2E-08	1.1E-09	8.7E-11	NV	1.1E-08	4.6E-10
Naphthalene	1.8E-11	1.9E-10	2.6E-09	2.3E-10	1.8E-11	1.9E-10	2.3E-09	9.7E-11	1.7E-11	1.9E-10	2.5E-09	2.2E-10	1.7E-11	1.9E-10	2.1E-09	9.0E-11
Phenanthrene	2.5E-11	NV	3.6E-09	3.2E-10	2.5E-11	NV	3.1E-09	1.3E-10	2.0E-11	NV	2.8E-09	2.5E-10	2.0E-11	NV	2.4E-09	1.0E-10
Pyrene	1.2E-10	1.1E-11	1.7E-08	1.5E-09	1.2E-10	1.1E-11	1.4E-08	6.1E-10	8.5E-11	1.1E-11	1.2E-08	1.1E-09	8.5E-11	1.1E-11	1.0E-08	4.5E-10
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-07	5.5E-05	1.5E-05	2.1E-06	1.6E-07	5.5E-05	1.3E-05	8.5E-07	1.6E-07	5.5E-05	1.5E-05	2.1E-06	1.6E-07	5.5E-05	1.3E-05	8.5E-07
TPH as motor oil	1.3E-06	NV	1.3E-04	1.7E-05	1.3E-06	NV	1.1E-04	7.0E-06	1.3E-06	NV	1.3E-04	1.7E-05	1.3E-06	NV	1.1E-04	7.0E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 28 Soil
Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Molybdenum	NS	NV	NS	NV
Zinc	NS	NV	NS	NV
Polycyclic Aromatic Hydrocarbons				
Fluoranthene	7.5E-14	NV	5.4E-14	NV
Naphthalene	1.1E-14	1.2E-10	1.1E-14	1.2E-10
Phenanthrene	1.6E-14	NV	1.2E-14	NV
Pyrene	7.3E-14	7.4E-12	5.3E-14	7.4E-12
Total Petroleum Hydrocarbons				
TPH as diesel	1.0E-10	3.6E-05	1.0E-10	3.6E-05
TPH as motor oil	8.3E-10	NV	8.3E-10	NV

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

NS = Not sampled.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3a
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	1.0E-13	6.2E-12	9.7E-12	4.4E-12	2.0E-11	9.4E-14	6.2E-12	9.0E-12	4.1E-12	1.9E-11	7.7E-14	6.2E-12	7.4E-12	3.4E-12	1.7E-11	7.2E-14	6.2E-12	6.9E-12	3.1E-12	1.6E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	1E-13	6E-12	1E-11	4E-12	2E-11	9E-14	6E-12	9E-12	4E-12	2E-11	8E-14	6E-12	7E-12	3E-12	2E-11	7E-14	6E-12	7E-12	3E-12	2E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
NC = Not considered a carcinogen.
NS = Not sampled.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3b
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	7.6E-13	8.5E-12	1.5E-10	3.3E-11	1.9E-10	7.1E-13	8.5E-12	1.4E-10	3.1E-11	1.8E-10	5.8E-13	8.5E-12	1.1E-10	2.5E-11	1.5E-10	5.4E-13	8.5E-12	1.0E-10	2.3E-11	1.4E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	8E-13	8E-12	1E-10	3E-11	2E-10	7E-13	8E-12	1E-10	3E-11	2E-10	6E-13	8E-12	1E-10	3E-11	1E-10	5E-13	8E-12	1E-10	2E-11	1E-10

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
NC = Not considered a carcinogen.
NS = Not sampled.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3c
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User- Camper
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	1.2E-15	1.9E-11	1.1E-11	2.2E-11	5.2E-11	1.1E-15	1.9E-11	1.0E-11	2.1E-11	5.0E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	1E-15	2E-11	1E-11	2E-11	5E-11	1E-15	2E-11	1E-11	2E-11	5E-11

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3d
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	2.3E-15	3.8E-11	2.2E-11	4.5E-11	1.0E-10	2.2E-15	3.8E-11	2.0E-11	4.2E-11	1.0E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	2E-15	4E-11	2E-11	4E-11	1E-10	2E-15	4E-11	2E-11	4E-11	1E-10

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3e
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	1.2E-15	1.9E-11	4.4E-12	7.0E-12	3.0E-11	1.1E-15	1.9E-11	4.1E-12	6.5E-12	2.9E-11
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	1E-15	2E-11	4E-12	7E-12	3E-11	1E-15	2E-11	4E-12	6E-12	3E-11

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3f

Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Molybdenum	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Zinc	NS	NC	NS	NS	--	NS	NC	NS	NS	--
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Naphthalene	2.3E-13	2.4E-12	1.0E-10	5.7E-12	1.1E-10	2.2E-13	2.4E-12	9.7E-11	5.3E-12	1.1E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	2E-13	2E-12	1E-10	6E-12	1E-10	2E-13	2E-12	1E-10	5E-12	1E-10

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.3g
Baseline Scenario ILCRs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Molybdenum	NS	NC	--	NS	NC	--
Zinc	NS	NC	--	NS	NC	--
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	NC	NC	--	NC	NC	--
Naphthalene	3.3E-16	3.6E-12	3.6E-12	3.1E-16	3.6E-12	3.6E-12
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Cumulative ILCR	3E-16	4E-12	4E-12	3E-16	4E-12	4E-12

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

NC = Not considered a carcinogen.

NS = Not sampled.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4a
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	9.1E-06	NV	6.6E-05	4.5E-04	5.3E-04
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	2.1E-06	NV	1.5E-05	1.1E-04	1.2E-04
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	8.4E-10	NV	9.2E-08	4.2E-08	1.3E-07	6.2E-10	NV	6.7E-08	3.1E-08	9.8E-08	3.9E-10	NV	4.2E-08	1.9E-08	6.2E-08	3.0E-10	NV	3.2E-08	1.5E-08	4.8E-08
Naphthalene	6.9E-08	4.2E-06	9.4E-09	4.3E-09	4.3E-06	6.5E-08	4.2E-06	8.8E-09	4.0E-09	4.3E-06	5.3E-08	4.2E-06	7.2E-09	3.3E-09	4.3E-06	4.9E-08	4.2E-06	6.7E-09	3.0E-09	4.3E-06
Phenanthrene	7.1E-12	NV	7.7E-10	3.5E-10	1.1E-09	5.5E-12	NV	6.0E-10	2.7E-10	8.8E-10	3.9E-12	NV	4.3E-10	1.9E-10	6.2E-10	3.3E-12	NV	3.6E-10	1.6E-10	5.2E-10
Pyrene	1.1E-09	6.3E-10	1.2E-07	5.4E-08	1.7E-07	8.0E-10	6.3E-10	8.7E-08	4.0E-08	1.3E-07	5.0E-10	6.3E-10	5.5E-08	2.5E-08	8.1E-08	3.8E-10	6.3E-10	4.2E-08	1.9E-08	6.2E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	1.4E-05	2.9E-02	1.7E-03	1.1E-03	3.2E-02	1.4E-05	2.9E-02	1.7E-03	1.1E-03	3.2E-02	1.4E-05	2.9E-02	1.7E-03	1.1E-03	3.2E-02	1.4E-05	2.9E-02	1.7E-03	1.1E-03	3.2E-02
TPH as motor oil	2.2E-05	NV	1.6E-03	1.1E-03	2.7E-03	2.2E-05	NV	1.6E-03	1.1E-03	2.7E-03	2.2E-05	NV	1.6E-03	1.1E-03	2.7E-03	2.2E-05	NV	1.6E-03	1.1E-03	2.7E-03
Total Hazard Index	4E-05	3E-02	3E-03	2E-03	3E-02	4E-05	3E-02	3E-03	2E-03	3E-02	4E-05	3E-02	3E-03	2E-03	3E-02	5E-05	3E-02	3E-03	3E-03	4E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4b
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	2.3E-06	NV	3.3E-05	1.1E-04	1.5E-04
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	5.3E-07	NV	7.7E-06	2.6E-05	3.5E-05
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	2.1E-09	NV	4.6E-07	1.0E-07	5.7E-07	1.5E-09	NV	3.3E-07	7.6E-08	4.1E-07	9.8E-10	NV	2.1E-07	4.8E-08	2.6E-07	7.5E-10	NV	1.6E-07	3.7E-08	2.0E-07
Naphthalene	1.7E-08	1.9E-07	1.4E-07	3.2E-08	3.8E-07	1.6E-08	1.9E-07	1.3E-07	3.0E-08	3.7E-07	1.3E-08	1.9E-07	1.1E-07	2.5E-08	3.4E-07	1.2E-08	1.9E-07	1.0E-07	2.3E-08	3.3E-07
Phenanthrene	5.9E-11	NV	1.3E-08	2.9E-09	1.6E-08	4.6E-11	NV	1.0E-08	2.3E-09	1.2E-08	3.3E-11	NV	7.1E-09	1.6E-09	8.8E-09	2.7E-11	NV	5.9E-09	1.4E-09	7.3E-09
Pyrene	2.7E-09	2.9E-10	5.9E-07	1.4E-07	7.3E-07	2.0E-09	2.9E-10	4.3E-07	9.9E-08	5.4E-07	1.3E-09	2.9E-10	2.7E-07	6.2E-08	3.4E-07	9.6E-10	2.9E-10	2.1E-07	4.7E-08	2.6E-07
Total Petroleum Hydrocarbons																				
TPH as diesel	3.5E-06	1.3E-03	8.3E-04	2.8E-04	2.4E-03	3.5E-06	1.3E-03	8.3E-04	2.8E-04	2.4E-03	3.5E-06	1.3E-03	8.3E-04	2.8E-04	2.4E-03	3.5E-06	1.3E-03	8.3E-04	2.8E-04	2.4E-03
TPH as motor oil	5.5E-06	NV	8.0E-04	2.7E-04	1.1E-03	5.5E-06	NV	8.0E-04	2.7E-04	1.1E-03	5.5E-06	NV	8.0E-04	2.7E-04	1.1E-03	5.5E-06	NV	8.0E-04	2.7E-04	1.1E-03
Total Hazard Index	9E-06	1E-03	2E-03	6E-04	4E-03	9E-06	1E-03	2E-03	6E-04	4E-03	9E-06	1E-03	2E-03	6E-04	4E-03	1E-05	1E-03	2E-03	7E-04	4E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4c
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	3.7E-12	NV	1.2E-07	2.7E-07	3.9E-07	3.7E-12	NV	1.6E-08	2.5E-08	4.1E-08	2.7E-12	NV	8.6E-08	2.0E-07	2.8E-07	2.7E-12	NV	1.2E-08	1.8E-08	3.0E-08
Naphthalene	3.1E-11	5.0E-07	3.6E-08	8.3E-08	6.2E-07	3.1E-11	5.0E-07	4.9E-09	7.8E-09	5.1E-07	2.8E-11	5.0E-07	3.4E-08	7.7E-08	6.1E-07	2.8E-11	5.0E-07	4.6E-09	7.3E-09	5.1E-07
Phenanthrene	1.0E-13	NV	3.3E-09	7.6E-09	1.1E-08	1.0E-13	NV	4.5E-10	7.1E-10	1.2E-09	8.1E-14	NV	2.6E-09	5.9E-09	8.5E-09	8.1E-14	NV	3.5E-10	5.5E-10	9.0E-10
Pyrene	4.8E-12	7.4E-10	1.5E-07	3.5E-07	5.0E-07	4.8E-12	7.4E-10	2.1E-08	3.3E-08	5.4E-08	3.5E-12	7.4E-10	1.1E-07	2.6E-07	3.7E-07	3.5E-12	7.4E-10	1.5E-08	2.4E-08	4.0E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	6.2E-09	3.4E-03	2.1E-04	7.3E-04	4.3E-03	6.2E-09	3.4E-03	2.9E-05	6.8E-05	3.5E-03	6.2E-09	3.4E-03	2.1E-04	7.3E-04	4.3E-03	6.2E-09	3.4E-03	2.9E-05	6.8E-05	3.5E-03
TPH as motor oil	9.7E-09	NV	2.0E-04	7.0E-04	9.1E-04	9.7E-09	NV	2.8E-05	6.6E-05	9.4E-05	9.7E-09	NV	2.0E-04	7.0E-04	9.1E-04	9.7E-09	NV	2.8E-05	6.6E-05	9.4E-05
Total Hazard Index	2E-08	3E-03	4E-04	1E-03	5E-03	2E-08	3E-03	6E-05	1E-04	4E-03	2E-08	3E-03	4E-04	1E-03	5E-03	2E-08	3E-03	6E-05	1E-04	4E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4d
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	7.5E-12	NV	2.4E-07	5.4E-07	7.8E-07	7.5E-12	NV	3.2E-08	5.1E-08	8.3E-08	5.4E-12	NV	1.7E-07	3.9E-07	5.7E-07	5.4E-12	NV	2.3E-08	3.7E-08	6.0E-08
Naphthalene	6.1E-11	1.0E-06	7.2E-08	1.7E-07	1.2E-06	6.1E-11	1.0E-06	9.9E-09	1.6E-08	1.0E-06	5.7E-11	1.0E-06	6.7E-08	1.5E-07	1.2E-06	5.7E-11	1.0E-06	9.2E-09	1.5E-08	1.0E-06
Phenanthrene	2.1E-13	NV	6.6E-09	1.5E-08	2.2E-08	2.1E-13	NV	9.0E-10	1.4E-09	2.3E-09	1.6E-13	NV	5.1E-09	1.2E-08	1.7E-08	1.6E-13	NV	7.0E-10	1.1E-09	1.8E-09
Pyrene	9.7E-12	1.5E-09	3.1E-07	7.0E-07	1.0E-06	9.7E-12	1.5E-09	4.2E-08	6.6E-08	1.1E-07	7.1E-12	1.5E-09	2.2E-07	5.1E-07	7.4E-07	7.1E-12	1.5E-09	3.0E-08	4.8E-08	8.0E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	1.2E-08	6.8E-03	4.2E-04	1.5E-03	8.7E-03	1.2E-08	6.8E-03	5.8E-05	1.4E-04	7.0E-03	1.2E-08	6.8E-03	4.2E-04	1.5E-03	8.7E-03	1.2E-08	6.8E-03	5.8E-05	1.4E-04	7.0E-03
TPH as motor oil	1.9E-08	NV	4.1E-04	1.4E-03	1.8E-03	1.9E-08	NV	5.6E-05	1.3E-04	1.9E-04	1.9E-08	NV	4.1E-04	1.4E-03	1.8E-03	1.9E-08	NV	5.6E-05	1.3E-04	1.9E-04
Total Hazard Index	3E-08	7E-03	8E-04	3E-03	1E-02	3E-08	7E-03	1E-04	3E-04	7E-03	3E-08	7E-03	8E-04	3E-03	1E-02	3E-08	7E-03	1E-04	3E-04	7E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4e
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Polycyclic Aromatic Hydrocarbons										
Fluoranthene	3.7E-12	NV	1.6E-08	2.5E-08	4.1E-08	2.7E-12	NV	1.2E-08	1.8E-08	3.0E-08
Naphthalene	3.1E-11	5.0E-07	4.9E-09	7.8E-09	5.1E-07	2.8E-11	5.0E-07	4.6E-09	7.3E-09	5.1E-07
Phenanthrene	1.0E-13	NV	4.5E-10	7.1E-10	1.2E-09	8.1E-14	NV	3.5E-10	5.5E-10	9.0E-10
Pyrene	4.8E-12	7.4E-10	2.1E-08	3.3E-08	5.4E-08	3.5E-12	7.4E-10	1.5E-08	2.4E-08	4.0E-08
Total Petroleum Hydrocarbons										
TPH as diesel	6.2E-09	3.4E-03	2.9E-05	6.8E-05	3.5E-03	6.2E-09	3.4E-03	2.9E-05	6.8E-05	3.5E-03
TPH as motor oil	9.7E-09	NV	2.8E-05	6.6E-05	9.4E-05	9.7E-09	NV	2.8E-05	6.6E-05	9.4E-05
Total Hazard Index	2E-08	3E-03	6E-05	1E-04	4E-03	2E-08	3E-03	6E-05	1E-04	4E-03

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

NS = Not sampled.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4f
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Molybdenum	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Zinc	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--
Polycyclic Aromatic Hydrocarbons																				
Fluoranthene	7.5E-10	NV	4.3E-07	3.8E-08	4.7E-07	7.5E-10	NV	3.7E-07	1.6E-08	3.8E-07	5.5E-10	NV	3.1E-07	2.8E-08	3.4E-07	5.5E-10	NV	2.7E-07	1.1E-08	2.8E-07
Naphthalene	6.1E-09	6.2E-08	1.3E-07	1.2E-08	2.1E-07	6.1E-09	6.2E-08	1.1E-07	4.8E-09	1.9E-07	5.7E-09	6.2E-08	1.2E-07	1.1E-08	2.0E-07	5.7E-09	6.2E-08	1.1E-07	4.5E-09	1.8E-07
Phenanthrene	2.1E-11	NV	1.2E-08	1.1E-09	1.3E-08	2.1E-11	NV	1.0E-08	4.4E-10	1.1E-08	1.6E-11	NV	9.3E-09	8.3E-10	1.0E-08	1.6E-11	NV	8.0E-09	3.4E-10	8.4E-09
Pyrene	9.7E-10	9.3E-11	5.5E-07	4.9E-08	6.1E-07	9.7E-10	9.3E-11	4.8E-07	2.0E-08	5.0E-07	7.1E-10	9.3E-11	4.1E-07	3.6E-08	4.4E-07	7.1E-10	9.3E-11	3.5E-07	1.5E-08	3.6E-07
Total Petroleum Hydrocarbons																				
TPH as diesel	1.2E-06	4.3E-04	7.7E-04	1.0E-04	1.3E-03	1.2E-06	4.3E-04	6.6E-04	4.2E-05	1.1E-03	1.2E-06	4.3E-04	7.7E-04	1.0E-04	1.3E-03	1.2E-06	4.3E-04	6.6E-04	4.2E-05	1.1E-03
TPH as motor oil	2.0E-06	NV	7.4E-04	9.9E-05	8.4E-04	2.0E-06	NV	6.4E-04	4.1E-05	6.8E-04	2.0E-06	NV	7.4E-04	9.9E-05	8.4E-04	2.0E-06	NV	6.4E-04	4.1E-05	6.8E-04
Total Hazard Index	3E-06	4E-04	2E-03	2E-04	2E-03	3E-06	4E-04	1E-03	8E-05	2E-03	3E-06	4E-04	2E-03	2E-04	2E-03	3E-06	4E-04	1E-03	8E-05	2E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
NS = Not sampled.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.4g
Baseline Scenario HIs for COPCs in AOC 28 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Molybdenum	NS	NV	--	NS	NV	--
Zinc	NS	NV	--	NS	NV	--
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	4.7E-13	NV	4.7E-13	3.4E-13	NV	3.4E-13
Naphthalene	3.8E-12	4.1E-08	4.1E-08	3.6E-12	4.1E-08	4.1E-08
Phenanthrene	1.3E-14	NV	1.3E-14	1.0E-14	NV	1.0E-14
Pyrene	6.0E-13	6.1E-11	6.2E-11	4.4E-13	6.1E-11	6.2E-11
Total Petroleum Hydrocarbons						
TPH as diesel	7.7E-10	2.8E-04	2.8E-04	7.7E-10	2.8E-04	2.8E-04
TPH as motor oil	1.2E-09	NV	1.2E-09	1.2E-09	NV	1.2E-09
Total Hazard Index	2E-09	3E-04	3E-04	2E-09	3E-04	3E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

NS = Not sampled.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table AOC28-B.5a

Baseline Scenario Risk Evaluation for Lead in AOC28 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	NS	NS	NS	7.2
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	NA	NA	NA	0.004
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	NA	NA	NA	0.01
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	NA	NA	NA	0%

PRG90

994

Abbreviations:

NA = Not applicable.

NS = Not sampled.

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC28-B.5b

Baseline Scenario Risk Evaluation for Lead in AOC 28 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	NS	NS	NS	7.2
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR _s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
AF _{s, D}	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
EF _{s, D}	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
AT _{s, D}	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB _{adult}	PbB of adult worker, geometric mean	ug/dL	NA	NA	NA	0.001
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	NA	NA	NA	0.00
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(\text{PbB}_{\text{fetal}} > \text{PbB}_t)$	Probability that fetal PbB > PbB _t , assuming lognormal distribution	%	NA	NA	NA	0%

PRG90

3977

Abbreviations:

NA = Not applicable.

NS = Not sampled.

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.

Appendix AOC31

Soil HHERA for AOC 31 Exposure Area



Pacific Gas and Electric Company

APPENDIX AOC31 SOIL HHERA FOR AOC 31 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes. A thin white line runs diagonally across it, and a thin white horizontal line intersects it near the bottom.

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SOIL HHERA FOR AOC 31 EXPOSURE AREA

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SOIL HHERA FOR AOC 31 EXPOSURE AREA

FIGURE

AOC31-1.1 Soil Sampling Locations AOC 31 Exposure Area

ATTACHMENTS

- A Dataset and Exposure Point Concentration Calculations for the AOC 31 HHERA
- B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 31 Using Depth-Weighted EPCs
- C Dose and Risk Calculations for Ecological Receptors at AOC 31 Using Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

AOC	area of concern
Arcadis	Arcadis U.S., Inc.
B(a)PEQ	benzo(a)pyrene equivalent
BCW	Bat Cave Wash
bgs	below ground surface
BTAG	Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
BTV	background threshold value
CDI	chronic daily intake
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
LMW	low molecular weight
LOAEL	lowest observed adverse effects level
LOE	line of evidence
µg/dL	microgram per deciliter
main report	Soil Human Health and Ecological Risk Assessment Report
mg/kg	milligram per kilogram

APPENDIX AOC31
SOIL HHERA FOR AOC 31 EXPOSURE AREA

NA	not applicable
NOAEL	no-observed adverse effects level
OCS	outside the compressor station
OEHHA	Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
PA	perimeter area
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
SUF	site use factor
SWMU	solid waste management unit
T&E	threatened and endangered
TCS	Topock Compressor Station
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	unidentified area
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WOE	weight of evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Area of Concern 31 (AOC 31) soil potential exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The AOC 31 potential exposure area, shown on Figure AOC31-1.1, is approximately 0.11 acre and includes sample locations identified in Table AOC31-1.1 of this appendix. Available soil data for the AOC 31 potential exposure area were used to conduct a quantitative HHERA as presented herein. The human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are summarized in Sections 5 and 6, respectively, of the Soil Human Health and Ecological Risk Assessment Report (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the AOC 31 potential exposure area and the HHERA methodologies are provided in the main report and the Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and results of the HHERA risk characterization for soil in the AOC 31 potential exposure area. Tables and figures specific to the AOC 31 potential exposure area HHERA are also presented in this appendix.

1.1 Summary of Site Use

The AOC 31 potential exposure area, also referred to as the Former Teapot Dome Oil Pit, is located northeast of the TCS, just outside the fenceline. The location of the AOC 31 potential exposure area overlaps with the perimeter area (PA) investigation. The AOC 31 potential exposure area is located on property owned by Pacific Gas and Electric Company (PG&E).

There are two sampling locations within the AOC 31 potential exposure area: PA-OS1 and PA08. Opportunistic soil samples were collected from PA-OS1 in 2011 and analyzed for several constituents. As part of the PA investigation, samples were collected from PA08 from an area identified as having a circular area of dark soil approximately 3 to 4 feet (ft) in diameter, and therefore, is considered the most likely potential location of the former oil pit.

The primary source of contamination in the AOC 31 potential exposure area is potential historical leaks or spills from a reported oil pit. Former employees indicated that they had been told that the Teapot Dome restaurant provided oil changes and that oil from vehicles was dumped into a pit. Potential wastes in this area pre-date the construction of the TCS. Any constituents released would have been in liquid form and released to surface soil, or leaks from the bottom of the pit to subsurface soil. Therefore, surface soil and subsurface soil are the primary source media.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the AOC 31 HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the AOC 31 potential exposure area.

All soil sampling locations at the AOC 31 potential exposure area are presented on Figure AOC31-1.1 and in Table AOC31-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report Volume 3 (currently being prepared by Jacobs).

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. Available soil data for the AOC 31 potential exposure area are presented in Attachment AOC31-A1. For AOC 31 potential exposure area, soil data available from 9 samples from 0 to 10 ft below ground surface (ft bgs) were considered for use in the HHERA as potential soil contact does not extend below 10 ft bgs (Table AOC31-1.1).

Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo[a]pyrene equivalent [B(a)PEQ], and polychlorinated biphenyls [PCBs]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the AOC 31 potential exposure area using soil data encompassing relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 31 potential exposure area), as presented in Attachment AOC31-A1. Inorganic compounds (i.e., HMW PAHs, LMW PAHs, and B[a]PEQ) are above background threshold values (BTVs) in AOC 31 potential exposure area soil (0 to 10 ft bgs), and therefore are included as COPCs and/or COPECs in the four baseline exposure depths evaluated in the HHERA. When B(a)PEQ was detected above background, carcinogenic PAHs (i.e., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, chrysene, and indeno[1,2,3-cd]pyrene) associated with B(a)PEQ were also selected as COPCs in the HHERA for the evaluation of the noncancer endpoint for each PAH.

All other detected organic constituents in AOC 31 potential exposure area soil in the baseline exposure depths (see Section 3) are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios (baseline) evaluated in the HHERA for the AOC 31 potential exposure area are summarized in Tables AOC31-2.1a through AOC31-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the AOC 31 potential exposure area were calculated as described in Section 4.2 of the main report. For the AOC 31 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC31-A2. The summary statistics for these AOC 31 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP documents, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (i.e., cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are calculated only if depth-weighted EPCs suggest potential risk to potential ecological receptors (i.e., hazard quotient [HQ] exceeds 1 for any COPEC). For AOC 31, area-weighted EPCs were not deemed necessary for the HHRA or the ERA, and therefore were not evaluated.

Soil summary statistics for constituents measured at the AOC 31 potential exposure area¹ that were detected at least once and depth-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed above are presented in Table AOC31-3.1. Due to the small dataset sizes for the surface, shallow, subsurface I, and subsurface II soil datasets in the AOC 31 potential exposure area (i.e., sample sizes of two or five depending on the exposure depths), insufficient data were available to calculate upper confidence limits [UCLs] on the mean. Therefore, the depth-weighted EPCs were based on maximum depth-weighted concentrations.

¹ The list of constituents shown in Table AOC31-3.1 is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) and measured at the AOC 31 potential exposure area.

4 HUMAN HEALTH RISK ASSESSMENT

This section summarizes the HHRA approach; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the AOC 31 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the AOC 31 potential exposure area are presented in Attachment AOC31-B.

Risks/hazards estimated for an individual AOC/solid waste management unit (SWMU)/unidentified area (UA) potential exposure area such as the AOC 31 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS, rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in the AOC 31 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the AOC 31 potential exposure area. The potential receptors and exposure pathways evaluated for the AOC 31 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and volatile organic compound (VOC) vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and off-highway vehicle [OHV] rider)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the AOC 31 potential exposure area were selected in accordance with the RAWP documents (Arcadis 2008, 2009, 2015) and as described in Section 3.4 of the main report. The COPC selection process using soil data encompassing relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for the AOC 31 potential exposure area) are presented in Attachment AOC31-A. COPCs for the four exposure depths and one scenario (baseline) evaluated for the AOC 31 potential exposure area HHRA are summarized in Table AOC31-4.1 (details are presented in Tables AOC31-2.1a through AOC31-2.1d).

COPCs included three metals (copper, lead, and zinc), one VOC (chloroform), PAHs, total PCBs, total petroleum hydrocarbon (TPH) as diesel, and TPH as motor oil in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC31-A. Depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables AOC31-4.2a through AOC31-4.2h for the four exposure depths in the baseline scenario.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Workers** – surface, shallow, subsurface I, and subsurface II soil
- **Recreational Users (child and/or adult camper, hiker, hunter, and OHV rider)** – surface and shallow soil
- **Tribal Users** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values are presented in Tables AOC 31-B.1a through AOC31-B.1g (carcinogenic effects) and Tables AOC31-B.2a through AOC31-B.2g (noncarcinogenic effects) in Attachment AOC31-B for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment is provided in

Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to California Department of Toxic Substances Control (DTSC) guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the AOC 31 potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Estimated cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} ; risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks with between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Estimated cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (United States Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table AOC31-4.3 summarizes cumulative ILCRs and HIs estimated using depth-weighted EPCs for exposure to soil for each potential human receptor evaluated for the AOC 31 potential exposure area in the baseline scenario. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables AOC31-B.3a through AOC31-B.3g) and noncancer hazard calculations (Tables AOC31-B.4a through AOC 31-B.4g) are presented in Attachment AOC31-B.

Risk and hazard estimates for the baseline scenario are summarized in the tables below. Assuming lifetime soil contact is limited to the AOC 31 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for each human receptor potentially exposed to COPCs in AOC 31 soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively. Furthermore, the depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil are not expected to result in an increase in blood lead levels above the California Office of Environmental Health Hazard Assessment's (OEHHA's) benchmark value of 1 microgram per deciliter ($\mu\text{g/dL}$) in the fetus of a short-term maintenance worker, long-term maintenance worker, or hunter or in the child recreational user (Tables AOC31-B.5a through AOC31-B.5i).

APPENDIX AOC31
SOIL HHERA FOR AOC 31 EXPOSURE AREA

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 31 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	6E-09	NA	0.02	NA
	Shallow	5E-09	NA	0.01	NA
	Subsurface I	3E-09	NA	0.01	NA
	Subsurface II	3E-09	NA	0.01	NA
Long-Term Maintenance Worker	Surface	7E-08	NA	0.004	NA
	Shallow	6E-08	NA	0.003	NA
	Subsurface I	4E-08	NA	0.002	NA
	Subsurface II	4E-08	NA	0.002	NA

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.
NA = not applicable

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 31 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	4E-08	NA	0.003	NA
	Shallow	3E-08	NA	0.003	NA
Hiker	Surface	8E-08	NA	0.006	NA
	Shallow	6E-08	NA	0.005	NA
Hunter	Surface	5E-09	NA	0.001	NA
	Shallow	4E-09	NA	0.0009	NA
OHV Rider	Surface	7E-08	NA	0.003	NA
	Shallow	5E-08	NA	0.002	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Tribal User

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		AOC 31 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	1E-10	NA	0.00006	NA
	Shallow	1E-10	NA	0.00006	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

4.6.2 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance, and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the AOC 31 potential exposure area are discussed below.

Uncertainties for the AOC 31 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table AOC31-3.1. As stated previously in Section 3, due to the small sizes of the surface, shallow, subsurface I, and subsurface II soil datasets for the AOC 31 potential exposure area (i.e., insufficient data to calculate UCLs on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs may not appropriately represent exposures and resulting risks/hazards for maintenance workers, recreational users, and tribal users evaluated in the AOC 31 potential exposure area HHRA.

5 ECOLOGICAL RISK ASSESSMENT

This section summarizes the ERA approach; presents the COPECs, EPCs, dose, and risk tables for the AOC 31 potential exposure area ERA; and characterizes potential risk to potential ecological receptors exposed to COPECs in soil at the AOC 31 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the AOC 31 potential exposure area ERA based on risk calculations conducted using depth-weighted EPCs are presented in Attachment AOC31-C and described below.

As noted previously in Section 3, the depth-weighted EPCs are based on the maximum depth-weighted concentration due to the small datasets available for the AOC 31 potential exposure area. Ecological risk calculations based on maximum depth-weighted EPCs, specified in the RAWP (Arcadis 2008) and DTSC guidance (1996), are the same as presented below.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil at the AOC 31 potential exposure area. These potential receptors included plants, soil invertebrates, and small home-range receptors, as follows:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow, and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammal indicator receptors evaluated in this ERA for the AOC 31 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations exposed to surface, shallow, and/or subsurface I soil (incidental and through biota uptake).
 - **Desert Shrew** – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the AOC 31 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations exposed only to surface soil (incidental and through biota uptake).
 - **Gambel's Quail** – representative of granivorous bird populations exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Potential large home-range receptors (i.e., desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the AOC 31 potential exposure area were estimated and characterized as part of the evaluation of all AOCs in the OCS combined, as well as all AOCs OCS excluding Bat Cave Wash (BCW) and AOC 4 (OCSxBCW+AOC4); see Appendix OCS and Appendix OCSxBCW+AOC4 for risk characterization for these large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas is described in detail in various reports (see Section 2.4 of the main report). Although potential habitat exists for special-status² species at or near the site, none have been recorded as observed at the AOC 31 potential exposure area. The primary vegetation present at the AOC 31 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed threatened and endangered (T&E) plants or candidates for listing were found at the site, including the AOC 31 potential exposure area.

Several species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E species or candidates for listing were observed at the AOC 31 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA, where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical potential receptors at the site within that group, use of no-effects-based toxicity values) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the AOC 31 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the AOC 31 potential exposure area) and used in the COPEC selection process are presented in Attachment AOC31-A1.

Because a potential ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario.

Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate) are not typically evaluated in ERAs and were not

² Special-status species include both federal- and state-listed fully protected threatened and endangered (T&E) species, federal/state species of concern, and traditional culturally significant plants; however, protection at the no-observed adverse effects level (NOAEL) is warranted only for fully protected species.

selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table AOC31-5.1.

COPECs included three metals (copper, lead, and zinc), one VOC (chloroform; VOCs were not analyzed in the 0- to 0.5-ft bgs interval), total PCBs, and HMW and LMW PAHs in all three exposure depths. TPH as diesel and TPH as motor oil were also identified as COPECs. However, due to lack of appropriate toxicity values to evaluate TPHs for potential ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs), when detected, were used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. For the AOC 31 potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs due to the small dataset sizes; these depth-weighted EPCs are equivalent to maximum depth-weighted concentrations. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment AOC31-A2.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in Section 6.3 and shown on Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each potential receptor are presented in Table AOC31-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these potential receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table AOC31-5.3 for the baseline scenario, and the representative soil and/or biota EPCs identified for the baseline risk calculations are bolded in this table.

Of the COPECs identified for the AOC 31 potential exposure area, chloroform was not analyzed in surface soil. Therefore, risks to potential receptors only exposed to surface soil do not include a risk estimate for this COPEC. These potential receptors include soil invertebrates, invertivorous mammals (desert shrew), and insectivorous birds (cactus wren). Although this COPEC was detected in shallow and subsurface I soil, uptake

into biota is considered negligible (assumed to be zero for the risk calculations³), and therefore, exposure through diet is considered incomplete. For plants and granivorous wildlife, only direct exposure was considered complete for this VOC. As noted previously, per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), two risk calculations are required for each COPEC based on two EPC options: 1) the maximum detected concentration, and 2) the UCL. However, because the datasets were of insufficient size to estimate UCLs, depth-weighted EPCs are based on the maximum depth-weighted concentrations for depth intervals evaluated in the ERA. Therefore, only the depth-weighted EPCs (based on the maximum depth-weighted concentrations) and associated risk calculations are provided for each COPEC for the AOC 31 potential exposure area.

5.4 Estimation of Exposure Concentration or Dose

Potential exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (i.e., in milligrams per kilogram [mg/kg]). Potential exposures for wildlife (mammals and birds) are quantified as doses (i.e., in mg/kg body weight per day). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the AOC 31 potential exposure area for the baseline scenario presented in Table AOC31-5.3.

For wildlife, doses were calculated using the exposure parameters and equations presented in Table 6-4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the AOC 31 potential exposure area, as presented in Table AOC31-5.3 for the depth-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment AOC31-C.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to ecological receptors potentially exposed to COPECs in soil and biota tissue at the AOC 31 potential exposure area.

For plants and soil invertebrates, the screening values are presented in Section 6.5 and Table 6-6 of the main report.

A range of risks to wildlife were estimated using the no-observed-adverse effects-level (NOAEL)-based TRVs and lowest-observed-adverse-effects-level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop USEPA's Ecological Soil Screening Levels (USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996) and USEPA Region 6 ERA Guidance

³ VOCs have low bioaccumulation potential (octanol-water partition coefficient is low [$\log K_{ow} < 2$]) and uptake into biota is considered negligible for these constituents.

(USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-based TRVs⁴, based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009), was used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in Tables 6-7 through 6-10 of the main report, respectively.

Plant screening levels and avian TRVs are not available for chloroform; therefore, direct effects to these potential receptors from exposure to this specific COPEC could not be estimated. In addition, appropriate screening values and TRVs are not available for TPHs; therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the AOC 31 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both of those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimates (HQs) involved integrating exposure profiles with the exposure-effects information. For each potential receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates are discussed below for interpreting the risk results and identifying potential unacceptable risk to potential ecological receptors. Uncertainties specific to the AOC 31 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.7 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC to respective screening values, and these HQs were compared to the target HQ of 1. Following USEPA (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach based on multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to plants and soil invertebrates.
- COPECs with HQs greater than 1 indicate unacceptable risk to plants and soil invertebrates is possible. However, exceedances of the screening values (which are conservative and generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection, site use history, and confidence in the screening values was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: 1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and

⁴ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily the LOAELs. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

strong LOEs to support a conclusion of no unacceptable risk); or 3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs previously identified in RAWP documents (Arcadis 2008, 2009, 2015). HQs based on LOAEL-based TRVs selected in the RAWP are referred to as “LOAEL-based HQs.” HQs based on NOAEL-based TRVs selected in the RAWP are referred to as “NOAEL-based HQs.” Additionally, NOAEL- and LOAEL-based HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The BTAG NOAEL-based TRVs are considered very conservative, resulting in a wide range of risks to wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at the AOC 31 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of potential wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1, but a LOAEL-based HQ less than or equal to 1, pose no unacceptable risks to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risks to individuals are uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study, and the nature and magnitude of the effects, if any, that may occur at exposures between these values is unknown. In such cases, a WOE approach, including multiple LOEs, was used in reducing uncertainty for characterizing potential risk to individual potential wildlife receptors.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of potential wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach was used in reducing uncertainty for characterizing potential risk to wildlife populations at the AOC 31 potential exposure area, as described in the preceding bullet.
- NOAEL-based HQs greater than 1 are considered one LOE in assessing potential risk to sensitive species, if present, in this exposure area. Evaluation of T&E species for the AOC 31 potential exposure area is presented in Section 5.1.1 of this appendix.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE:

1) unacceptable risk to individual wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs);
2) unacceptable risk to individual wildlife is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or 3) unacceptable risk to individual wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each potential receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOE in reaching the WOE conclusions.

For the AOC 31 potential exposure area, evaluations were completed for the following scenario and are discussed in this section:

- Baseline scenario using depth-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables AOC31-5.4a and AOC31-5.4b. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community-/population-level risk was predicted using the most refined exposure and effects assumptions evaluated for this exposure area (i.e., site-specific site use factor [SUF], depth-weighted EPCs, and selected TRVs).

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) for the baseline scenario using depth-weighted EPCs are summarized in this section. As mentioned previously in Section 5.4, ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. Detailed risk calculations for plants and soil invertebrates (Table AOC31-C.1) and detailed dose and risk calculations for wildlife (Tables AOC31-C.2 through AOC31-C.5) are presented in Attachment AOC31-C. COPECs at the AOC 31 potential exposure area include three metals (copper, lead, and zinc), one VOC (chloroform), HMW PAHs, LMW PAHs, total PCBs, and TPHs in soil.

As noted, the risks estimated in this scenario are based on maximum depth-weighted concentrations as the EPCs because there are too few samples available to reliably calculate UCLs. Because the samples were collected in a targeted manner near known or suspected source areas (see Section 1.1), use of the maximum concentrations as the EPC may not appropriately characterize potential soil exposure and risk for the AOC 31 potential exposure area. Potential risk to receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table AOC31-5.4a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the AOC 31 potential exposure area for the baseline scenario using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are less than 1 for all COPECs (including PAHs as indicator chemicals for TPHs) based on the highest EPC value from the shallow, surface, and subsurface I soil depth intervals, indicating *de minimis* risk to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed only to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, HQs are less than 1 for all COPECs based on exposure to surface soil only, indicating *de minimis* risk to soil invertebrates from exposure to these COPECs. As mentioned in Section 5.3 of this appendix, chloroform was not analyzed for surface soil; therefore, risks for this COPEC to soil invertebrates, which are only exposed to surface soil, were not estimated.

For TPH mixtures, individual constituents were used to characterize potential risks to plants and soil invertebrates. BTEX were not detected in any samples (Attachment AOC31-A). HQs for HMW and LMW PAHs for plants and soil invertebrates are less than 1, indicating no unacceptable risk to these potential receptors. Therefore, unacceptable risk to plants and soil invertebrates from exposure to TPHs at the AOC 31 potential exposure area is considered unlikely.

To summarize, based on the risk results and WOE for the depth-weighted EPCs, unacceptable risk to plant and soil invertebrate communities from exposure to COPECs in soil at the AOC 31 potential exposure area is not expected, and therefore, risk estimates based on area-weighted EPCs are not warranted.

Risk Summary and Risk Drivers for Ecological Communities

Risk drivers were identified for potential unacceptable ecological community-level risk based on HQs using the most refined exposure and effects assumptions evaluated for this exposure area (i.e., depth-weighted EPCs based on maximum depth-weighted concentrations) and supporting WOE. Based on the risk results and WOE, no unacceptable risks to plant and soil invertebrate communities are expected for COPECs in soil at the AOC 31 potential exposure area.

5.6.1.2 Small Mammals

For the AOC 31 potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using the Selected TRVs

Table AOC31-5.4a summarizes HQs estimated for small mammals at the AOC 31 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals at the AOC 31 potential exposure area.
 - For TPH mixtures, individual constituents were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and the NOAEL- and LOAEL-based HQs for HMW and LMW PAHs are less than 1, indicating that unacceptable risk to granivorous small mammals from exposure to TPHs is not expected.
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs for this potential receptor are less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals at the AOC 31 potential exposure area.
 - For TPH mixtures, individual constituents were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for HMW and LMW PAHs are less than 1, indicating that unacceptable risk to invertivorous small mammals from exposure to TPHs is not expected.

Based on the risk estimates for the AOC 31 potential exposure area using the selected TRVs and a SUF of 1, *de minimis* risk is expected for small mammals for COPECs in soil at the AOC 31 potential exposure area.

Risks Evaluated Using the BTAG TRVs

Table AOC31-5.4a also summarizes HQs estimated for small mammals at the AOC 31 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal)** – NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal)** – NOAEL-based HQs for copper, lead, and zinc are greater than 1, and the LOAEL-based HQs are less than 1 for these COPECs, indicating no unacceptable risk to populations of invertivorous mammals is expected. However, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQs. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of invertivorous small mammals from the remaining COPECs.

Summarized below are all HQ estimates for small mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Small Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Copper	1E-01	6E-02	4E-01	1E-03	7E-01	4E-01	3E+00	1E-02
Lead	3E-02	2E-02	2E-01	6E-04	4E-01	2E-01	2E+00	8E-03
Zinc	7E-02	2E-02	5E-01	1E-02	1E+00	3E-01	8E+00	2E-01

Note:

Bold indicates HQs > 1.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table AOC31-5.4b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the AOC 31 potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUFs were estimated as 0.9 and 1, respectively, for these potential receptors (i.e., the home range for desert shrew is less than or equal to the size of the exposure area). Therefore, the risk results for desert shrew for this evaluation are the same as discussed above for the generic SUF of 1. The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs for Merriam's kangaroo rat using the selected TRVs and BTAG TRVs and the site-specific SUF, similar to the results discussed above using a generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Small Mammals Using Depth-Weighted EPCs

Based on the risks characterized for populations of small mammals exposed to COPECs in soil at the AOC 31 potential exposure area using selected TRVs,⁵ depth-weighted EPCs (based on maximum depth-weighted concentrations due to small dataset sizes), and a site- and species-specific SUF (SUF equal to 1 for desert shrew), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammal), the NOAEL-based and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals at the AOC 31 potential exposure area.
- For desert shrew (invertivorous small mammal), the NOAEL-based and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of invertivorous small mammals at the AOC 31 potential exposure area.

De minimis risk is expected for individuals and populations of small mammals at the AOC 31 potential exposure area based on this evaluation. Further evaluation of these potential receptors using area-weighted EPCs is not warranted.

Potential Risk Drivers for Small Mammals at the AOC 31 Potential Exposure Area

No risk-driving COPECs for small mammals were identified at the AOC 31 potential exposure area based on the following: no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted based on HQs calculated using the most refined exposure and effects assumptions evaluated in this scenario (i.e., site-specific SUF, depth-weighted EPCs,⁶ and selected TRVs) and additional supporting WOE. Additionally, no COPECs with NOAEL-based HQs greater than 1, using the most refined exposure and effects assumptions and additional LOEs supporting the conclusions of unacceptable risk, were identified at the AOC 31 potential exposure area.

5.6.1.3 Birds

For the AOC 31 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using the Selected TRVs

⁵ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

⁶ Evaluation of area-weighted EPCs is not warranted for these receptors.

Table AOC31-5.4a summarizes HQs estimated for birds at the AOC 31 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Gambel's quail (granivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to subsurface I soil (0 to 6 ft bgs) through its diet. The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds.
 - For TPH mixtures, individual constituent concentrations were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for HMW and LMW PAHs are less than 1, indicating that no unacceptable risk to granivorous birds from exposure to TPHs is expected.
- **Cactus wren (insectivorous bird)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. NOAEL- and LOAEL-based HQs for this potential receptor are less than 1 for all COPECs, except copper. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For copper, the NOAEL-based HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds. However, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. Copper was detected above the BTV (BTV = 16.8) in the single sample location analyzed at the AOC 31 potential exposure area. The NOAEL-based HQ is low. The HQ may not appropriately characterize risk because the depth-weighted EPC (62 mg/kg) is based on the maximum depth-weighted concentration.
 - For TPH mixtures, individual concentrations were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and NOAEL- and LOAEL-based HQs for HMW and LMW PAHs are less than 1, indicating that no unacceptable risk to insectivorous birds from exposure to TPHs is expected.
 - NOAEL- and LOAEL-based HQs for the remaining COPECs in soil are less than or equal to 1, indicating *de minimis* risk to individuals or populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk for copper, this COPEC was further evaluated using site- and species-specific SUFs as discussed below.

Risks Evaluated Using the BTAG TRVs

Table AOC31-5.4a also summarizes HQs estimated for birds at the AOC 31 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The NOAEL-based HQ for lead is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds is expected. However, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The risks from lead are likely overestimated due to the conservative avian TRV and the EPC based

on the maximum depth-weighted concentration. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for the remaining COPECs.

- **Cactus wren (insectivorous bird)** – NOAEL-based HQs for copper, lead, and zinc are greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds is expected. However, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQ. The risks from copper, lead, and zinc are likely overestimated due to the conservative avian TRVs and the EPCs based on the maximum depth-weighted concentrations. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds from these COPECs.

Summarized below are all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Copper	2E-01	5E-02	3E-01	1E-02	2E+00	6E-01	3E+00	1E-01
Lead	8E-02	4E-02	9E+00	1E-02	1E+00	6E-01	1E+02	2E-01
Zinc	4E-02	2E-02	2E-01	2E-02	1E+00	4E-01	4E+00	4E-01

Note:

Bold indicates HQs > 1.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using Selected TRVs

Table AOC31-5.4b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.003, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs. Consistent with the evaluation using a SUF of 1, *de minimis* risk to individuals and populations of granivorous birds is expected when accounting for site use at the AOC 31 potential exposure area.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this potential receptor is 0.02, which reduced the NOAEL-based HQ for copper to less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds exposed to this COPEC in soil at the AOC 31 potential exposure area. The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating *de minimis* risk to populations and individual insectivorous birds from exposure to the remaining COPECs.

No unacceptable risks to birds are expected for this scenario using a species- and site-specific SUF.

Risks Evaluated Using the BTAG TRVs

Table AOC31-5.4b also summarizes HQs estimated for birds at the AOC 31 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird)** – The site-specific SUF for this potential receptor is 0.003, which reduced the NOAEL-based HQ for lead to less than 1. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs. Thus, *de minimis* risk to individuals and populations of granivorous birds is expected when accounting for site use at the AOC 31 potential exposure area.
- **Cactus wren (insectivorous bird)** – The site-specific SUF for this potential receptor is 0.02, which reduced the NOAEL-based HQs for copper and zinc to less than 1. The NOAEL-based HQ was also reduced for lead in this evaluation, but is still greater than 1. LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds. However, unacceptable risk to individual potential receptors is uncertain for exposure to lead in soil based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds from these COPECs.

For the COPECs with NOAEL-based HQs greater than 1 using a SUF of 1 (using the selected TRV or BTAG TRV), HQ estimates using the species- and site-specific SUF for birds are summarized below.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.003)				Cactus Wren (SUF = 0.02)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Copper	5E-04	2E-04	9E-04	4E-05	4E-02	1E-02	7E-02	3E-03
Lead	3E-04	1E-04	3E-02	5E-05	3E-02	1E-02	3E+00	5E-03
Zinc	1E-04	5E-05	5E-04	5E-05	3E-02	1E-02	1E-01	1E-02

Note:

Bold indicates HQs > 1.

5.6.1.3.3 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the AOC 31 potential exposure area using selected TRVs,⁷ depth-weighted EPCs (based on maximum depth-weighted concentrations due to small dataset sizes), and a site- and species-specific SUF, the risk conclusions are as follows:

⁷ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

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- For Gambel's quail (granivorous bird), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs.
- For cactus wren (insectivorous bird), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds for all COPECs.

Based on the above results, further evaluation of these potential receptors using area-weighted EPCs is not warranted.

Potential Risk Drivers for Birds at the AOC 31 Exposure Area

No risk-driving COPECs for birds were identified at the AOC 31 potential exposure area based on the following: no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted based on HQs calculated using the most refined exposure and effects assumptions evaluated in this scenario (i.e., site-specific SUF, depth-weighted EPCs,⁸ and selected TRVs) and additional supporting WOE. Additionally, no COPECs with NOAEL-based HQs greater than 1, using the most refined exposure and effects assumptions and additional LOEs supporting the conclusions of unacceptable risk, were identified at the AOC 31 potential exposure area.

⁸ Evaluation of area-weighted EPCs is not warranted for these receptors.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Estimated potential cumulative cancer risks and noncancer hazards for potential human receptors are presented in Section 4 and estimated potential risks for potential ecological receptors are presented in Section 5 of this appendix. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Sections 5.6 and 6.7 of the main report, and uncertainties specific to the AOC 31 potential exposure area are discussed in this appendix. For the AOC 31 potential exposure area, the HHRA and ERA were conducted in accordance with the methodology presented in the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline, i.e., no scouring) was evaluated, and risks were estimated for various potential receptors using depth-weighted EPCs. Depth-weighted EPCs were based on the maximum depth-weighted concentrations due to small sample sizes for this exposure area.

At the AOC 31 potential exposure area, the COPCs/COPECs identified for the HHRA include three metals (copper, lead, and zinc), one VOC (chloroform), HMW and LMW PAHs, total PCBs, TPH as diesel, and TPH as motor oil. The results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the AOC 31 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are summarized in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the AOC 31 potential exposure area using depth-weighted EPCs under the baseline scenario were estimated. Assuming lifetime soil contact is limited to the AOC 31 potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 31 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth- Wt	Depth-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1
Long-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface I	$\leq 1 \times 10^{-6}$	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1
Camper	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Hiker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		AOC 31 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth- Wt	Depth-Wt
Hunter	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
OHV Rider	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1

Note:

wt = weighted

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User
- **ILCR $\leq 1 \times 10^{-6}$ all soil depths** – All potential receptors evaluated including Short- and Long-Term Maintenance Workers, Camper, Hiker, Hunter, OHV Rider, and Tribal User.

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the AOC 31 potential exposure area, the cumulative ILCRs and HIs associated with potential exposure to COPCs in soil using depth-weighted EPCs for all receptors (i.e., short- and long-term maintenance workers, recreational users, and tribal users) are below 1×10^{-6} and 1, respectively. Furthermore, the depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil are not expected to result in an increase in blood lead levels above OEHHA's benchmark value of 1 µg/dL in the fetus of a short- or long-term maintenance worker, the fetus of a hunter, or the child recreational user.

Risks/hazards estimated for an individual AOC/SWMU/UA potential exposure area such as AOC 31 are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all individual AOC/SWMU/UA potential exposure areas located outside the TCS rather than have a lifetime of contact limited to the area of a single potential exposure area. Therefore, estimated risks/hazards presented for individual AOC/SWMU/UA potential exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all AOC/SWMU/UA potential exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of

contact with soil only in the AOC 31 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the AOC 31 potential exposure area, three metals (copper, lead, and zinc), one VOC (chloroform), HMW PAHs, LMW PAHs, total PCBs, and TPHs were identified as COPECs. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted EPCs, which were based on the maximum depth-weighted concentrations, due to small samples sizes for this exposure area. Risk conclusions are based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and soil invertebrates).
- COPECs with HQs greater than 1 could indicate potential risk to ecological communities. A WOE approach was used to characterize potential risk to plants and soil invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risks to wildlife populations; however, the potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual potential receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors based on the HQ.

The risk estimates (HQs) represent a single LOE in the risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties, was used to characterize risk to wildlife populations at the AOC 31 potential exposure area.

HQs for COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening values/selected TRVs, and species- and site-specific SUFs are summarized in Table AOC31-6.1. Evaluation of area-weighted EPCs was not warranted based on potential risks estimated using depth-weighted EPCs. Conclusions for the baseline scenario evaluations are as follows:

- **Plant Communities** – *de minimis* risk to plant communities from exposure to all COPECs in soil.
- **Soil Invertebrates Communities** – *de minimis* risk to soil invertebrate communities from exposure to all COPECs in soil.
- **Small Mammals** – *de minimis* risk to individuals and populations of small mammals (granivorous and invertivorous) exposed to all COPECs in soil.
- **Birds** – *de minimis* risk to individuals and populations of birds (granivorous and insectivorous) exposed to all COPECs in soil.

APPENDIX AOC31
SOIL HHERA FOR AOC 31 EXPOSURE AREA

- **T&E Species** – No federal or state T&E species have been observed in the AOC 31 potential exposure area. Concentrations of COPECs at the AOC 31 potential exposure area pose no unacceptable risk to potential individual receptors.

Based on the results of the ERA for the AOC 31 potential exposure area, potential exposures to COPECs in soil at the AOC 31 potential exposure area are not expected to pose unacceptable risk to potential ecological receptors.

6.2.1 Potential Risk Drivers for the AOC 31 Potential Exposure Area

As presented in Table AOC31-6.2 and summarized in the table below, no risk drivers were identified for the AOC 31 potential exposure area based on unacceptable community-/population-level risk (i.e., HQs greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds) predicted from HQs calculated using the most refined exposure and effects assumptions evaluated for this potential exposure area (i.e., site-specific SUF, depth-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk.

Scenario	Potential Receptors and Risk Drivers at the AOC 31 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's kangaroo rat)	Insectivorous Mammals (desert shrew)	Granivorous Birds (Gambel's quail)	Insectivorous Birds (cactus wren)
Baseline	None	None	None	None	None	None

7 REFERENCES

- Arcadis. 2008. Human Health and Ecological Risk Assessment Work Plan (RAWP), Topock Compressor Station, Needles, California. August.
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- USEPA. 2008. Guidance for Developing Ecological Soil Screening Levels, Interim Final Documents. Available at: https://rais.ornl.gov/guidance/epa_eco.html.

TABLES



Table AOC31-1.1
Samples and Sampling Locations Included in the AOC 31 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
300b-40-1090	04/06/11	PA-OS1	0	0.5	0.5	0-0.5	--
300b-40-1091	04/06/11	PA-OS1	2.5	3	3	0-03	--
300b-40-1092	04/06/11	PA-OS1	5.5	6	6	0-06	--
300b-40-1093	04/06/11	PA-OS1	9	9.5	9.5	0-10	--
PA-08-03	01/12/16	PA-08	2	3	3	0-03	--
PA-08-06	01/12/16	PA-08	5	6	6	0-06	--
PA-08-1	11/09/15	PA-08	0	1	0.5	0-0.5	--
PA-08-10	01/12/16	PA-08	9	10	10	0-10	--
PA-08-FD	01/12/16	PA-08	2	3	3	0-03	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

Table AOC31-2.1a

Chemicals Included in the Risk Assessment: AOC 31 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Antimony	0 / 1	ND	mg/kg	No	Not Detected
Arsenic	1 / 1	4.8	mg/kg	No	Within Background
Barium	1 / 1	290	mg/kg	No	Within Background
Beryllium	0 / 1	ND	mg/kg	No	Not Detected
Cadmium	0 / 1	ND	mg/kg	No	Not Detected
Chromium, Hexavalent	1 / 1	0.82	mg/kg	No	Within Background
Chromium, total	1 / 1	26	mg/kg	No	Within Background
Cobalt	1 / 1	10	mg/kg	No	Within Background
Copper	1 / 1	62	mg/kg	Yes	Above Background
Lead	1 / 1	19	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 1	ND	mg/kg	No	Not Detected
Molybdenum	0 / 1	ND	mg/kg	No	Not Detected
Nickel	1 / 1	20	mg/kg	No	Within Background
Selenium	0 / 1	ND	mg/kg	No	Not Detected
Silver	0 / 1	ND	mg/kg	No	Not Detected
Thallium	0 / 1	ND	mg/kg	No	Not Detected
Vanadium	1 / 1	33	mg/kg	No	Within Background
Zinc	1 / 1	94	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 2	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 2	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 2	ND	ug/kg	No	Not Detected

Table AOC31-2.1a

Chemicals Included in the Risk Assessment: AOC 31 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	2 / 2	0 - 840	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	2 / 2	0 - 57	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 2	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 2	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 2	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 2	ND	ug/kg	No	Not Detected
Anthracene	0 / 2	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^b	1 / 2	59	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^b	1 / 2	94	ug/kg	Yes	Above Background (HHRA Only)
Benzo (b) fluoranthene ^b	1 / 2	230	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	0 / 2	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^b	1 / 2	87	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^b	1 / 2	120	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^b	0 / 2	ND	ug/kg	No	Not Detected
Fluoranthene	1 / 2	140	ug/kg	Yes	Detected
Fluorene	0 / 2	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^b	0 / 2	ND	ug/kg	No	Not Detected
Naphthalene	0 / 2	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 2	57	ug/kg	Yes	Detected
Pyrene	1 / 2	110	ug/kg	Yes	Detected
B(a)P Equivalent ^c	1 / 2	150	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
Pentachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^d	1 / 2	65	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 2	15 - 17	mg/kg	Yes	Detected
TPH as motor oil	1 / 2	35	mg/kg	Yes	Detected

Table AOC31-2.1a

Chemicals Included in the Risk Assessment: AOC 31 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^c Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^d Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	1 / 1	9,000	mg/kg	No	Within Background
Antimony	0 / 2	ND	mg/kg	No	Not Detected
Arsenic	2 / 2	4.4 - 4.8	mg/kg	No	Within Background
Barium	2 / 2	290 - 330	mg/kg	No	Within Background
Beryllium	0 / 2	ND	mg/kg	No	Not Detected
Cadmium	0 / 2	ND	mg/kg	No	Not Detected
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	2 / 2	0.26 - 0.82	mg/kg	No	Within Background
Chromium, total	2 / 2	14 - 26	mg/kg	No	Within Background
Cobalt	2 / 2	8.6 - 10	mg/kg	No	Within Background
Copper	2 / 2	13 - 62	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	19,000	mg/kg	No	Within Background
Lead	2 / 2	9.3 - 19	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,800	mg/kg	No	Within Background
Manganese ^b	1 / 1	260	mg/kg	No	Within Background
Mercury (inorganic)	0 / 2	ND	mg/kg	No	Not Detected
Molybdenum	0 / 2	ND	mg/kg	No	Not Detected
Nickel	2 / 2	9.1 - 20	mg/kg	No	Within Background
Potassium ^b	1 / 1	3,700	mg/kg	No	Within Background
Selenium	0 / 2	ND	mg/kg	No	Not Detected
Silver	0 / 2	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	300	mg/kg	No	Within Background
Thallium	0 / 2	ND	mg/kg	No	Not Detected
Vanadium	2 / 2	33 - 35	mg/kg	No	Within Background
Zinc	2 / 2	44 - 94	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 2	ND	ug/kg	No	Not Detected

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 2	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 2	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 4	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 4	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 2	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 2	ND	ug/kg	No	Not Detected
Acetone	0 / 2	ND	ug/kg	No	Not Detected
Acrolein	0 / 2	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 2	ND	ug/kg	No	Not Detected
Benzene	0 / 2	ND	ug/kg	No	Not Detected

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
bis (2-chloroethyl) ether	0 / 4	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 4	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 2	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 2	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 2	ND	ug/kg	No	Not Detected
Bromoform	0 / 2	ND	ug/kg	No	Not Detected
Bromomethane	0 / 2	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 2	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 2	ND	ug/kg	No	Not Detected
Chloro methane	0 / 2	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
Chloroethane	0 / 2	ND	ug/kg	No	Not Detected
Chloroform	1 / 2	11	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 2	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 2	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 2	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 2	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 4	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 4	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 2	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 2	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 2	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 2	ND	ug/kg	No	Not Detected

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
n-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 4	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 2	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 2	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Styrene	0 / 2	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 2	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 2	ND	ug/kg	No	Not Detected
Toluene	0 / 2	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 2	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 2	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 2	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 2	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 2	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 2	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	4 / 4	0 - 840	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	4 / 4	0 - 57	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 4	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 4	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 4	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 4	ND	ug/kg	No	Not Detected
Anthracene	0 / 4	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	1 / 4	59	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	1 / 4	94	ug/kg	Yes	Above Background (HHRA Only)
Benzo (b) fluoranthene ^c	1 / 4	230	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	0 / 4	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^c	1 / 4	87	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	1 / 4	120	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	0 / 4	ND	ug/kg	No	Not Detected
Fluoranthene	1 / 4	140	ug/kg	Yes	Detected
Fluorene	0 / 4	ND	ug/kg	No	Not Detected

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Indeno (1,2,3-cd) pyrene ^c	0 / 4	ND	ug/kg	No	Not Detected
Naphthalene	0 / 4	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 4	57	ug/kg	Yes	Detected
Pyrene	1 / 4	110	ug/kg	Yes	Detected
B(a)P Equivalent ^d	1 / 4	150	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
Pentachlorophenol	0 / 4	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 4	65	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 4	14 - 17	mg/kg	Yes	Detected
TPH as gasoline	0 / 2	ND	mg/kg	No	Not Detected
TPH as motor oil	1 / 4	35	mg/kg	Yes	Detected

Table AOC31-2.1b

Chemicals Included in the Risk Assessment: AOC 31 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	1 / 1	9,000	mg/kg	No	Within Background
Antimony	0 / 3	ND	mg/kg	No	Not Detected
Arsenic	3 / 3	2.4 - 4.8	mg/kg	No	Within Background
Barium	3 / 3	110 - 330	mg/kg	No	Within Background
Beryllium	0 / 3	ND	mg/kg	No	Not Detected
Cadmium	0 / 3	ND	mg/kg	No	Not Detected
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	2 / 3	0.26 - 0.82	mg/kg	No	Within Background
Chromium, total	3 / 3	7.1 - 26	mg/kg	No	Within Background
Cobalt	3 / 3	5.9 - 10	mg/kg	No	Within Background
Copper	3 / 3	6.2 - 62	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	19,000	mg/kg	No	Within Background
Lead	3 / 3	1.7 - 19	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,800	mg/kg	No	Within Background
Manganese ^b	1 / 1	260	mg/kg	No	Within Background
Mercury (inorganic)	0 / 3	ND	mg/kg	No	Not Detected
Molybdenum	0 / 3	ND	mg/kg	No	Not Detected
Nickel	3 / 3	7.1 - 20	mg/kg	No	Within Background
Potassium ^b	1 / 1	3,700	mg/kg	No	Within Background
Selenium	0 / 3	ND	mg/kg	No	Not Detected
Silver	0 / 3	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	300	mg/kg	No	Within Background
Thallium	0 / 3	ND	mg/kg	No	Not Detected
Vanadium	3 / 3	21 - 35	mg/kg	No	Within Background
Zinc	3 / 3	21 - 94	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 4	ND	ug/kg	No	Not Detected

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 4	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 4	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 4	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 4	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 4	ND	ug/kg	No	Not Detected
Acetone	0 / 4	ND	ug/kg	No	Not Detected
Acrolein	0 / 4	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 4	ND	ug/kg	No	Not Detected
Benzene	0 / 4	ND	ug/kg	No	Not Detected

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
bis (2-chloroethyl) ether	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 6	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 4	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 4	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 4	ND	ug/kg	No	Not Detected
Bromoform	0 / 4	ND	ug/kg	No	Not Detected
Bromomethane	0 / 4	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 4	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 4	ND	ug/kg	No	Not Detected
Chloro methane	0 / 4	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 4	ND	ug/kg	No	Not Detected
Chloroethane	0 / 4	ND	ug/kg	No	Not Detected
Chloroform	1 / 4	11	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 4	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 4	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 4	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 4	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 6	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 4	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 4	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 4	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 4	ND	ug/kg	No	Not Detected

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
n-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 6	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 4	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 4	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Styrene	0 / 4	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 4	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 4	ND	ug/kg	No	Not Detected
Toluene	0 / 4	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 4	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 4	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 4	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 4	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 4	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 4	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	6 / 6	0 - 840	ug/kg	Yes	Above Background (ERA Only)
PAH Low molecular weight	6 / 6	0 - 57	ug/kg	Yes	Above Background (ERA Only)
1-Methyl naphthalene	0 / 6	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 6	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 6	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 6	ND	ug/kg	No	Not Detected
Anthracene	0 / 6	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	1 / 6	59	ug/kg	Yes	Above Background (HHRA Only)
Benzo (a) pyrene ^c	1 / 6	94	ug/kg	Yes	Above Background (HHRA Only)
Benzo (b) fluoranthene ^c	1 / 6	230	ug/kg	Yes	Above Background (HHRA Only)
Benzo (ghi) perylene	0 / 6	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^c	1 / 6	87	ug/kg	Yes	Above Background (HHRA Only)
Chrysene ^c	1 / 6	120	ug/kg	Yes	Above Background (HHRA Only)
Dibenzo (a,h) anthracene ^c	0 / 6	ND	ug/kg	No	Not Detected
Fluoranthene	1 / 6	140	ug/kg	Yes	Detected
Fluorene	0 / 6	ND	ug/kg	No	Not Detected

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Indeno (1,2,3-cd) pyrene ^c	0 / 6	ND	ug/kg	No	Not Detected
Naphthalene	0 / 6	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 6	57	ug/kg	Yes	Detected
Pyrene	1 / 6	110	ug/kg	Yes	Detected
B(a)P Equivalent ^d	1 / 6	150	ug/kg	Yes	Above Background (HHRA Only)
Pesticides					
Pentachlorophenol	0 / 6	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 6	65	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 6	14 - 17	mg/kg	Yes	Detected
TPH as gasoline	0 / 4	ND	mg/kg	No	Not Detected
TPH as motor oil	1 / 6	35	mg/kg	Yes	Detected

Table AOC31-2.1c

Chemicals Included in the Risk Assessment: AOC 31 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	1 / 1	9,000	mg/kg	No	Within Background
Antimony	0 / 5	ND	mg/kg	No	Not Detected
Arsenic	5 / 5	1.5 - 4.8	mg/kg	No	Within Background
Barium	5 / 5	22 - 330	mg/kg	No	Within Background
Beryllium	0 / 5	ND	mg/kg	No	Not Detected
Cadmium	0 / 5	ND	mg/kg	No	Not Detected
Calcium ^b	1 / 1	21,000	mg/kg	No	Within Background
Chromium, Hexavalent	2 / 5	0.26 - 0.82	mg/kg	No	Within Background
Chromium, total	5 / 5	2.9 - 26	mg/kg	No	Within Background
Cobalt	5 / 5	1.7 - 10	mg/kg	No	Within Background
Copper	4 / 5	4.8 - 62	mg/kg	Yes	Above Background
Cyanide	0 / 1	ND	mg/kg	No	Not Detected
Iron ^b	1 / 1	19,000	mg/kg	No	Within Background
Lead	5 / 5	1.2 - 19	mg/kg	Yes	Above Background
Magnesium ^b	1 / 1	6,800	mg/kg	No	Within Background
Manganese ^b	1 / 1	260	mg/kg	No	Within Background
Mercury (inorganic)	0 / 5	ND	mg/kg	No	Not Detected
Molybdenum	0 / 5	ND	mg/kg	No	Not Detected
Nickel	5 / 5	4.2 - 20	mg/kg	No	Within Background
Potassium ^b	1 / 1	3,700	mg/kg	No	Within Background
Selenium	0 / 5	ND	mg/kg	No	Not Detected
Silver	0 / 5	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 1	300	mg/kg	No	Within Background
Thallium	0 / 5	ND	mg/kg	No	Not Detected
Vanadium	5 / 5	9.2 - 35	mg/kg	No	Within Background
Zinc	5 / 5	6.9 - 94	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 8	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 1	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 8	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 6	ND	ug/kg	No	Not Detected
Acetone	0 / 6	ND	ug/kg	No	Not Detected
Acrolein	0 / 6	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 6	ND	ug/kg	No	Not Detected
Benzene	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 8	ND	ug/kg	No	Not Detected

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
bis (2-chloroisopropyl) ether	0 / 8	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 6	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromoform	0 / 6	ND	ug/kg	No	Not Detected
Bromomethane	0 / 6	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 6	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 6	ND	ug/kg	No	Not Detected
Chloro methane	0 / 6	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Chloroethane	0 / 6	ND	ug/kg	No	Not Detected
Chloroform	1 / 6	11	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 6	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 6	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 8	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 1	ND	ug/kg	No	Not Detected
Isophorone	0 / 8	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 6	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 6	ND	ug/kg	No	Not Detected

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 8	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 6	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Styrene	0 / 6	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 6	ND	ug/kg	No	Not Detected
Toluene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 6	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 6	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 6	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 6	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 8	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	1 / 8	5.0	ug/kg	Yes	Detected
Acenaphthene	0 / 8	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 8	ND	ug/kg	No	Not Detected
Anthracene	0 / 8	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	1 / 8	59	ug/kg	Yes	Detected
Benzo (a) pyrene ^c	1 / 8	94	ug/kg	Yes	Detected
Benzo (b) fluoranthene ^c	1 / 8	230	ug/kg	Yes	Detected
Benzo (ghi) perylene	0 / 8	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^c	1 / 8	87	ug/kg	Yes	Detected
Chrysene ^c	1 / 8	120	ug/kg	Yes	Detected
Dibenzo (a,h) anthracene ^c	0 / 8	ND	ug/kg	No	Not Detected
Fluoranthene	1 / 8	140	ug/kg	Yes	Detected
Fluorene	0 / 8	ND	ug/kg	No	Not Detected

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Indeno (1,2,3-cd) pyrene ^c	0 / 8	ND	ug/kg	No	Not Detected
Naphthalene	0 / 8	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 8	57	ug/kg	Yes	Detected
Pyrene	1 / 8	110	ug/kg	Yes	Detected
B(a)P Equivalent ^d	1 / 8	150	ug/kg	Yes	Above Background
Pesticides					
Pentachlorophenol	0 / 8	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 8	65	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 8	14 - 17	mg/kg	Yes	Detected
TPH as gasoline	0 / 6	ND	mg/kg	No	Not Detected
TPH as motor oil	1 / 8	35	mg/kg	Yes	Detected

Table AOC31-2.1d

Chemicals Included in the Risk Assessment: AOC 31 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																	
Inorganic Compounds																	
Antimony	mg/kg	0-0.5	0 / 1	0	NA	NA	1.1	1.1	NA	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-0.5	1 / 1	100	4.8	4.8	NA	NA	4.8	NA	4.8	NA	NA	NA	--	--	--
Barium	mg/kg	0-0.5	1 / 1	100	290	290	NA	NA	290	NA	290	NA	NA	NA	--	--	--
Beryllium	mg/kg	0-0.5	0 / 1	0	NA	NA	0.55	0.55	NA	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-0.5	0 / 1	0	NA	NA	0.55	0.55	NA	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-0.5	1 / 1	100	0.82	0.82	NA	NA	0.82	NA	0.82	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-0.5	1 / 1	100	26	26	NA	NA	26	NA	26	NA	NA	NA	--	--	--
Cobalt	mg/kg	0-0.5	1 / 1	100	10	10	NA	NA	10	NA	10	NA	NA	NA	--	--	--
Copper	mg/kg	0-0.5	1 / 1	100	62	62	NA	NA	62	NA	62	NA	NA	NA	X	62	Max Detect
Lead	mg/kg	0-0.5	1 / 1	100	19	19	NA	NA	19	NA	19	NA	NA	NA	X	19	Max Detect
Mercury	mg/kg	0-0.5	0 / 1	0	NA	NA	0.055	0.055	NA	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-0.5	0 / 1	0	NA	NA	0.55	0.55	NA	NA	NA	NA	NA	NA	--	--	--
Nickel	mg/kg	0-0.5	1 / 1	100	20	20	NA	NA	20	NA	20	NA	NA	NA	--	--	--
Selenium	mg/kg	0-0.5	0 / 1	0	NA	NA	0.55	0.55	NA	NA	NA	NA	NA	NA	--	--	--
Silver	mg/kg	0-0.5	0 / 1	0	NA	NA	0.55	0.55	NA	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-0.5	0 / 1	0	NA	NA	1.1	1.1	NA	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-0.5	1 / 1	100	33	33	NA	NA	33	NA	33	NA	NA	NA	--	--	--
Zinc	mg/kg	0-0.5	1 / 1	100	94	94	NA	NA	94	NA	94	NA	NA	NA	X	94	Max Detect
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-0.5	0 / 2	0	NA	NA	165	180	NA	NA	NA	NA	NA	NA	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	1800	NA	NA	NA	NA	NA	NA	--	--	--
Butylbenzylphthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	1800	NA	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 2	0	NA	NA	165	180	NA	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-0.5	0 / 2	0	NA	NA	165	180	NA	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-0.5	1 / 2	50	57	57	0	0	57	28.5	57	NA	NA	NA	X	57	Max Detect
PAH high molecular weight	µg/kg	0-0.5	1 / 2	50	840	840	0	0	840	420	840	NA	NA	NA	X	840	Max Detect
1-Methyl naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.7	25	NA	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-0.5	1 / 2	50	59	59	2.5	2.5	59	30.75	59	NA	NA	NA	X	59	Max Detect

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis
Benzo (a) pyrene	µg/kg	0-0.5	1 / 2	50	94	94	2.5	2.5	94	48.25	94	NA	NA	X	94	Max Detect
Benzo (b) fluoranthene	µg/kg	0-0.5	1 / 2	50	230	230	2.5	2.5	230	116.3	230	NA	NA	X	230	Max Detect
Benzo (ghi) perylene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	27	NA	NA	NA	NA	NA	--	--	--
Benzo (k) fluoranthene	µg/kg	0-0.5	1 / 2	50	87	87	2.5	2.5	87	44.75	87	NA	NA	X	87	Max Detect
Chrysene	µg/kg	0-0.5	1 / 2	50	120	120	2.5	2.5	120	61.25	120	NA	NA	X	120	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	27	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-0.5	1 / 2	50	140	140	2.5	2.5	140	71.25	140	NA	NA	X	140	Max Detect
Fluorene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	27	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-0.5	0 / 2	0	NA	NA	2.5	2.7	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-0.5	1 / 2	50	57	57	25	25	57	41	57	NA	NA	X	57	Max Detect
Pyrene	µg/kg	0-0.5	1 / 2	50	110	110	2.5	2.5	110	56.25	110	NA	NA	X	110	Max Detect
B(a)P equivalent	µg/kg	0-0.5	1 / 2	50	150	150	5.8	5.8	150	77.9	150	NA	NA	X	150	Max Detect
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-0.5	1 / 2	50	65	65	34	34	65	49.5	65	NA	NA	X	65	Max Detect
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-0.5	2 / 2	100	15	17	NA	NA	16	16	16	2	1.414	X	17	Max Detect
TPH as motor oil	mg/kg	0-0.5	1 / 2	50	35	35	5	5	35	20	35	NA	NA	X	35	Max Detect
Soil Depth Interval: 0-3 ft bgs																
Inorganic Compounds																
Aluminum	mg/kg	0-3	1 / 1	100	9000	9000	NA	NA	9000	NA	9000	NA	NA	--	--	--
Antimony	mg/kg	0-3	0 / 1	0	NA	NA	1.08	1.08	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-3	1 / 1	100	4.67	4.67	NA	NA	4.67	NA	4.67	NA	NA	--	--	--
Barium	mg/kg	0-3	1 / 1	100	303	303	NA	NA	303	NA	303	NA	NA	--	--	--
Beryllium	mg/kg	0-3	0 / 1	0	NA	NA	0.533	0.533	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-3	0 / 1	0	NA	NA	0.533	0.533	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-3	1 / 1	100	0.633	0.633	NA	NA	0.633	NA	0.633	NA	NA	--	--	--
Chromium, total	mg/kg	0-3	1 / 1	100	22	22	NA	NA	22	NA	22	NA	NA	--	--	--
Cobalt	mg/kg	0-3	1 / 1	100	9.53	9.53	NA	NA	9.53	NA	9.53	NA	NA	--	--	--
Copper	mg/kg	0-3	1 / 1	100	45.7	45.7	NA	NA	45.7	NA	45.7	NA	NA	X	45.7	Max Detect
Cyanide	mg/kg	0-3	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--
Iron	mg/kg	0-3	1 / 1	100	19000	19000	NA	NA	19000	NA	19000	NA	NA	--	--	--
Lead	mg/kg	0-3	1 / 1	100	15.8	15.8	NA	NA	15.8	NA	15.8	NA	NA	X	15.8	Max Detect
Manganese	mg/kg	0-3	1 / 1	100	260	260	NA	NA	260	NA	260	NA	NA	--	--	--
Mercury	mg/kg	0-3	0 / 1	0	NA	NA	0.0533	0.0533	NA	NA	NA	NA	NA	--	--	--

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
Molybdenum	mg/kg	0-3	0 / 1	0	NA	NA	0.533	0.533	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-3	1 / 1	100	16.4	16.4	NA	NA	16.4	NA	16.4	NA	NA	NA	--	--	
Selenium	mg/kg	0-3	0 / 1	0	NA	NA	0.533	0.533	NA	NA	NA	NA	NA	NA	--	--	
Silver	mg/kg	0-3	0 / 1	0	NA	NA	0.533	0.533	NA	NA	NA	NA	NA	NA	--	--	
Thallium	mg/kg	0-3	0 / 1	0	NA	NA	1.08	1.08	NA	NA	NA	NA	NA	NA	--	--	
Vanadium	mg/kg	0-3	1 / 1	100	33.7	33.7	NA	NA	33.7	NA	33.7	NA	NA	NA	--	--	
Zinc	mg/kg	0-3	1 / 1	100	77.3	77.3	NA	NA	77.3	NA	77.3	NA	NA	NA	X	77.3	Max Detect
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-3	0 / 2	0	NA	NA	27.5	32.5	NA	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-3	1 / 2	50	11	11	2.75	2.75	11	6.875	11	NA	NA	NA	X	11	Max Detect
Ethyl- benzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Methyl acetate	µg/kg	0-3	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-3	0 / 2	0	NA	NA	27.5	32.5	NA	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
N-Propylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
sec-Butylbenzene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Toluene	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Xylene, m,p-	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Xylene, o-	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Xylenes, total	µg/kg	0-3	0 / 2	0	NA	NA	2.75	3.25	NA	NA	NA	NA	NA	NA	--	--	--
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-3	0 / 2	0	NA	NA	165	177	NA	NA	NA	NA	NA	NA	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 2	0	NA	NA	165	1260	NA	NA	NA	NA	NA	NA	--	--	--
Butylbenzylphthalate	µg/kg	0-3	0 / 2	0	NA	NA	165	1260	NA	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-3	0 / 2	0	NA	NA	165	177	NA	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-3	0 / 2	0	NA	NA	165	177	NA	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-3	1 / 2	50	38	38	0	0	38	19	38	NA	NA	NA	X	38	Max Detect
PAH high molecular weight	µg/kg	0-3	1 / 2	50	560	560	0	0	560	280	560	NA	NA	NA	X	560	Max Detect

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
1-Methyl naphthalene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	2.67	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-3	0 / 2	0	NA	NA	2.67	25	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	2.67	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	2.67	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	2.67	NA	NA	NA	NA	NA	--	--	--	
Benzo (a) anthracene	µg/kg	0-3	1 / 2	50	40.2	40.2	2.5	2.5	40.2	21.35	40.2	NA	NA	X	40.2	Max Detect	
Benzo (a) pyrene	µg/kg	0-3	1 / 2	50	63.5	63.5	2.5	2.5	63.5	33	63.5	NA	NA	X	63.5	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-3	1 / 2	50	154	154	2.5	2.5	154	78.25	154	NA	NA	X	154	Max Detect	
Benzo (ghi) perylene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	18.9	NA	NA	NA	NA	NA	--	--	--	
Benzo (k) fluoranthene	µg/kg	0-3	1 / 2	50	58.9	58.9	2.5	2.5	58.9	30.7	58.9	NA	NA	X	58.9	Max Detect	
Chrysene	µg/kg	0-3	1 / 2	50	80.9	80.9	2.5	2.5	80.9	41.7	80.9	NA	NA	X	80.9	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	18.9	NA	NA	NA	NA	NA	--	--	--	
Fluoranthene	µg/kg	0-3	1 / 2	50	94.2	94.2	2.5	2.5	94.2	48.35	94.2	NA	NA	X	94.2	Max Detect	
Fluorene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	2.67	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	0 / 2	0	NA	NA	2.5	18.9	NA	NA	NA	NA	NA	--	--	--	
Naphthalene	µg/kg	0-3	0 / 2	0	NA	NA	2.54	2.67	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-3	1 / 2	50	38.9	38.9	21.3	21.3	38.9	30.1	38.9	NA	NA	X	38.9	Max Detect	
Pyrene	µg/kg	0-3	1 / 2	50	74.2	74.2	2.5	2.5	74.2	38.35	74.2	NA	NA	X	74.2	Max Detect	
B(a)P equivalent	µg/kg	0-3	1 / 2	50	102	102	5.8	5.8	102	53.9	102	NA	NA	X	102	Max Detect	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-3	1 / 2	50	54.7	54.7	34	34	54.7	44.35	54.7	NA	NA	X	54.7	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-3	2 / 2	100	13	14.8	NA	NA	13.9	13.9	13.9	1.62	1.273	X	14.8	Max Detect	
TPH as gasoline	mg/kg	0-3	0 / 2	0	NA	NA	0.65	0.85	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-3	1 / 2	50	25	25	5	5	25	15	25	NA	NA	X	25	Max Detect	
Soil Depth Interval: 0-6 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-6	1 / 1	100	9000	9000	NA	NA	9000	NA	9000	NA	NA	--	--	--	
Antimony	mg/kg	0-6	0 / 1	0	NA	NA	1.06	1.06	NA	NA	NA	NA	NA	--	--	--	
Arsenic	mg/kg	0-6	1 / 1	100	4.2	4.2	NA	NA	4.2	NA	4.2	NA	NA	--	--	--	
Barium	mg/kg	0-6	1 / 1	100	280	280	NA	NA	280	NA	280	NA	NA	--	--	--	
Beryllium	mg/kg	0-6	0 / 1	0	NA	NA	0.517	0.517	NA	NA	NA	NA	NA	--	--	--	
Cadmium	mg/kg	0-6	0 / 1	0	NA	NA	0.517	0.517	NA	NA	NA	NA	NA	--	--	--	
Chromium, hexavalent	mg/kg	0-6	1 / 1	100	0.42	0.42	NA	NA	0.42	NA	0.42	NA	NA	--	--	--	
Chromium, total	mg/kg	0-6	1 / 1	100	16.9	16.9	NA	NA	16.9	NA	16.9	NA	NA	--	--	--	

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
Cobalt	mg/kg	0-6	1 / 1	100	8.62	8.62	NA	NA	8.62	NA	8.62	NA	NA	--	--	--	
Copper	mg/kg	0-6	1 / 1	100	28.2	28.2	NA	NA	28.2	NA	28.2	NA	NA	X	28.2	Max Detect	
Cyanide	mg/kg	0-6	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--	
Iron	mg/kg	0-6	1 / 1	100	19000	19000	NA	NA	19000	NA	19000	NA	NA	--	--	--	
Lead	mg/kg	0-6	1 / 1	100	11.3	11.3	NA	NA	11.3	NA	11.3	NA	NA	X	11.3	Max Detect	
Manganese	mg/kg	0-6	1 / 1	100	260	260	NA	NA	260	NA	260	NA	NA	--	--	--	
Mercury	mg/kg	0-6	0 / 1	0	NA	NA	0.0517	0.0517	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-6	0 / 1	0	NA	NA	0.517	0.517	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-6	1 / 1	100	12.4	12.4	NA	NA	12.4	NA	12.4	NA	NA	--	--	--	
Selenium	mg/kg	0-6	0 / 1	0	NA	NA	0.517	0.517	NA	NA	NA	NA	NA	--	--	--	
Silver	mg/kg	0-6	0 / 1	0	NA	NA	0.517	0.517	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-6	0 / 1	0	NA	NA	1.06	1.06	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-6	1 / 1	100	32	32	NA	NA	32	NA	32	NA	NA	--	--	--	
Zinc	mg/kg	0-6	1 / 1	100	56.8	56.8	NA	NA	56.8	NA	56.8	NA	NA	X	56.8	Max Detect	
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Acetone	µg/kg	0-6	0 / 2	0	NA	NA	27.6	34.3	NA	NA	NA	NA	NA	--	--	--	
Bromomethane	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Chloro methane	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Chloroform	µg/kg	0-6	1 / 2	50	9.89	9.89	2.76	2.76	9.89	6.325	9.89	NA	NA	X	9.89	Max Detect	
Ethyl- benzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Isopropylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Methyl acetate	µg/kg	0-6	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--	
Methyl ethyl ketone	µg/kg	0-6	0 / 2	0	NA	NA	27.6	34.3	NA	NA	NA	NA	NA	--	--	--	
Methylene chloride	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
N-Butylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
N-Propylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
sec-Butylbenzene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Toluene	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Xylene, m,p-	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Xylene, o-	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Xylenes, total	µg/kg	0-6	0 / 2	0	NA	NA	2.76	3.43	NA	NA	NA	NA	NA	--	--	--	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-6	0 / 2	0	NA	NA	165	173	NA	NA	NA	NA	NA	--	--	--	

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 2	0	NA	NA	165	712	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-6	0 / 2	0	NA	NA	165	712	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-6	0 / 2	0	NA	NA	165	173	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-6	0 / 2	0	NA	NA	165	173	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-6	1 / 2	50	19	19	0	0	19	9.5	19	NA	NA	X	19	Max Detect	
PAH high molecular weight	µg/kg	0-6	1 / 2	50	280	280	0	0	280	140	280	NA	NA	X	280	Max Detect	
1-Methyl naphthalene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	2.62	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-6	0 / 2	0	NA	NA	2.62	25	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	2.62	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	2.62	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	2.62	NA	NA	NA	NA	NA	--	--	--	
Benzo (a) anthracene	µg/kg	0-6	1 / 2	50	21.4	21.4	2.5	2.5	21.4	11.95	21.4	NA	NA	X	21.4	Max Detect	
Benzo (a) pyrene	µg/kg	0-6	1 / 2	50	36.8	36.8	2.5	2.5	36.8	19.65	36.8	NA	NA	X	36.8	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-6	1 / 2	50	82.1	82.1	2.5	2.5	82.1	42.3	82.1	NA	NA	X	82.1	Max Detect	
Benzo (ghi) perylene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	14.5	NA	NA	NA	NA	NA	--	--	--	
Benzo (k) fluoranthene	µg/kg	0-6	1 / 2	50	34.5	34.5	2.5	2.5	34.5	18.5	34.5	NA	NA	X	34.5	Max Detect	
Chrysene	µg/kg	0-6	1 / 2	50	41.7	41.7	2.5	2.5	41.7	22.1	41.7	NA	NA	X	41.7	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	14.5	NA	NA	NA	NA	NA	--	--	--	
Fluoranthene	µg/kg	0-6	1 / 2	50	48.4	48.4	2.5	2.5	48.4	25.45	48.4	NA	NA	X	48.4	Max Detect	
Fluorene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	2.62	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	0 / 2	0	NA	NA	2.5	14.5	NA	NA	NA	NA	NA	--	--	--	
Naphthalene	µg/kg	0-6	0 / 2	0	NA	NA	2.62	2.65	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-6	1 / 2	50	20.7	20.7	11.9	11.9	20.7	16.3	20.7	NA	NA	X	20.7	Max Detect	
Pyrene	µg/kg	0-6	1 / 2	50	38.4	38.4	2.5	2.5	38.4	20.45	38.4	NA	NA	X	38.4	Max Detect	
B(a)P equivalent	µg/kg	0-6	1 / 2	50	62.3	62.3	5.8	5.8	62.3	34.05	62.3	NA	NA	X	62.3	Max Detect	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-6	1 / 2	50	44.3	44.3	34	34	44.3	39.15	44.3	NA	NA	X	44.3	Max Detect	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-6	2 / 2	100	9	13.7	NA	NA	11.35	11.35	11.35	11.05	3.323	X	13.7	Max Detect	
TPH as gasoline	mg/kg	0-6	0 / 2	0	NA	NA	0.633	0.838	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-6	1 / 2	50	15	15	5	5	15	10	15	NA	NA	X	15	Max Detect	
Soil Depth Interval: 0-10 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-10	1 / 1	100	9000	9000	NA	NA	9000	NA	9000	NA	NA	--	--	--	

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis
Antimony	mg/kg	0-10	0 / 2	0	NA	NA	1	1.04	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-10	2 / 2	100	2.4	3.39	NA	NA	2.895	2.895	2.895	0.49	0.7	--	--	--
Barium	mg/kg	0-10	2 / 2	100	22	215	NA	NA	118.5	118.5	118.5	18625	136.5	--	--	--
Beryllium	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-10	1 / 2	50	0.292	0.292	0.2	0.2	0.292	0.246	0.292	NA	NA	--	--	--
Chromium, total	mg/kg	0-10	2 / 2	100	2.9	12.8	NA	NA	7.85	7.85	7.85	49.01	7	--	--	--
Cobalt	mg/kg	0-10	2 / 2	100	1.7	7.48	NA	NA	4.59	4.59	4.59	16.7	4.087	--	--	--
Copper	mg/kg	0-10	1 / 2	50	19.3	19.3	1	1	19.3	10.15	19.3	NA	NA	X	19.3	Max Detect
Cyanide	mg/kg	0-10	0 / 1	0	NA	NA	0.105	0.105	NA	NA	NA	NA	NA	--	--	--
Iron	mg/kg	0-10	1 / 1	100	19000	19000	NA	NA	19000	NA	19000	NA	NA	--	--	--
Lead	mg/kg	0-10	2 / 2	100	2.3	7.39	NA	NA	4.845	4.845	4.845	12.95	3.599	X	7.39	Max Detect
Manganese	mg/kg	0-10	1 / 1	100	260	260	NA	NA	260	NA	260	NA	NA	--	--	--
Mercury	mg/kg	0-10	0 / 2	0	NA	NA	0.05	0.051	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--
Nickel	mg/kg	0-10	2 / 2	100	4.2	10.1	NA	NA	7.15	7.15	7.15	17.41	4.172	--	--	--
Selenium	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--
Silver	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.51	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-10	0 / 2	0	NA	NA	1	1.04	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-10	2 / 2	100	9.2	27.6	NA	NA	18.4	18.4	18.4	169.3	13.01	--	--	--
Zinc	mg/kg	0-10	2 / 2	100	6.9	42.7	NA	NA	24.8	24.8	24.8	640.8	25.31	X	42.7	Max Detect
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-10	0 / 2	0	NA	NA	28.2	36.5	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-10	1 / 2	50	7.53	7.53	2.82	2.82	7.53	5.175	7.53	NA	NA	X	7.53	Max Detect
Ethyl- benzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
Methyl acetate	µg/kg	0-10	0 / 1	0	NA	NA	3.25	3.25	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-10	0 / 2	0	NA	NA	28.2	36.5	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--
N-Propylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
sec-Butylbenzene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--	
Toluene	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--	
Xylene, m,p-	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--	
Xylene, o-	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--	
Xylenes, total	µg/kg	0-10	0 / 2	0	NA	NA	2.82	3.65	NA	NA	NA	NA	NA	--	--	--	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-10	0 / 2	0	NA	NA	165	170	NA	NA	NA	NA	NA	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 2	0	NA	NA	165	494	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-10	0 / 2	0	NA	NA	165	494	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-10	0 / 2	0	NA	NA	165	170	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-10	0 / 2	0	NA	NA	165	170	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-10	2 / 2	100	0.5	11.4	NA	NA	5.95	5.95	5.95	59.41	7.707	X	11.4	Max Detect	
PAH high molecular weight	µg/kg	0-10	1 / 2	50	168	168	0	0	168	84	168	NA	NA	X	168	Max Detect	
1-Methyl naphthalene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	2.57	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-10	1 / 2	50	23	23	2.57	2.57	23	12.79	23	NA	NA	X	23	Max Detect	
Acenaphthene	µg/kg	0-10	0 / 2	0	NA	NA	2.57	4.75	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	2.57	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	2.57	NA	NA	NA	NA	NA	--	--	--	
Benzo (a) anthracene	µg/kg	0-10	1 / 2	50	13.8	13.8	2.5	2.5	13.8	8.15	13.8	NA	NA	X	13.8	Max Detect	
Benzo (a) pyrene	µg/kg	0-10	1 / 2	50	29.8	29.8	2.5	2.5	29.8	16.15	29.8	NA	NA	X	29.8	Max Detect	
Benzo (b) fluoranthene	µg/kg	0-10	1 / 2	50	57	57	2.5	2.5	57	29.75	57	NA	NA	X	57	Max Detect	
Benzo (ghi) perylene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	16.4	NA	NA	NA	NA	NA	--	--	--	
Benzo (k) fluoranthene	µg/kg	0-10	1 / 2	50	28.4	28.4	2.5	2.5	28.4	15.45	28.4	NA	NA	X	28.4	Max Detect	
Chrysene	µg/kg	0-10	1 / 2	50	26	26	2.5	2.5	26	14.25	26	NA	NA	X	26	Max Detect	
Dibenzo (a,h) anthracene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	16.4	NA	NA	NA	NA	NA	--	--	--	
Fluoranthene	µg/kg	0-10	1 / 2	50	30	30	2.5	2.5	30	16.25	30	NA	NA	X	30	Max Detect	
Fluorene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	2.57	NA	NA	NA	NA	NA	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	0 / 2	0	NA	NA	2.5	16.4	NA	NA	NA	NA	NA	--	--	--	
Naphthalene	µg/kg	0-10	0 / 2	0	NA	NA	2.57	2.75	NA	NA	NA	NA	NA	--	--	--	
Phenanthrene	µg/kg	0-10	1 / 2	50	13.4	13.4	8.13	8.13	13.4	10.77	13.4	NA	NA	X	13.4	Max Detect	
Pyrene	µg/kg	0-10	1 / 2	50	24	24	2.5	2.5	24	13.25	24	NA	NA	X	24	Max Detect	
B(a)P equivalent	µg/kg	0-10	2 / 2	100	5.8	54.8	NA	NA	30.3	30.3	30.3	1201	34.65	X	54.8	Max Detect	
Polychlorinated Biphenyls																	
Total PCBs	µg/kg	0-10	1 / 2	50	40.2	40.2	33.8	33.8	40.2	37	40.2	NA	NA	X	40.2	Max Detect	

Table AOC31-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
AOC 31 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	0-10	2 / 2	100	7.4	10.2	NA	NA	8.8	8.8	8.8	3.92	1.98	X	10.2	Max Detect	
TPH as gasoline	mg/kg	0-10	0 / 2	0	NA	NA	0.61	0.768	NA	NA	NA	NA	NA	--	--	--	
TPH as motor oil	mg/kg	0-10	1 / 2	50	11	11	5	5	11	8	11	NA	NA	X	11	Max Detect	

Notes:

- ^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
- ^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
- ^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

"--" = not applicable	EPC = exposure point concentration	mg/kg = milligrams per kilogram	PCB = polychlorinated biphenyls	UCL = upper confidence limit
AOC = area of concern	FOD = frequency of detection	NA = not applicable	PG&E = Pacific Gas and Electric Company	X = COPC/COPEC in the exposure depth interval
B(a)P equivalent = benzo(a)pyrene equivalent	ft bgs = feet below ground surface	ND = not detected	TCDD = Tetrachlorodibenzo-p-dioxin	
COPC = constituent of potential concern	KM = Kaplan-Meier	ng/kg = nanograms per kilogram	TEQ = toxic equivalent	
COPEC = constituent of potential ecological concern	µg/kg = micrograms per kilogram	PAH = polycyclic aromatic hydrocarbons	TPH = total petroleum hydrocarbons	

Table AOC31-4.1

Summary of COPCs Evaluated in the HHRA for AOC 31: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Copper	x	x	x	x
Lead	x	x	x	x
Zinc	x	x	x	x
Volatile Organic Compounds				
Chloroform	--	x	x	x
Polycyclic Aromatic Hydrocarbons				
2-Methyl naphthalene	--	--	--	x
Benzo (a) anthracene	x	x	x	x
Benzo (a) pyrene	x	x	x	x
Benzo (b) fluoranthene	x	x	x	x
Benzo (k) fluoranthene	x	x	x	x
Chrysene	x	x	x	x
Fluoranthene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
B(a)P Equivalent	x	x	x	x
Polychlorinated Biphenyls				
Total PCBs	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Copper	6.2E+01	1.9E+01	6.2E-05	NV	6.2E-05	NV
Lead	1.9E+01	7.4E+00	1.9E-05	NV	1.9E-05	NV
Zinc	9.4E+01	4.3E+01	9.4E-05	NV	9.4E-05	NV
Volatile Organic Compounds						
Chloroform	NS	7.5E-03	NA	1.2E-05	NA	2.1E-06
Polycyclic Aromatic Hydrocarbons						
2-Methyl naphthalene	ND	2.3E-02	NA	1.6E-06	NA	2.9E-07
Benzo (a) anthracene	5.9E-02	1.4E-02	5.9E-08	1.3E-08	5.9E-08	2.4E-09
Benzo (a) pyrene	9.4E-02	3.0E-02	9.4E-08	NV	9.4E-08	NV
Benzo (b) fluoranthene	2.3E-01	5.7E-02	2.3E-07	NV	2.3E-07	NV
Benzo (k) fluoranthene	8.7E-02	2.8E-02	8.7E-08	NV	8.7E-08	NV
Chrysene	1.2E-01	2.6E-02	1.2E-07	NV	1.2E-07	NV
Fluoranthene	1.4E-01	3.0E-02	1.4E-07	NV	1.4E-07	NV
Phenanthrene	5.7E-02	1.3E-02	5.7E-08	NV	5.7E-08	NV
Pyrene	1.1E-01	2.4E-02	1.1E-07	4.0E-08	1.1E-07	7.2E-09
B(a)P Equivalent	1.5E-01	5.5E-02	1.5E-07	NV	1.5E-07	NV

Table AOC31-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	6.5E-02	4.0E-02	6.5E-08	3.1E-07	6.5E-08	5.7E-08
Total Petroleum Hydrocarbons						
TPH as diesel	1.7E+01	1.0E+01	1.7E-05	2.1E-02	1.7E-05	3.8E-03
TPH as motor oil	3.5E+01	1.1E+01	3.5E-05	NV	3.5E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Copper	4.6E+01	1.9E+01	4.6E-05	NV	4.6E-05	NV
Lead	1.6E+01	7.4E+00	1.6E-05	NV	1.6E-05	NV
Zinc	7.7E+01	4.3E+01	7.7E-05	NV	7.7E-05	NV
Volatile Organic Compounds						
Chloroform	1.1E-02	7.5E-03	1.1E-08	1.2E-05	1.1E-08	2.1E-06
Polycyclic Aromatic Hydrocarbons						
2-Methyl naphthalene	ND	2.3E-02	NA	1.6E-06	NA	2.9E-07
Benzo (a) anthracene	4.0E-02	1.4E-02	4.0E-08	1.3E-08	4.0E-08	2.4E-09
Benzo (a) pyrene	6.4E-02	3.0E-02	6.4E-08	NV	6.4E-08	NV
Benzo (b) fluoranthene	1.5E-01	5.7E-02	1.5E-07	NV	1.5E-07	NV
Benzo (k) fluoranthene	5.9E-02	2.8E-02	5.9E-08	NV	5.9E-08	NV
Chrysene	8.1E-02	2.6E-02	8.1E-08	NV	8.1E-08	NV
Fluoranthene	9.4E-02	3.0E-02	9.4E-08	NV	9.4E-08	NV
Phenanthrene	3.9E-02	1.3E-02	3.9E-08	NV	3.9E-08	NV
Pyrene	7.4E-02	2.4E-02	7.4E-08	4.0E-08	7.4E-08	7.2E-09
B(a)P Equivalent	1.0E-01	5.5E-02	1.0E-07	NV	1.0E-07	NV

Table AOC31-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	5.5E-02	4.0E-02	5.5E-08	3.1E-07	5.5E-08	5.7E-08
Total Petroleum Hydrocarbons						
TPH as diesel	1.5E+01	1.0E+01	1.5E-05	2.1E-02	1.5E-05	3.8E-03
TPH as motor oil	2.5E+01	1.1E+01	2.5E-05	NV	2.5E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Copper	2.8E+01	1.9E+01	2.8E-05	NV	2.8E-05	NV
Lead	1.1E+01	7.4E+00	1.1E-05	NV	1.1E-05	NV
Zinc	5.7E+01	4.3E+01	5.7E-05	NV	5.7E-05	NV
Volatile Organic Compounds						
Chloroform	9.9E-03	7.5E-03	9.9E-09	1.2E-05	9.9E-09	2.1E-06
Polycyclic Aromatic Hydrocarbons						
2-Methyl naphthalene	ND	2.3E-02	NA	1.6E-06	NA	2.9E-07
Benzo (a) anthracene	2.1E-02	1.4E-02	2.1E-08	1.3E-08	2.1E-08	2.4E-09
Benzo (a) pyrene	3.7E-02	3.0E-02	3.7E-08	NV	3.7E-08	NV
Benzo (b) fluoranthene	8.2E-02	5.7E-02	8.2E-08	NV	8.2E-08	NV
Benzo (k) fluoranthene	3.5E-02	2.8E-02	3.5E-08	NV	3.5E-08	NV
Chrysene	4.2E-02	2.6E-02	4.2E-08	NV	4.2E-08	NV
Fluoranthene	4.8E-02	3.0E-02	4.8E-08	NV	4.8E-08	NV
Phenanthrene	2.1E-02	1.3E-02	2.1E-08	NV	2.1E-08	NV
Pyrene	3.8E-02	2.4E-02	3.8E-08	4.0E-08	3.8E-08	7.2E-09
B(a)P Equivalent	6.2E-02	5.5E-02	6.2E-08	NV	6.2E-08	NV

Table AOC31-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls						
Total PCBs	4.4E-02	4.0E-02	4.4E-08	3.1E-07	4.4E-08	5.7E-08
Total Petroleum Hydrocarbons						
TPH as diesel	1.4E+01	1.0E+01	1.4E-05	2.1E-02	1.4E-05	3.8E-03
TPH as motor oil	1.5E+01	1.1E+01	1.5E-05	NV	1.5E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Copper	1.9E+01	1.9E-05	NV	1.9E-05	NV
Lead	7.4E+00	7.4E-06	NV	7.4E-06	NV
Zinc	4.3E+01	4.3E-05	NV	4.3E-05	NV
Volatile Organic Compounds					
Chloroform	7.5E-03	7.5E-09	1.2E-05	7.5E-09	2.1E-06
Polycyclic Aromatic Hydrocarbons					
2-Methyl naphthalene	2.3E-02	2.3E-08	1.6E-06	2.3E-08	2.9E-07
Benzo (a) anthracene	1.4E-02	1.4E-08	1.3E-08	1.4E-08	2.4E-09
Benzo (a) pyrene	3.0E-02	3.0E-08	NV	3.0E-08	NV
Benzo (b) fluoranthene	5.7E-02	5.7E-08	NV	5.7E-08	NV
Benzo (k) fluoranthene	2.8E-02	2.8E-08	NV	2.8E-08	NV
Chrysene	2.6E-02	2.6E-08	NV	2.6E-08	NV
Fluoranthene	3.0E-02	3.0E-08	NV	3.0E-08	NV
Phenanthrene	1.3E-02	1.3E-08	NV	1.3E-08	NV
Pyrene	2.4E-02	2.4E-08	4.0E-08	2.4E-08	7.2E-09
B(a)P Equivalent	5.5E-02	5.5E-08	NV	5.5E-08	NV

Table AOC31-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in AOC 31 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Polychlorinated Biphenyls					
Total PCBs	4.0E-02	4.0E-08	3.1E-07	4.0E-08	5.7E-08
Total Petroleum Hydrocarbons					
TPH as diesel	1.0E+01	1.0E-05	2.1E-02	1.0E-05	3.8E-03
TPH as motor oil	1.1E+01	1.1E-05	NV	1.1E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 31 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Copper	6.2E+01	1.9E+01	4.6E-08	NV	4.6E-08	NV	4.6E-08	NV	7.3E-05	NV
Lead	1.9E+01	7.4E+00	1.4E-08	NV	1.4E-08	NV	1.4E-08	NV	2.2E-05	NV
Zinc	9.4E+01	4.3E+01	6.9E-08	NV	6.9E-08	NV	6.9E-08	NV	1.1E-04	NV
Volatile Organic Compounds										
Chloroform	NS	7.5E-03	NA	2.3E-06	NA	2.3E-06	NA	2.3E-06	NA	2.3E-06
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	2.3E-02	NA	3.1E-07	NA	3.1E-07	NA	3.1E-07	NA	3.1E-07
Benzo (a) anthracene	5.9E-02	1.4E-02	4.3E-11	2.5E-09	4.3E-11	2.5E-09	4.3E-11	2.5E-09	7.0E-08	2.5E-09
Benzo (a) pyrene	9.4E-02	3.0E-02	6.9E-11	NV	6.9E-11	NV	6.9E-11	NV	1.1E-07	NV
Benzo (b) fluoranthene	2.3E-01	5.7E-02	1.7E-10	NV	1.7E-10	NV	1.7E-10	NV	2.7E-07	NV
Benzo (k) fluoranthene	8.7E-02	2.8E-02	6.4E-11	NV	6.4E-11	NV	6.4E-11	NV	1.0E-07	NV
Chrysene	1.2E-01	2.6E-02	8.8E-11	NV	8.8E-11	NV	8.8E-11	NV	1.4E-07	NV
Fluoranthene	1.4E-01	3.0E-02	1.0E-10	NV	1.0E-10	NV	1.0E-10	NV	1.7E-07	NV
Phenanthrene	5.7E-02	1.3E-02	4.2E-11	NV	4.2E-11	NV	4.2E-11	NV	6.7E-08	NV
Pyrene	1.1E-01	2.4E-02	8.1E-11	7.8E-09	8.1E-11	7.8E-09	8.1E-11	7.8E-09	1.3E-07	7.8E-09
B(a)P Equivalent	1.5E-01	5.5E-02	1.1E-10	NV	1.1E-10	NV	1.1E-10	NV	1.8E-07	NV
Polychlorinated Biphenyls										
Total PCBs	6.5E-02	4.0E-02	4.8E-11	6.1E-08	4.8E-11	6.1E-08	4.8E-11	6.1E-08	7.7E-08	6.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	1.7E+01	1.0E+01	1.3E-08	4.1E-03	1.3E-08	4.1E-03	1.3E-08	4.1E-03	2.0E-05	4.1E-03
TPH as motor oil	3.5E+01	1.1E+01	2.6E-08	NV	2.6E-08	NV	2.6E-08	NV	4.1E-05	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in AOC 31 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Copper	4.6E+01	1.9E+01	3.4E-08	NV	3.4E-08	NV	3.4E-08	NV	5.4E-05	NV
Lead	1.6E+01	7.4E+00	1.2E-08	NV	1.2E-08	NV	1.2E-08	NV	1.9E-05	NV
Zinc	7.7E+01	4.3E+01	5.7E-08	NV	5.7E-08	NV	5.7E-08	NV	9.1E-05	NV
Volatile Organic Compounds										
Chloroform	1.1E-02	7.5E-03	8.1E-12	2.3E-06	8.1E-12	2.3E-06	8.1E-12	2.3E-06	1.3E-08	2.3E-06
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	2.3E-02	NA	3.1E-07	NA	3.1E-07	NA	3.1E-07	NA	3.1E-07
Benzo (a) anthracene	4.0E-02	1.4E-02	3.0E-11	2.5E-09	3.0E-11	2.5E-09	3.0E-11	2.5E-09	4.7E-08	2.5E-09
Benzo (a) pyrene	6.4E-02	3.0E-02	4.7E-11	NV	4.7E-11	NV	4.7E-11	NV	7.5E-08	NV
Benzo (b) fluoranthene	1.5E-01	5.7E-02	1.1E-10	NV	1.1E-10	NV	1.1E-10	NV	1.8E-07	NV
Benzo (k) fluoranthene	5.9E-02	2.8E-02	4.3E-11	NV	4.3E-11	NV	4.3E-11	NV	7.0E-08	NV
Chrysene	8.1E-02	2.6E-02	5.9E-11	NV	5.9E-11	NV	5.9E-11	NV	9.6E-08	NV
Fluoranthene	9.4E-02	3.0E-02	6.9E-11	NV	6.9E-11	NV	6.9E-11	NV	1.1E-07	NV
Phenanthrene	3.9E-02	1.3E-02	2.9E-11	NV	2.9E-11	NV	2.9E-11	NV	4.6E-08	NV
Pyrene	7.4E-02	2.4E-02	5.5E-11	7.8E-09	5.5E-11	7.8E-09	5.5E-11	7.8E-09	8.8E-08	7.8E-09
B(a)P Equivalent	1.0E-01	5.5E-02	7.5E-11	NV	7.5E-11	NV	7.5E-11	NV	1.2E-07	NV
Polychlorinated Biphenyls										
Total PCBs	5.5E-02	4.0E-02	4.0E-11	6.1E-08	4.0E-11	6.1E-08	4.0E-11	6.1E-08	6.5E-08	6.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	1.5E+01	1.0E+01	1.1E-08	4.1E-03	1.1E-08	4.1E-03	1.1E-08	4.1E-03	1.7E-05	4.1E-03
TPH as motor oil	2.5E+01	1.1E+01	1.8E-08	NV	1.8E-08	NV	1.8E-08	NV	3.0E-05	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 31 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Copper	6.2E+01	1.9E+01	4.6E-08	NV
Lead	1.9E+01	7.4E+00	1.4E-08	NV
Zinc	9.4E+01	4.3E+01	6.9E-08	NV
Volatile Organic Compounds				
Chloroform	NS	7.5E-03	NA	1.5E-06
Polycyclic Aromatic Hydrocarbons				
2-Methyl naphthalene	ND	2.3E-02	NA	2.0E-07
Benzo (a) anthracene	5.9E-02	1.4E-02	4.3E-11	1.7E-09
Benzo (a) pyrene	9.4E-02	3.0E-02	6.9E-11	NV
Benzo (b) fluoranthene	2.3E-01	5.7E-02	1.7E-10	NV
Benzo (k) fluoranthene	8.7E-02	2.8E-02	6.4E-11	NV
Chrysene	1.2E-01	2.6E-02	8.8E-11	NV
Fluoranthene	1.4E-01	3.0E-02	1.0E-10	NV
Phenanthrene	5.7E-02	1.3E-02	4.2E-11	NV
Pyrene	1.1E-01	2.4E-02	8.1E-11	5.1E-09
B(a)P Equivalent	1.5E-01	5.5E-02	1.1E-10	NV

Table AOC31-4.2g

**Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 31 Surface Soil (0 to 0.5 feet bgs)**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	6.5E-02	4.0E-02	4.8E-11	4.0E-08
Total Petroleum Hydrocarbons				
TPH as diesel	1.7E+01	1.0E+01	1.3E-08	2.7E-03
TPH as motor oil	3.5E+01	1.1E+01	2.6E-08	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4x10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 31 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Copper	4.6E+01	1.9E+01	3.4E-08	NV
Lead	1.6E+01	7.4E+00	1.2E-08	NV
Zinc	7.7E+01	4.3E+01	5.7E-08	NV
Volatile Organic Compounds				
Chloroform	1.1E-02	7.5E-03	8.1E-12	1.5E-06
Polycyclic Aromatic Hydrocarbons				
2-Methyl naphthalene	ND	2.3E-02	NA	2.0E-07
Benzo (a) anthracene	4.0E-02	1.4E-02	3.0E-11	1.7E-09
Benzo (a) pyrene	6.4E-02	3.0E-02	4.7E-11	NV
Benzo (b) fluoranthene	1.5E-01	5.7E-02	1.1E-10	NV
Benzo (k) fluoranthene	5.9E-02	2.8E-02	4.3E-11	NV
Chrysene	8.1E-02	2.6E-02	5.9E-11	NV
Fluoranthene	9.4E-02	3.0E-02	6.9E-11	NV
Phenanthrene	3.9E-02	1.3E-02	2.9E-11	NV
Pyrene	7.4E-02	2.4E-02	5.5E-11	5.1E-09
B(a)P Equivalent	1.0E-01	5.5E-02	7.5E-11	NV

Table AOC31-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in AOC 31 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Polychlorinated Biphenyls				
Total PCBs	5.5E-02	4.0E-02	4.0E-11	4.0E-08
Total Petroleum Hydrocarbons				
TPH as diesel	1.5E+01	1.0E+01	1.1E-08	2.7E-03
TPH as motor oil	2.5E+01	1.1E+01	1.8E-08	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.4 \times 10^9 \text{ m}^3/\text{kg}$ was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table AOC31-4.3

Human Health Risk and Hazard Estimate Summary at AOC 31 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	6E-09	2E-02
	Shallow	5E-09	1E-02
	Subsurface I	3E-09	1E-02
	Subsurface II	3E-09	1E-02
Long-Term Maintenance Worker	Surface	7E-08	4E-03
	Shallow	6E-08	3E-03
	Subsurface I	4E-08	2E-03
	Subsurface II	4E-08	2E-03
Recreational User - Camper	Surface	4E-08	3E-03
	Shallow	3E-08	3E-03
Recreational User - Hiker	Surface	8E-08	6E-03
	Shallow	6E-08	5E-03
Recreational User - Hunter	Surface	5E-09	1E-03
	Shallow	4E-09	9E-04
Recreational User - OHV Rider	Surface	7E-08	3E-03
	Shallow	5E-08	2E-03
Tribal User	Surface	1E-10	6E-05
	Shallow	1E-10	6E-05

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table AOC31-5.1
Summary of COPECs Evaluated in the ERA for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Copper	X
Lead	X
Zinc	X
Volatile Organic Compounds	
Chloroform	X
Polycyclic Aromatic Hydrocarbons	
PAH Low molecular weight	X
PAH High molecular weight	X
Polychlorinated Biphenyls	
Total PCBs	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Notes:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, PAHs, and dioxins (if sampled). All detected organic compounds were selected as COPECs. See Section 2 of Appendix AOC31 for details.

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
ERA = ecological risk assessment
ft bgs = feet below ground surface
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls
TPH = total petroleum hydrocarbon
X = COPEC in that exposure depth interval

Table AOC31-5.2

Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs (modeled from soil EPCs)		
	All AOCs		All AOCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Notes:

^a Exposure point concentrations for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and area-weighted 95% UCL, as relevant for this AOC. See Section 5 of Appendix AOC31 for details.

Abbreviations:

95% UCL = 95 percent upper confidence limit

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

X = representative EPC for the pathway/receptor

Table AOC31-5.3
Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations					Biota Exposure Point Concentrations ^{a,b}					
		0-0.5 ft bgs		0-3 ft bgs		0-6 ft bgs		Plants			Insects	Mammals
								0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics												
Copper	mg/kg	6.20E+01	m	4.57E+01	m	2.82E+01	m	9.92E+00	8.79E+00	7.27E+00	3.19E+01	1.40E+01
Lead	mg/kg	1.90E+01	m	1.58E+01	m	1.13E+01	m	1.38E+00	1.25E+00	1.03E+00	8.66E+00	3.97E+00
Zinc	mg/kg	9.40E+01	m	7.73E+01	m	5.68E+01	m	5.99E+01	5.37E+01	4.53E+01	3.80E+02	1.08E+02
Volatile Organic Compounds												
Chloroform	mg/kg	--		1.10E-02	m	9.89E-03	m	--	0.00E+00	0.00E+00	--	--
Polycyclic Aromatic Hydrocarbons												
PAH Low molecular weight	mg/kg	5.70E-02	m	3.80E-02	m	1.90E-02	m	7.26E-02	6.04E-02	4.41E-02	1.73E-01	0.00E+00
PAH High molecular weight	mg/kg	8.40E-01	m	5.60E-01	m	2.80E-01	m	1.54E-01	1.05E-01	5.46E-02	2.18E+00	0.00E+00
Polychlorinated Biphenyls												
Total PCBs	mg/kg	6.50E-02	m	5.47E-02	m	4.43E-02	m	6.50E-04	5.47E-04	4.43E-04	9.92E-02	2.48E-03

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b EPCs equal to 0.0 indicate no bioaccumulation from soil.

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

Table AOC31-5.4a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Copper	9E-01	8E-01	2E-01	5E-02	2E+00	6E-01	7E-01	4E-01	1E-01	6E-02	3E-01	1E-02	3E+00	1E-01	3E+00	1E-02	4E-01	1E-03
Lead	2E-01	1E-02	8E-02	4E-02	1E+00	6E-01	4E-01	2E-01	3E-02	2E-02	9E+00	1E-02	1E+02	2E-01	2E+00	8E-03	2E-01	6E-04
Zinc	6E-01	8E-01	4E-02	2E-02	1E+00	4E-01	1E+00	3E-01	7E-02	2E-02	2E-01	2E-02	4E+00	4E-01	8E+00	2E-01	5E-01	1E-02
Volatile Organic Compounds																		
Chloroform	No SL	--	--	--	--	--	--	--	1E-06	5E-07	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH Low molecular weight	6E-03	2E-03	1E-04	1E-05	1E-03	1E-04	5E-04	1E-04	9E-05	2E-05	--	--	--	--	7E-04	2E-04	1E-04	4E-05
PAH High molecular weight	7E-01	5E-02	9E-04	9E-05	4E-02	4E-03	7E-01	1E-01	2E-02	5E-03	--	--	--	--	3E-01	1E-02	1E-02	4E-04
Polychlorinated Biphenyls																		
Total PCBs	2E-03	7E-02	3E-03	2E-04	2E-01	2E-02	6E-02	2E-02	5E-04	1E-04	3E-03	2E-04	2E-01	2E-02	6E-02	2E-02	5E-04	1E-04

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity reference value available, HQs could not be estimated.
AOC = area of concern
BTAG = Biological Technical Assistance Group
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
ND = not detected in the applicable depth interval
NOAEL = no-observed adverse effect level
PCBs = polychlorinated biphenyls
PAH = polycyclic aromatic hydrocarbons
TRV = toxicity reference value

Table AOC31-5.4b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.003		SUF = 0.02		SUF = 1		SUF = 0.9		SUF = 0.003		SUF = 0.02		SUF = 1		SUF = 0.9	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Copper	5E-04	2E-04	4E-02	1E-02	7E-01	4E-01	9E-02	5E-02	9E-04	4E-05	7E-02	3E-03	3E+00	1E-02	3E-01	1E-03
Lead	3E-04	1E-04	3E-02	1E-02	4E-01	2E-01	3E-02	1E-02	3E-02	5E-05	3E+00	5E-03	2E+00	8E-03	1E-01	5E-04
Zinc	1E-04	5E-05	3E-02	1E-02	1E+00	3E-01	6E-02	1E-02	5E-04	5E-05	1E-01	1E-02	8E+00	2E-01	5E-01	1E-02
Volatile Organic Compounds																
Chloroform	--	--	--	--	--	--	1E-06	5E-07	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	4E-07	4E-08	3E-05	3E-06	5E-04	1E-04	8E-05	2E-05	--	--	--	--	7E-04	2E-04	1E-04	4E-05
PAH High molecular weight	3E-06	3E-07	1E-03	1E-04	7E-01	1E-01	2E-02	4E-03	--	--	--	--	3E-01	1E-02	1E-02	4E-04
Polychlorinated Biphenyls																
Total PCBs	1E-05	7E-07	5E-03	4E-04	6E-02	2E-02	4E-04	1E-04	1E-05	7E-07	5E-03	4E-04	6E-02	2E-02	4E-04	1E-04

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity reference value available, HQs could not be estimated.

AOC = area of concern

BTAG = Biological Technical Assistance Group

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

ND = not detected in the applicable depth interval

NOAEL = no-observed adverse effect level

PCBs = polychlorinated biphenyls

PAH = polycyclic aromatic hydrocarbons

TRV = toxicity reference value

Table AOC31-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for AOC 31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs				Baseline HQs based on Selected TRVs											
	Plants		Soil Invertebrates		Gambel's Quail			Cactus Wren			Desert Shrew			Merriam's Kangaroo Rat		
	Depth-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a	Depth-Weighted		WOE Result ^a
					SUF = 0.003			SUF = 0.02			SUF = 1			SUF = 0.9		
					NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL	
Inorganics																
Copper	9E-01	HQ ≤ 1	8E-01	HQ ≤ 1	5E-04	2E-04	HQ ≤ 1	4E-02	1E-02	HQ ≤ 1	7E-01	4E-01	HQ ≤ 1	9E-02	5E-02	HQ ≤ 1
Lead	2E-01	HQ ≤ 1	1E-02	HQ ≤ 1	3E-04	1E-04	HQ ≤ 1	3E-02	1E-02	HQ ≤ 1	4E-01	2E-01	HQ ≤ 1	3E-02	1E-02	HQ ≤ 1
Zinc	6E-01	HQ ≤ 1	8E-01	HQ ≤ 1	1E-04	5E-05	HQ ≤ 1	3E-02	1E-02	HQ ≤ 1	1E+00	3E-01	HQ ≤ 1	6E-02	1E-02	HQ ≤ 1
Volatile Organic Compounds																
Chloroform	No SL	--	--	--	--	--	--	--	--	--	--	--	--	1E-06	5E-07	HQ ≤ 1
Polycyclic Aromatic Hydrocarbons																
PAH Low molecular weight	6E-03	HQ ≤ 1	2E-03	HQ ≤ 1	4E-07	4E-08	HQ ≤ 1	3E-05	3E-06	HQ ≤ 1	5E-04	1E-04	HQ ≤ 1	8E-05	2E-05	HQ ≤ 1
PAH High molecular weight	7E-01	HQ ≤ 1	5E-02	HQ ≤ 1	3E-06	3E-07	HQ ≤ 1	1E-03	1E-04	HQ ≤ 1	7E-01	1E-01	HQ ≤ 1	2E-02	4E-03	HQ ≤ 1
Polychlorinated Biphenyls																
Total PCBs	2E-03	HQ ≤ 1	7E-02	HQ ≤ 1	1E-05	7E-07	HQ ≤ 1	5E-03	4E-04	HQ ≤ 1	6E-02	2E-02	HQ ≤ 1	4E-04	1E-04	HQ ≤ 1

Notes:
^a WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using depth-weighted EPCs, and 2.) supporting LOE. Area-weighted EPCs not evaluated for this exposure area.

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:
-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
HQ = hazard quotient
LOE = line of evidence
LOAEL = lowest observed adverse effect level
ND = not detected
NOAEL = no-observed adverse effect level
WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table AOC31-6.2
Risk Conclusions and Lines of Evidence Summary for AOC 31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Depth-Weighted HQs			Additional Lines of Evidence ^c									Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals	Populations	
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
AOC 31 ^b	Plants	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected	No	
	Soil Invertebrates	None	HQs ≤ 1	--	--	--	--	--	--	--	--	--	--	--	Not expected	No	
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Desert Shrew	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No
	Cactus Wren	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	--	Not expected	Not expected	No

Notes:
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

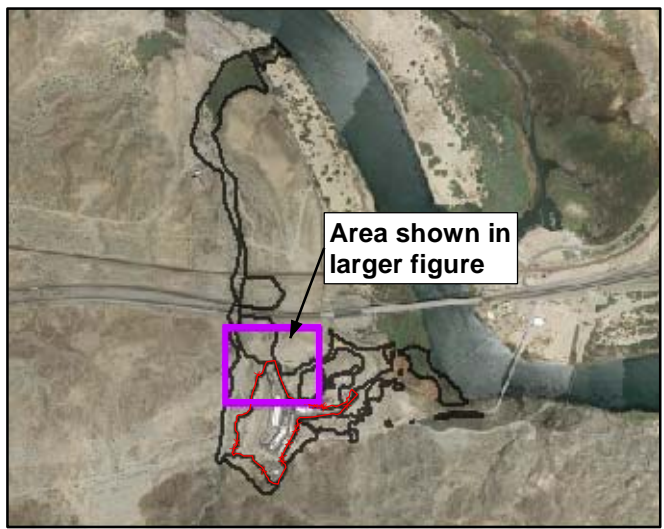
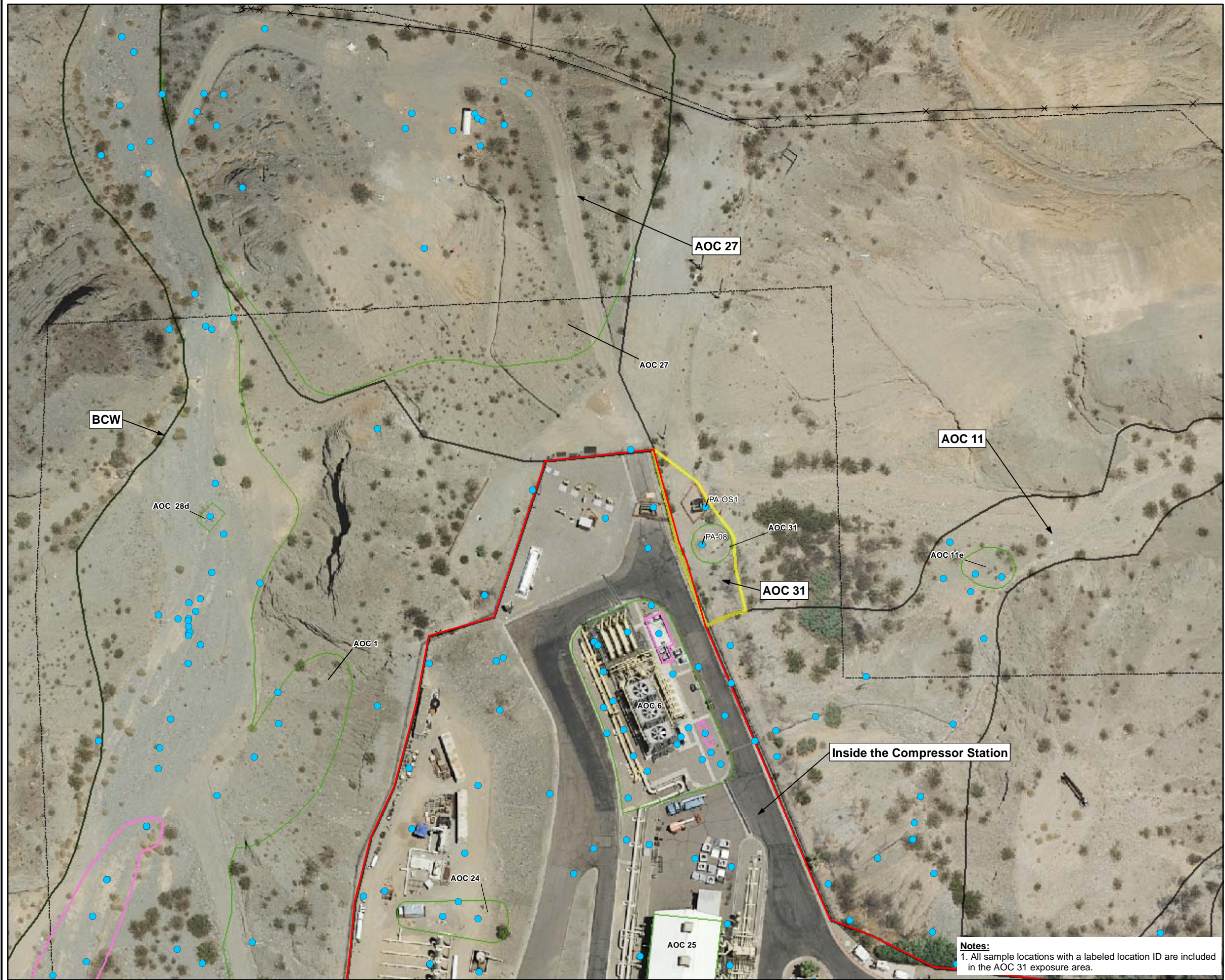
--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

Abbreviations:
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit

LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

FIGURE



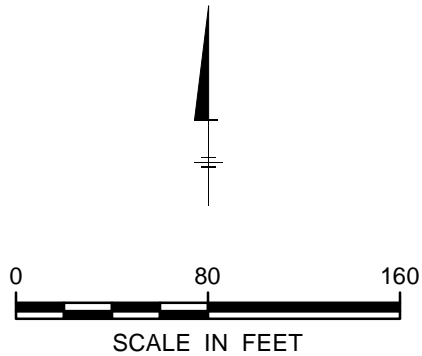


Legend:

- Soil Sampling Location
- Area of Concern
- Solid Waste Management Unit
- AOC 31 Exposure Area
- Exposure Area
- Property Boundaries
- Fencing
- Inside the Topock Compressor Station boundary, as defined by current fenceline

BCW Label for Exposure Area

AOC 1 Label for Area of Concern



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

SOIL SAMPLING LOCATIONS
AOC 31 EXPOSURE AREA



FIGURE
AOC31-1.1

Notes:
1. All sample locations with a labeled location ID are included in the AOC 31 exposure area.

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the
AOC 31 HHERA



Attachment AOC31-A
Dataset and Exposure Point Concentration Calculations for the AOC 31 HHERA

Attachment AOC31-A1

Table AOC31-A1 Dataset for AOC 31 HHERA

Attachment AOC31-A2 (provided separately as excel files)

Table AOC31-A2	Depth-Weighting Files: InputSamplesFor_AOC31_Baseline_0-005
Table AOC31-A2	Depth-Weighting Files: InputSamplesFor_AOC31_Baseline_0-03
Table AOC31-A2	Depth-Weighting Files: InputSamplesFor_AOC31_Baseline_0-06
Table AOC31-A2	Depth-Weighting Files: InputSamplesFor_AOC31_Baseline_0-10
Table AOC31-A2	ProUCL Input: AOC31_0-005_ForProUCL
Table AOC31-A2	ProUCL Input: AOC31_0-03_ForProUCL
Table AOC31-A2	ProUCL Input: AOC31_0-06_ForProUCL
Table AOC31-A2	ProUCL Input: AOC31_0-10_ForProUCL

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
SAMPLE TOP DEPTH (FT)		2	5	0	9	2	0	2.5	5.5	9
SAMPLE BOTTOM DEPTH (FT)		3	6	1	10	3	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	0.5	10	3	0.5	3	6	9.5
SAMPLE TYPE						Field Duplicate				
ANALYTE	UNITS									
General										
pH	PHUNITS	--	--	--	--	--	7.8	7.9	8.2	8.7
Metals										
Antimony	mg/kg	2.1 UJ	2 U	2.2 U	2 U	--	--	--	--	2 U
Arsenic	mg/kg	4.4	2.4	4.8	1.5	--	--	--	--	2.4
Barium	mg/kg	330	110	290	140	--	--	--	--	22
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	--	--	--	--	1 U
Cadmium	mg/kg	1 U	1 U	1.1 U	1 U	--	--	--	--	1 U
Chromium, Hexavalent	mg/kg	0.26	0.2 U	0.82	0.2 U	--	--	--	--	0.4 UJ
Chromium, total	mg/kg	--	7.1	26	5.8	14	--	--	--	2.9
Cobalt	mg/kg	8.6 J	5.9	10	5.4	--	--	--	--	1.7
Copper	mg/kg	13 J	6.2	62	4.8	--	--	--	--	2 U
Lead	mg/kg	--	1.7	19	1.2	9.3 J	--	--	--	2.3
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.1 U	--	--	--	--	0.1 UJ
Molybdenum	mg/kg	1 U	1 U	1.1 U	1 U	--	--	--	--	1 U
Nickel	mg/kg	9.1	7.1	20	5.2	--	--	--	--	4.2
Selenium	mg/kg	1 UJ	1 U	1.1 U	1 U	--	--	--	--	1 U
Silver	mg/kg	1 U	1 U	1.1 U	1 U	--	--	--	--	1 U
Thallium	mg/kg	2.1 U	2 U	2.2 U	2 U	--	--	--	--	2 U
Vanadium	mg/kg	35 J	21	33	21	--	--	--	--	9.2
Zinc	mg/kg	44	21	94	23	--	--	--	--	6.9
Metals CLP										
Aluminum	mg/kg	9000	--	--	--	--	--	--	--	--
Calcium	mg/kg	21000	--	--	--	--	--	--	--	--
Cyanide	mg/kg	0.21 U	--	--	--	--	--	--	--	--
Iron	mg/kg	19000	--	--	--	--	--	--	--	--
Magnesium	mg/kg	6800	--	--	--	--	--	--	--	--
Manganese	mg/kg	260	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	3700 J	--	--	--	--
Sodium	mg/kg	--	--	--	--	300 J	--	--	--	--
Polychlorinated Biphenyls										
Aroclor 1016	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1221	ug/kg	34 U	33 U	36 U	33 U	--	33 U	33 U	33 U	33 U

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
	SAMPLE TOP DEPTH (FT)	2	5	0	9	2	0	2.5	5.5	9
	SAMPLE BOTTOM DEPTH (FT)	3	6	1	10	3	0.5	3	6	9.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	0.5	10	3	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate				
ANALYTE	UNITS									
Aroclor 1232	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1242	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1248	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1254	ug/kg	17 U	17 U	38	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1260	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	16 U
Aroclor 1262	ug/kg	17 U	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	65	34 U	--	34 U	34 U	34 U	32 U
Polycyclic Aromatic Hydrocarbons										
1-Methyl naphthalene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5 U	5 U	5 U
2-Methyl naphthalene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	50 U	50 U	50 U	5
Acenaphthene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5 U	5 U	50 U
Acenaphthylene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5 U	5 U	5 U
Anthracene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5 U	5 U	5 U
B(a)P Equivalent	ug/kg	6 U	56 U	150	5.8 U	--	5.8 U	5.8 U	5.8 U	5.8
Benzo (a) anthracene	ug/kg	5.2 U	5 U	59 J	5 U	--	5 U	5 U	5 U	5 U
Benzo (a) pyrene	ug/kg	5.2 U	50 U	94	5 U	--	5 U	5 U	5 U	5 U
Benzo (b) fluoranthene	ug/kg	5.2 U	50 U	230	5 U	--	5 U	5 U	5 U	5 U
Benzo (ghi) perylene	ug/kg	5.2 U	50 U	54 U	5 U	--	5 U	5 U	5 U	5 U
Benzo (k) fluoranthene	ug/kg	5.2 U	50 U	87	5 U	--	5 U	5 U	5 U	5 U
Chrysene	ug/kg	5.2 U	5 U	120 J	5 U	--	5 U	5 U	5 U	5 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	50 U	54 U	5 U	--	5 U	5 U	5 U	5 U
Fluoranthene	ug/kg	5.2 U	5 U	140 J	5 U	--	5 U	5 U	5 U	5 U
Fluorene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5 U	5 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	50 U	54 U	5 U	--	5 U	5 U	5 U	5 U
Naphthalene	ug/kg	5.2 U	5 U	5.4 U	5 U	--	5 U	5.5 U	5.7 U	6.1 U
PAH High molecular weight	ug/kg	0	0	840	0	--	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	57	0	--	0	0	0	5
Phenanthrene	ug/kg	5.2 U	5 U	57 J	5 U	--	50 U	5 U	5 U	5 U
Pyrene	ug/kg	5.2 U	5 U	110 J	5 U	--	5 U	5 U	5 U	5 U
Semi-Volatile Organic Compounds										
1,1'-Biphenyl	ug/kg	720 U	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	720 U	--	--	--	--	--	--	--	--

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
	SAMPLE TOP DEPTH (FT)	2	5	0	9	2	0	2.5	5.5	9
	SAMPLE BOTTOM DEPTH (FT)	3	6	1	10	3	0.5	3	6	9.5
	DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	3	6	0.5	10	3	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate				
ANALYTE	UNITS									
2-Chloro naphthalene	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	720 UJ	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	680 U	660 U	7200 U	670 U	--	660 U	660 U	660 U	660 U
4-Bromophenyl phenyl ether	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	680 U	660 U	720 U	670 U	--	660 U	660 U	660 U	660 U
4-Chloroaniline	ug/kg	680 U	660 U	720 U	670 U	--	660 U	660 U	660 U	660 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	720 UJ	--	--	--	--	--	--	--	--
Atrazine	ug/kg	720 U	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	720 UJ	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1800 UJ	1700 U	--	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	680 U	660 U	720 U	670 U	--	660 U	660 U	660 U	660 U
bis (2-chloroethoxy) methane	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	330 U	3600 U	330 U	--	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	340 U	330 U	3600 U	330 U	--	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	340 U	--	--	--	--	--	--	--	--
Carbazole	ug/kg	340 U	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	340 U	330 U	360 UJ	330 U	--	330 U	330 U	330 U	330 U

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
SAMPLE TOP DEPTH (FT)		2	5	0	9	2	0	2.5	5.5	9
SAMPLE BOTTOM DEPTH (FT)		3	6	1	10	3	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	0.5	10	3	0.5	3	6	9.5
SAMPLE TYPE						Field Duplicate				
ANALYTE	UNITS									
Dibenzofuran	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons										
TPH as diesel	mg/kg	10 U	10 U	17	10 U	--	15	14	10 U	10 U
TPH as gasoline	mg/kg	1.3 U	1.1 U	--	1.3 U	--	--	1.7 U	1.4 U	1.1 U
TPH as motor oil	mg/kg	10 U	10 U	35	10 U	--	10 U	10 U	10 U	10 U
Volatile Organic Compounds										
1,1-Dichloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1-Dichloroethene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1-Dichloropropene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1,1-Trichloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1,1,2-Tetrachloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1,2-Trichloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,1,2,2-Tetrachloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2-Dibromo-3-chloropropane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2-Dibromoethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2-Dichlorobenzene	ug/kg	--	8.7 U	360 U	5.7 U	6.5 U	330 U	5.5 U	5.7 U	6.1 U
1,2-Dichloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2-Dichloropropane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2,3-Trichlorobenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2,3-Trichloropropane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,2,4-Trichlorobenzene	ug/kg	--	8.7 U	360 U	5.7 U	6.5 U	330 U	5.5 U	5.7 U	6.1 U
1,2,4-Trimethylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,3-Dichlorobenzene	ug/kg	--	8.7 U	360 U	5.7 U	6.5 U	330 U	5.5 U	5.7 U	6.1 U
1,3-Dichloropropane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
SAMPLE TOP DEPTH (FT)		2	5	0	9	2	0	2.5	5.5	9
SAMPLE BOTTOM DEPTH (FT)		3	6	1	10	3	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	0.5	10	3	0.5	3	6	9.5
SAMPLE TYPE						Field Duplicate				
ANALYTE	UNITS									
1,3,5-Trimethylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
1,4-Dichlorobenzene	ug/kg	--	8.7 U	360 U	5.7 U	6.5 U	330 U	5.5 U	5.7 U	6.1 U
1,4-Dioxane	ug/kg	340 U	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
2-Hexanone	ug/kg	--	--	--	--	65 U	--	--	--	--
2,2-Dichloropropane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 UJ	5.7 UJ	6.1 UJ
2,4,5-Trichlorophenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
2,4,6-Trichlorophenol	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Acetone	ug/kg	--	87 U	--	57 U	65 U	--	55 U	57 U	61 U
Acrolein	ug/kg	--	170 U	--	110 U	130 U	--	110 U	110 U	120 U
Acrylonitrile	ug/kg	--	87 UJ	--	57 UJ	65 UJ	--	55 U	57 U	61 U
Benzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
bis (2-chloroethyl) ether	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Bromochloromethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Bromodichloromethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Bromoform	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Bromomethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Carbon disulfide	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Carbon tetrachloride	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Chloro methane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Chlorobenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Chloroethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Chloroform	ug/kg	11	8.7 U	--	5.7 U	--	--	5.5 U	5.7 U	6.1 U
cis-1,2-Dichloroethene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
cis-1,3-Dichloropropene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Cyclohexane	ug/kg	--	--	--	--	6.5 U	--	--	--	--
Dibromochloromethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Dibromomethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Dichlorodifluoromethane	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Ethyl- benzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U

Table AOC31-A1
Dataset for AOC 31 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-08	PA-08	PA-08	PA-08	PA-08	PA-OS1	PA-OS1	PA-OS1	PA-OS1
	SAMPLE	PA-08-03	PA-08-06	PA-08-1	PA-08-10	PA-08-FD	300b-40-1090	300b-40-1091	300b-40-1092	300b-40-1093
	DATE	1/12/2016	1/12/2016	11/9/2015	1/12/2016	1/12/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011
SAMPLE TOP DEPTH (FT)		2	5	0	9	2	0	2.5	5.5	9
SAMPLE BOTTOM DEPTH (FT)		3	6	1	10	3	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	0.5	10	3	0.5	3	6	9.5
SAMPLE TYPE						Field Duplicate				
ANALYTE	UNITS									
Hexachlorobutadiene	ug/kg	--	8.7 U	720 U	5.7 U	6.5 U	660 U	5.5 U	5.7 U	6.1 U
Hexachlorocyclopentadiene	ug/kg	680 U	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Methyl acetate	ug/kg	--	--	--	--	6.5 U	--	--	--	--
Methyl ethyl ketone	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Methyl isobutyl ketone	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Methylcyclohexane	ug/kg	--	--	--	--	6.5 U	--	--	--	--
Methylene chloride	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
N-Butylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
N-Propylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Nitrobenzene	ug/kg	340 U	330 U	360 U	330 U	--	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
sec-Butylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Styrene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
tert-Butylbenzene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Tetrachloroethene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Toluene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
trans-1,2-Dichloroethene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
trans-1,3-Dichloropropene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Trichloroethene	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Vinyl chloride	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Xylene, m,p-	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Xylene, o-	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U
Xylenes, total	ug/kg	--	8.7 U	--	5.7 U	6.5 U	--	5.5 U	5.7 U	6.1 U

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 31 Using Depth-Weighted EPCs



Attachment AOC31-B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 31 Using Depth-Weighted EPCs

Tables

AOC31-B.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC31-B.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC31-B.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC31-B.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC31-B.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC31-B.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC31-B.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User
AOC31-B.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC31-B.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC31-B.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC31-B.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC31-B.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC31-B.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC31-B.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User
AOC31-B.3a	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC31-B.3b	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC31-B.3c	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User- Camper
AOC31-B.3d	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC31-B.3e	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC31-B.3f	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC31-B.3g	Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User
AOC31-B.4a	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC31-B.4b	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
AOC31-B.4c	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper
AOC31-B.4d	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
AOC31-B.4e	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
AOC31-B.4f	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
AOC31-B.4g	Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User
AOC31-B.5a	Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
AOC31-B.5b	Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Attachment AOC31-B**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at AOC 31
Using Depth-Weighted EPCs****Tables (cont.)**

AOC31-B.5c	Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC31-B.5d	Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
AOC31-B.5e	Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC31-B.5f	Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
AOC31-B.5g	Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)
AOC31-B.5h	Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
AOC31-B.5i	Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table AOC31-B.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Chloroform	NS	6.1E-09	NS	NS	5.7E-12	6.1E-09	1.0E-10	7.1E-11	5.2E-12	6.1E-09	9.3E-11	6.4E-11	3.9E-12	6.1E-09	7.1E-11	4.9E-11
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	7.8E-11	NV	2.1E-09	9.7E-10	5.3E-11	NV	1.4E-09	6.6E-10	3.3E-11	NV	8.8E-10	4.0E-10	2.9E-11	NV	7.8E-10	3.5E-10
Polychlorinated Biphenyls																
Total PCBs	3.4E-11	1.6E-10	9.2E-10	4.2E-10	2.9E-11	1.6E-10	7.7E-10	3.5E-10	2.3E-11	1.6E-10	6.3E-10	2.9E-10	2.1E-11	1.6E-10	5.7E-10	2.6E-10
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Chloroform	NS	8.3E-09	NS	NS	4.3E-11	8.3E-09	1.6E-09	5.3E-10	3.9E-11	8.3E-09	1.4E-09	4.8E-10	2.9E-11	8.3E-09	1.1E-09	3.6E-10
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	5.9E-10	NV	3.2E-08	7.3E-09	4.0E-10	NV	2.2E-08	4.9E-09	2.4E-10	NV	1.3E-08	3.0E-09	2.1E-10	NV	1.2E-08	2.7E-09
Polychlorinated Biphenyls																
Total PCBs	2.5E-10	2.2E-10	1.4E-08	3.1E-09	2.1E-10	2.2E-10	1.2E-08	2.6E-09	1.7E-10	2.2E-10	9.4E-09	2.1E-09	1.6E-10	2.2E-10	8.5E-09	1.9E-09
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Chloroform	NS	1.9E-08	NS	NS	6.6E-14	1.9E-08	1.2E-10	3.6E-10
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	2.5E-12	NV	1.0E-08	2.2E-08	1.7E-12	NV	6.9E-09	1.5E-08

Table AOC31-B.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	3.9E-13	5.0E-10	1.0E-09	2.1E-09	3.3E-13	5.0E-10	8.7E-10	1.8E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Chloroform	NS	3.7E-08	NS	NS	1.3E-13	3.7E-08	2.3E-10	7.2E-10
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	5.0E-12	NV	2.0E-08	4.5E-08	3.4E-12	NV	1.4E-08	3.0E-08

Table AOC31-B.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	7.8E-13	1.0E-09	2.1E-09	4.3E-09	6.5E-13	1.0E-09	1.7E-09	3.6E-09
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Chloroform	NS	1.9E-08	NS	NS	6.6E-14	1.9E-08	4.7E-11	1.1E-10
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	9.0E-13	NV	9.7E-10	1.5E-09	6.1E-13	NV	6.6E-10	1.0E-09

Table AOC31-B.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	3.9E-13	5.0E-10	4.2E-10	6.6E-10	3.3E-13	5.0E-10	3.5E-10	5.6E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Copper	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds								
Chloroform	NS	2.3E-09	NS	NS	1.3E-11	2.3E-09	1.1E-09	9.2E-11
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	NC	ND	ND	ND	NC	ND	ND
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	3.2E-10	NV	4.2E-08	2.6E-09	2.2E-10	NV	2.8E-08	1.8E-09

Table AOC31-B.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	7.8E-11	6.2E-11	9.9E-09	5.4E-10	6.6E-11	6.2E-11	8.4E-09	4.6E-10
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.1g
Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Copper	NC	NC	NC	NC
Lead	na	na	na	na
Zinc	NC	NC	NC	NC
Volatile Organic Compounds				
Chloroform	NS	3.5E-09	1.9E-14	3.5E-09
Polycyclic Aromatic Hydrocarbons				
2-Methyl naphthalene	ND	NC	ND	NC
Benzo (a) anthracene	NA	NV	NA	NV
Benzo (a) pyrene	NA	NV	NA	NV
Benzo (b) fluoranthene	NA	NV	NA	NV
Benzo (k) fluoranthene	NA	NV	NA	NV
Chrysene	NA	NV	NA	NV
Fluoranthene	NC	NC	NC	NC
Phenanthrene	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC
B(a)P Equivalent	2.6E-13	NV	1.8E-13	NV

Table AOC31-B.1g
Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	1.1E-13	9.5E-11	9.4E-14	9.5E-11
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	2.3E-06	NV	4.1E-06	2.8E-05	1.7E-06	NV	3.0E-06	2.1E-05	1.0E-06	NV	1.9E-06	1.3E-05	7.1E-07	NV	1.3E-06	8.7E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	3.4E-06	NV	6.2E-06	4.2E-05	2.8E-06	NV	5.1E-06	3.5E-05	2.1E-06	NV	3.8E-06	2.6E-05	1.6E-06	NV	2.8E-06	1.9E-05
Volatile Organic Compounds																
Chloroform	NS	4.3E-07	NS	NS	4.0E-10	4.3E-07	7.3E-09	5.0E-09	3.6E-10	4.3E-07	6.5E-09	4.5E-09	2.8E-10	4.3E-07	5.0E-09	3.4E-09
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	5.7E-08	ND	ND	ND	5.7E-08	ND	ND	ND	5.7E-08	ND	ND	8.4E-10	5.7E-08	2.3E-08	1.0E-08
Benzo (a) anthracene	2.2E-09	4.7E-10	5.9E-08	2.7E-08	1.5E-09	4.7E-10	4.0E-08	1.8E-08	7.8E-10	4.7E-10	2.1E-08	9.7E-09	5.0E-10	4.7E-10	1.4E-08	6.2E-09
Benzo (a) pyrene	3.4E-09	NV	9.3E-08	4.2E-08	2.3E-09	NV	6.3E-08	2.9E-08	1.3E-09	NV	3.6E-08	1.7E-08	1.1E-09	NV	3.0E-08	1.3E-08
Benzo (b) fluoranthene	8.4E-09	NV	2.3E-07	1.0E-07	5.6E-09	NV	1.5E-07	7.0E-08	3.0E-09	NV	8.1E-08	3.7E-08	2.1E-09	NV	5.7E-08	2.6E-08
Benzo (k) fluoranthene	3.2E-09	NV	8.6E-08	3.9E-08	2.2E-09	NV	5.8E-08	2.7E-08	1.3E-09	NV	3.4E-08	1.6E-08	1.0E-09	NV	2.8E-08	1.3E-08
Chrysene	4.4E-09	NV	1.2E-07	5.4E-08	3.0E-09	NV	8.0E-08	3.7E-08	1.5E-09	NV	4.1E-08	1.9E-08	9.5E-10	NV	2.6E-08	1.2E-08
Fluoranthene	5.1E-09	NV	1.4E-07	6.3E-08	3.4E-09	NV	9.3E-08	4.3E-08	1.8E-09	NV	4.8E-08	2.2E-08	1.1E-09	NV	3.0E-08	1.4E-08
Phenanthrene	2.1E-09	NV	5.7E-08	2.6E-08	1.4E-09	NV	3.9E-08	1.8E-08	7.6E-10	NV	2.1E-08	9.4E-09	4.9E-10	NV	1.3E-08	6.1E-09
Pyrene	4.0E-09	1.4E-09	1.1E-07	5.0E-08	2.7E-09	1.4E-09	7.4E-08	3.4E-08	1.4E-09	1.4E-09	3.8E-08	1.7E-08	8.8E-10	1.4E-09	2.4E-08	1.1E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Polychlorinated Biphenyls																
Total PCBs	2.4E-09	1.1E-08	6.4E-08	2.9E-08	2.0E-09	1.1E-08	5.4E-08	2.5E-08	1.6E-09	1.1E-08	4.4E-08	2.0E-08	1.5E-09	1.1E-08	4.0E-08	1.8E-08
Total Petroleum Hydrocarbons																
TPH as diesel	6.2E-07	7.7E-04	1.1E-05	7.7E-06	5.4E-07	7.7E-04	9.8E-06	6.7E-06	5.0E-07	7.7E-04	9.1E-06	6.2E-06	3.7E-07	7.7E-04	6.7E-06	4.6E-06
TPH as motor oil	1.3E-06	NV	2.3E-05	1.6E-05	9.1E-07	NV	1.7E-05	1.1E-05	5.5E-07	NV	9.9E-06	6.8E-06	4.0E-07	NV	7.3E-06	5.0E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	5.7E-07	NV	2.0E-06	7.0E-06	4.2E-07	NV	1.5E-06	5.2E-06	2.6E-07	NV	9.3E-07	3.2E-06	1.8E-07	NV	6.4E-07	2.2E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	8.6E-07	NV	3.1E-06	1.1E-05	7.1E-07	NV	2.6E-06	8.7E-06	5.2E-07	NV	1.9E-06	6.4E-06	3.9E-07	NV	1.4E-06	4.8E-06
Volatile Organic Compounds																
Chloroform	NS	1.9E-08	NS	NS	1.0E-10	1.9E-08	3.6E-09	1.2E-09	9.0E-11	1.9E-08	3.3E-09	1.1E-09	6.9E-11	1.9E-08	2.5E-09	8.5E-10
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	2.6E-09	ND	ND	ND	2.6E-09	ND	ND	ND	2.6E-09	ND	ND	2.1E-10	2.6E-09	1.1E-08	2.6E-09
Benzo (a) anthracene	5.4E-10	2.2E-11	2.9E-08	6.7E-09	3.7E-10	2.2E-11	2.0E-08	4.5E-09	2.0E-10	2.2E-11	1.1E-08	2.4E-09	1.3E-10	2.2E-11	6.8E-09	1.6E-09
Benzo (a) pyrene	8.6E-10	NV	4.7E-08	1.1E-08	5.8E-10	NV	3.1E-08	7.2E-09	3.4E-10	NV	1.8E-08	4.2E-09	2.7E-10	NV	1.5E-08	3.4E-09
Benzo (b) fluoranthene	2.1E-09	NV	1.1E-07	2.6E-08	1.4E-09	NV	7.6E-08	1.7E-08	7.5E-10	NV	4.1E-08	9.3E-09	5.2E-10	NV	2.8E-08	6.4E-09
Benzo (k) fluoranthene	7.9E-10	NV	4.3E-08	9.8E-09	5.4E-10	NV	2.9E-08	6.7E-09	3.2E-10	NV	1.7E-08	3.9E-09	2.6E-10	NV	1.4E-08	3.2E-09
Chrysene	1.1E-09	NV	5.9E-08	1.4E-08	7.4E-10	NV	4.0E-08	9.1E-09	3.8E-10	NV	2.1E-08	4.7E-09	2.4E-10	NV	1.3E-08	2.9E-09
Fluoranthene	1.3E-09	NV	6.9E-08	1.6E-08	8.6E-10	NV	4.7E-08	1.1E-08	4.4E-10	NV	2.4E-08	5.5E-09	2.7E-10	NV	1.5E-08	3.4E-09
Phenanthrene	5.2E-10	NV	2.8E-08	6.4E-09	3.6E-10	NV	1.9E-08	4.4E-09	1.9E-10	NV	1.0E-08	2.3E-09	1.2E-10	NV	6.6E-09	1.5E-09
Pyrene	1.0E-09	6.6E-11	5.5E-08	1.2E-08	6.8E-10	6.6E-11	3.7E-08	8.4E-09	3.5E-10	6.6E-11	1.9E-08	4.3E-09	2.2E-10	6.6E-11	1.2E-08	2.7E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Polychlorinated Biphenyls																
Total PCBs	5.9E-10	5.2E-10	3.2E-08	7.3E-09	5.0E-10	5.2E-10	2.7E-08	6.2E-09	4.0E-10	5.2E-10	2.2E-08	5.0E-09	3.7E-10	5.2E-10	2.0E-08	4.5E-09
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-07	3.5E-05	5.6E-06	1.9E-06	1.4E-07	3.5E-05	4.9E-06	1.7E-06	1.3E-07	3.5E-05	4.5E-06	1.5E-06	9.3E-08	3.5E-05	3.4E-06	1.2E-06
TPH as motor oil	3.2E-07	NV	1.2E-05	4.0E-06	2.3E-07	NV	8.3E-06	2.8E-06	1.4E-07	NV	5.0E-06	1.7E-06	1.0E-07	NV	3.6E-06	1.2E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	1.0E-09	NV	5.3E-07	1.8E-05	1.0E-09	NV	7.2E-08	1.7E-06	7.4E-10	NV	3.9E-07	1.3E-05	7.4E-10	NV	5.3E-08	1.3E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	1.5E-09	NV	8.0E-07	2.7E-05	1.5E-09	NV	1.1E-07	2.6E-06	1.2E-09	NV	6.6E-07	2.3E-05	1.2E-09	NV	8.9E-08	2.1E-06
Volatile Organic Compounds																
Chloroform	NS	5.0E-08	NS	NS	NS	5.0E-08	NS	NS	1.8E-13	5.0E-08	9.3E-10	3.2E-09	1.8E-13	5.0E-08	1.3E-10	3.0E-10
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	6.7E-09	ND	ND	ND	6.7E-09	ND	ND	ND	6.7E-09	ND	ND	ND	6.7E-09	ND	ND
Benzo (a) anthracene	9.5E-13	5.6E-11	7.5E-09	1.7E-08	9.5E-13	5.6E-11	1.0E-09	1.6E-09	6.5E-13	5.6E-11	5.1E-09	1.2E-08	6.5E-13	5.6E-11	7.0E-10	1.1E-09
Benzo (a) pyrene	1.5E-12	NV	1.2E-08	2.7E-08	1.5E-12	NV	1.6E-09	2.6E-09	1.0E-12	NV	8.1E-09	1.9E-08	1.0E-12	NV	1.1E-09	1.7E-09
Benzo (b) fluoranthene	3.7E-12	NV	2.9E-08	6.7E-08	3.7E-12	NV	4.0E-09	6.3E-09	2.5E-12	NV	2.0E-08	4.5E-08	2.5E-12	NV	2.7E-09	4.2E-09
Benzo (k) fluoranthene	1.4E-12	NV	1.1E-08	2.5E-08	1.4E-12	NV	1.5E-09	2.4E-09	9.5E-13	NV	7.5E-09	1.7E-08	9.5E-13	NV	1.0E-09	1.6E-09
Chrysene	1.9E-12	NV	1.5E-08	3.5E-08	1.9E-12	NV	2.1E-09	3.3E-09	1.3E-12	NV	1.0E-08	2.4E-08	1.3E-12	NV	1.4E-09	2.2E-09
Fluoranthene	2.3E-12	NV	1.8E-08	4.1E-08	2.3E-12	NV	2.4E-09	3.8E-09	1.5E-12	NV	1.2E-08	2.8E-08	1.5E-12	NV	1.6E-09	2.6E-09
Phenanthrene	9.2E-13	NV	7.2E-09	1.7E-08	9.2E-13	NV	9.9E-10	1.6E-09	6.3E-13	NV	4.9E-09	1.1E-08	6.3E-13	NV	6.8E-10	1.1E-09
Pyrene	1.8E-12	1.7E-10	1.4E-08	3.2E-08	1.8E-12	1.7E-10	1.9E-09	3.0E-09	1.2E-12	1.7E-10	9.4E-09	2.2E-08	1.2E-12	1.7E-10	1.3E-09	2.0E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Polychlorinated Biphenyls																
Total PCBs	1.0E-12	1.3E-09	8.3E-09	1.9E-08	1.0E-12	1.3E-09	1.1E-09	1.8E-09	8.8E-13	1.3E-09	7.0E-09	1.6E-08	8.8E-13	1.3E-09	9.5E-10	1.5E-09
Total Petroleum Hydrocarbons																
TPH as diesel	2.7E-10	9.0E-05	1.4E-06	5.0E-06	2.7E-10	9.0E-05	2.0E-07	4.7E-07	2.4E-10	9.0E-05	1.3E-06	4.3E-06	2.4E-10	9.0E-05	1.7E-07	4.1E-07
TPH as motor oil	5.6E-10	NV	3.0E-06	1.0E-05	5.6E-10	NV	4.0E-07	9.6E-07	4.0E-10	NV	2.1E-06	7.3E-06	4.0E-10	NV	2.9E-07	6.8E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	2.0E-09	NV	1.1E-06	3.6E-05	2.0E-09	NV	1.4E-07	3.4E-06	1.5E-09	NV	7.7E-07	2.7E-05	1.5E-09	NV	1.1E-07	2.5E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	3.0E-09	NV	1.6E-06	5.5E-05	3.0E-09	NV	2.2E-07	5.2E-06	2.5E-09	NV	1.3E-06	4.5E-05	2.5E-09	NV	1.8E-07	4.2E-06
Volatile Organic Compounds																
Chloroform	NS	1.0E-07	NS	NS	NS	1.0E-07	NS	NS	3.5E-13	1.0E-07	1.9E-09	6.4E-09	3.5E-13	1.0E-07	2.5E-10	6.0E-10
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	1.3E-08	ND	ND	ND	1.3E-08	ND	ND	ND	1.3E-08	ND	ND	ND	1.3E-08	ND	ND
Benzo (a) anthracene	1.9E-12	1.1E-10	1.5E-08	3.4E-08	1.9E-12	1.1E-10	2.0E-09	3.2E-09	1.3E-12	1.1E-10	1.0E-08	2.3E-08	1.3E-12	1.1E-10	1.4E-09	2.2E-09
Benzo (a) pyrene	3.0E-12	NV	2.4E-08	5.5E-08	3.0E-12	NV	3.3E-09	5.2E-09	2.0E-12	NV	1.6E-08	3.7E-08	2.0E-12	NV	2.2E-09	3.5E-09
Benzo (b) fluoranthene	7.4E-12	NV	5.8E-08	1.3E-07	7.4E-12	NV	8.0E-09	1.3E-08	5.0E-12	NV	3.9E-08	9.0E-08	5.0E-12	NV	5.3E-09	8.4E-09
Benzo (k) fluoranthene	2.8E-12	NV	2.2E-08	5.1E-08	2.8E-12	NV	3.0E-09	4.8E-09	1.9E-12	NV	1.5E-08	3.4E-08	1.9E-12	NV	2.0E-09	3.2E-09
Chrysene	3.9E-12	NV	3.1E-08	7.0E-08	3.9E-12	NV	4.2E-09	6.6E-09	2.6E-12	NV	2.1E-08	4.7E-08	2.6E-12	NV	2.8E-09	4.4E-09
Fluoranthene	4.5E-12	NV	3.6E-08	8.2E-08	4.5E-12	NV	4.9E-09	7.7E-09	3.0E-12	NV	2.4E-08	5.5E-08	3.0E-12	NV	3.3E-09	5.2E-09
Phenanthrene	1.8E-12	NV	1.4E-08	3.3E-08	1.8E-12	NV	2.0E-09	3.1E-09	1.3E-12	NV	9.9E-09	2.3E-08	1.3E-12	NV	1.4E-09	2.1E-09
Pyrene	3.5E-12	3.4E-10	2.8E-08	6.4E-08	3.5E-12	3.4E-10	3.8E-09	6.0E-09	2.4E-12	3.4E-10	1.9E-08	4.3E-08	2.4E-12	3.4E-10	2.6E-09	4.1E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Polychlorinated Biphenyls																
Total PCBs	2.1E-12	2.7E-09	1.7E-08	3.8E-08	2.1E-12	2.7E-09	2.3E-09	3.6E-09	1.8E-12	2.7E-09	1.4E-08	3.2E-08	1.8E-12	2.7E-09	1.9E-09	3.0E-09
Total Petroleum Hydrocarbons																
TPH as diesel	5.5E-10	1.8E-04	2.9E-06	9.9E-06	5.5E-10	1.8E-04	3.9E-07	9.3E-07	4.8E-10	1.8E-04	2.5E-06	8.7E-06	4.8E-10	1.8E-04	3.4E-07	8.1E-07
TPH as motor oil	1.1E-09	NV	5.9E-06	2.0E-05	1.1E-09	NV	8.1E-07	1.9E-06	8.1E-10	NV	4.2E-06	1.5E-05	8.1E-10	NV	5.8E-07	1.4E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Copper	1.0E-09	NV	7.2E-08	1.7E-06	7.4E-10	NV	5.3E-08	1.3E-06
Lead	na	na	na	na	na	na	na	na
Zinc	1.5E-09	NV	1.1E-07	2.6E-06	1.2E-09	NV	8.9E-08	2.1E-06
Volatile Organic Compounds								
Chloroform	NS	5.0E-08	NS	NS	1.8E-13	5.0E-08	1.3E-10	3.0E-10
Polycyclic Aromatic Hydrocarbons								
2-Methyl naphthalene	ND	6.7E-09	ND	ND	ND	6.7E-09	ND	ND
Benzo (a) anthracene	9.5E-13	5.6E-11	1.0E-09	1.6E-09	6.5E-13	5.6E-11	7.0E-10	1.1E-09
Benzo (a) pyrene	1.5E-12	NV	1.6E-09	2.6E-09	1.0E-12	NV	1.1E-09	1.7E-09
Benzo (b) fluoranthene	3.7E-12	NV	4.0E-09	6.3E-09	2.5E-12	NV	2.7E-09	4.2E-09
Benzo (k) fluoranthene	1.4E-12	NV	1.5E-09	2.4E-09	9.5E-13	NV	1.0E-09	1.6E-09
Chrysene	1.9E-12	NV	2.1E-09	3.3E-09	1.3E-12	NV	1.4E-09	2.2E-09
Fluoranthene	2.3E-12	NV	2.4E-09	3.8E-09	1.5E-12	NV	1.6E-09	2.6E-09
Phenanthrene	9.2E-13	NV	9.9E-10	1.6E-09	6.3E-13	NV	6.8E-10	1.1E-09
Pyrene	1.8E-12	1.7E-10	1.9E-09	3.0E-09	1.2E-12	1.7E-10	1.3E-09	2.0E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA

Table AOC31-B.2e

**Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Polychlorinated Biphenyls								
Total PCBs	1.0E-12	1.3E-09	1.1E-09	1.8E-09	8.8E-13	1.3E-09	9.5E-10	1.5E-09
Total Petroleum Hydrocarbons								
TPH as diesel	2.7E-10	9.0E-05	2.0E-07	4.7E-07	2.4E-10	9.0E-05	1.7E-07	4.1E-07
TPH as motor oil	5.6E-10	NV	4.0E-07	9.6E-07	4.0E-10	NV	2.9E-07	6.8E-07

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs:
Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Copper	2.0E-07	NV	1.9E-06	2.5E-06	2.0E-07	NV	1.6E-06	1.1E-06	1.5E-07	NV	1.4E-06	1.9E-06	1.5E-07	NV	1.2E-06	7.7E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	3.0E-07	NV	2.9E-06	3.9E-06	3.0E-07	NV	2.5E-06	1.6E-06	2.5E-07	NV	2.4E-06	3.2E-06	2.5E-07	NV	2.0E-06	1.3E-06
Volatile Organic Compounds																
Chloroform	NS	6.3E-09	NS	NS	NS	6.3E-09	NS	NS	3.6E-11	6.3E-09	3.4E-09	4.5E-10	3.6E-11	6.3E-09	2.9E-09	1.9E-10
Polycyclic Aromatic Hydrocarbons																
2-Methyl naphthalene	ND	8.4E-10	ND	ND	ND	8.4E-10	ND	ND	ND	8.4E-10	ND	ND	ND	8.4E-10	ND	ND
Benzo (a) anthracene	1.9E-10	7.0E-12	2.7E-08	2.4E-09	1.9E-10	7.0E-12	2.3E-08	1.0E-09	1.3E-10	7.0E-12	1.9E-08	1.7E-09	1.3E-10	7.0E-12	1.6E-08	6.8E-10
Benzo (a) pyrene	3.0E-10	NV	4.3E-08	3.9E-09	3.0E-10	NV	3.7E-08	1.6E-09	2.1E-10	NV	2.9E-08	2.6E-09	2.1E-10	NV	2.5E-08	1.1E-09
Benzo (b) fluoranthene	7.4E-10	NV	1.1E-07	9.5E-09	7.4E-10	NV	9.1E-08	3.9E-09	5.0E-10	NV	7.1E-08	6.3E-09	5.0E-10	NV	6.1E-08	2.6E-09
Benzo (k) fluoranthene	2.8E-10	NV	4.0E-08	3.6E-09	2.8E-10	NV	3.5E-08	1.5E-09	1.9E-10	NV	2.7E-08	2.4E-09	1.9E-10	NV	2.3E-08	1.0E-09
Chrysene	3.9E-10	NV	5.5E-08	4.9E-09	3.9E-10	NV	4.8E-08	2.0E-09	2.6E-10	NV	3.7E-08	3.3E-09	2.6E-10	NV	3.2E-08	1.4E-09
Fluoranthene	4.5E-10	NV	6.5E-08	5.8E-09	4.5E-10	NV	5.6E-08	2.4E-09	3.0E-10	NV	4.4E-08	3.9E-09	3.0E-10	NV	3.7E-08	1.6E-09
Phenanthrene	1.8E-10	NV	2.6E-08	2.3E-09	1.8E-10	NV	2.3E-08	9.7E-10	1.3E-10	NV	1.8E-08	1.6E-09	1.3E-10	NV	1.5E-08	6.6E-10
Pyrene	3.6E-10	2.1E-11	5.1E-08	4.5E-09	3.6E-10	2.1E-11	4.4E-08	1.9E-09	2.4E-10	2.1E-11	3.4E-08	3.0E-09	2.4E-10	2.1E-11	2.9E-08	1.3E-09
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Polychlorinated Biphenyls																
Total PCBs	2.1E-10	1.7E-10	3.0E-08	2.7E-09	2.1E-10	1.7E-10	2.6E-08	1.1E-09	1.8E-10	1.7E-10	2.5E-08	2.2E-09	1.8E-10	1.7E-10	2.2E-08	9.3E-10
Total Petroleum Hydrocarbons																
TPH as diesel	5.5E-08	1.1E-05	5.2E-06	7.0E-07	5.5E-08	1.1E-05	4.5E-06	2.9E-07	4.8E-08	1.1E-05	4.6E-06	6.1E-07	4.8E-08	1.1E-05	3.9E-06	2.5E-07
TPH as motor oil	1.1E-07	NV	1.1E-05	1.4E-06	1.1E-07	NV	9.3E-06	5.9E-07	8.1E-08	NV	7.7E-06	1.0E-06	8.1E-08	NV	6.6E-06	4.2E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Copper	1.2E-10	NV	9.2E-11	NV
Lead	na	na	na	na
Zinc	1.9E-10	NV	1.6E-10	NV
Volatile Organic Compounds				
Chloroform	NS	4.1E-09	2.2E-14	4.1E-09
Polycyclic Aromatic Hydrocarbons				
2-Methyl naphthalene	ND	5.5E-10	ND	5.5E-10
Benzo (a) anthracene	1.2E-13	4.6E-12	8.1E-14	4.6E-12
Benzo (a) pyrene	1.9E-13	NV	1.3E-13	NV
Benzo (b) fluoranthene	4.6E-13	NV	3.1E-13	NV
Benzo (k) fluoranthene	1.8E-13	NV	1.2E-13	NV
Chrysene	2.4E-13	NV	1.6E-13	NV
Fluoranthene	2.8E-13	NV	1.9E-13	NV
Phenanthrene	1.1E-13	NV	7.8E-14	NV
Pyrene	2.2E-13	1.4E-11	1.5E-13	1.4E-11
B(a)P Equivalent	NA	NV	NA	NV

Table AOC31-B.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Polychlorinated Biphenyls				
Total PCBs	1.3E-13	1.1E-10	1.1E-13	1.1E-10
Total Petroleum Hydrocarbons				
TPH as diesel	3.4E-11	7.4E-06	3.0E-11	7.4E-06
TPH as motor oil	7.1E-11	NV	5.0E-11	NV

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3a
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Chloroform	NS	1.4E-10	NS	NS	1.4E-10	1.3E-13	1.4E-10	3.2E-12	2.2E-12	1.5E-10	1.2E-13	1.4E-10	2.9E-12	2.0E-12	1.4E-10	9.0E-14	1.4E-10	2.2E-12	1.5E-12	1.4E-10
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	8.6E-11	NV	2.1E-09	9.7E-10	3.2E-09	5.9E-11	NV	1.4E-09	6.6E-10	2.2E-09	3.6E-11	NV	8.8E-10	4.0E-10	1.3E-09	3.1E-11	NV	7.8E-10	3.5E-10	1.2E-09
Polychlorinated Biphenyls																				
Total PCBs	1.9E-11	9.3E-11	1.8E-09	8.4E-10	2.8E-09	1.6E-11	9.3E-11	1.5E-09	7.1E-10	2.4E-09	1.3E-11	9.3E-11	1.3E-09	5.7E-10	1.9E-09	1.2E-11	9.3E-11	1.1E-09	5.2E-10	1.8E-09
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	1E-10	2E-10	4E-09	2E-09	6E-09	7E-11	2E-10	3E-09	1E-09	5E-09	5E-11	2E-10	2E-09	1E-09	3E-09	4E-11	2E-10	2E-09	9E-10	3E-09

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3b
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Chloroform	NS	1.9E-10	NS	NS	1.9E-10	9.9E-13	1.9E-10	4.8E-11	1.7E-11	2.6E-10	8.9E-13	1.9E-10	4.3E-11	1.5E-11	2.5E-10	6.8E-13	1.9E-10	3.3E-11	1.1E-11	2.4E-10
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	6.5E-10	NV	3.2E-08	7.3E-09	4.0E-08	4.4E-10	NV	2.2E-08	4.9E-09	2.7E-08	2.7E-10	NV	1.3E-08	3.0E-09	1.7E-08	2.4E-10	NV	1.2E-08	2.7E-09	1.5E-08
Polychlorinated Biphenyls																				
Total PCBs	1.5E-10	1.3E-10	2.8E-08	6.3E-09	3.4E-08	1.2E-10	1.3E-10	2.3E-08	5.3E-09	2.9E-08	9.9E-11	1.3E-10	1.9E-08	4.3E-09	2.3E-08	9.0E-11	1.3E-10	1.7E-08	3.9E-09	2.1E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	8E-10	3E-10	6E-08	1E-08	7E-08	6E-10	3E-10	4E-08	1E-08	6E-08	4E-10	3E-10	3E-08	7E-09	4E-08	3E-10	3E-10	3E-08	7E-09	4E-08

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.
NC = Not considered a carcinogen.
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3c
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Chloroform	NS	4.3E-10	NS	NS	4.3E-10	1.5E-15	4.3E-10	3.6E-12	1.1E-11	4.4E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	2.7E-12	NV	1.0E-08	2.2E-08	3.3E-08	1.9E-12	NV	6.9E-09	1.5E-08	2.2E-08

Table AOC31-B.3c
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User- Camper
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	2.2E-13	2.8E-10	2.1E-09	4.3E-09	6.6E-09	1.9E-13	2.8E-10	1.7E-09	3.6E-09	5.6E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	3E-12	7E-10	1E-08	3E-08	4E-08	2E-12	7E-10	9E-09	2E-08	3E-08

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3d

Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Chloroform	NS	8.5E-10	NS	NS	8.5E-10	3.0E-15	8.5E-10	7.2E-12	2.2E-11	8.8E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	5.5E-12	NV	2.0E-08	4.5E-08	6.5E-08	3.7E-12	NV	1.4E-08	3.0E-08	4.4E-08

Table AOC31-B.3d

Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	4.4E-13	5.7E-10	4.1E-09	8.5E-09	1.3E-08	3.7E-13	5.7E-10	3.5E-09	7.2E-09	1.1E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	6E-12	1E-09	2E-08	5E-08	8E-08	4E-12	1E-09	2E-08	4E-08	6E-08

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3e
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Chloroform	NS	4.3E-10	NS	NS	4.3E-10	1.5E-15	4.3E-10	1.5E-12	3.5E-12	4.3E-10
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	9.9E-13	NV	9.7E-10	1.5E-09	2.5E-09	6.7E-13	NV	6.6E-10	1.0E-09	1.7E-09

Table AOC31-B.3e
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	2.2E-13	2.8E-10	8.4E-10	1.3E-09	2.4E-09	1.9E-13	2.8E-10	7.1E-10	1.1E-09	2.1E-09
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	1E-12	7E-10	2E-09	3E-09	5E-09	9E-13	7E-10	1E-09	2E-09	4E-09

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3f

Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds										
Chloroform	NS	5.3E-11	NS	NS	5.3E-11	3.0E-13	5.3E-11	3.5E-11	2.9E-12	9.1E-11
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	3.5E-10	NV	4.2E-08	2.6E-09	4.5E-08	2.4E-10	NV	2.8E-08	1.8E-09	3.0E-08

Table AOC31-B.3f

Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Polychlorinated Biphenyls										
Total PCBs	4.5E-11	3.6E-11	2.0E-08	1.1E-09	2.1E-08	3.7E-11	3.6E-11	1.7E-08	9.2E-10	1.8E-08
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	4E-10	9E-11	6E-08	4E-09	7E-08	3E-10	9E-11	5E-08	3E-09	5E-08

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.3g
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Copper	NC	NC	--	NC	NC	--
Lead	na	na	na	na	na	na
Zinc	NC	NC	--	NC	NC	--
Volatile Organic Compounds						
Chloroform	NS	8.1E-11	8.1E-11	4.4E-16	8.1E-11	8.1E-11
Polycyclic Aromatic Hydrocarbons						
2-Methyl naphthalene	ND	NC	--	ND	NC	--
Benzo (a) anthracene	NA	NC	--	NA	NC	--
Benzo (a) pyrene	NA	NC	--	NA	NC	--
Benzo (b) fluoranthene	NA	NC	--	NA	NC	--
Benzo (k) fluoranthene	NA	NC	--	NA	NC	--
Chrysene	NA	NC	--	NA	NC	--
Fluoranthene	NC	NC	--	NC	NC	--
Phenanthrene	NC	NC	--	NC	NC	--
Pyrene	NC	NC	--	NC	NC	--
B(a)P Equivalent	2.8E-13	NV	2.8E-13	1.9E-13	NV	1.9E-13

Table AOC31-B.3g
Baseline Scenario ILCRs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Polychlorinated Biphenyls						
Total PCBs	6.4E-14	5.4E-11	5.4E-11	5.4E-14	5.4E-11	5.4E-11
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Cumulative ILCR	3E-13	1E-10	1E-10	2E-13	1E-10	1E-10

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents.

NC = Not considered a carcinogen.

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4a
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Copper	1.4E-05	NV	1.0E-04	7.0E-04	8.2E-04	1.0E-05	NV	7.6E-05	5.2E-04	6.0E-04	6.4E-06	NV	4.7E-05	3.2E-04	3.7E-04	4.4E-06	NV	3.2E-05	2.2E-04	2.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	2.9E-06	NV	2.1E-05	1.4E-04	1.7E-04	2.4E-06	NV	1.7E-05	1.2E-04	1.4E-04	1.7E-06	NV	1.3E-05	8.6E-05	1.0E-04	1.3E-06	NV	9.4E-06	6.4E-05	7.5E-05
Volatile Organic Compounds																				
Chloroform	NS	1.8E-06	NS	NS	1.8E-06	1.7E-09	1.8E-06	7.3E-08	5.0E-08	1.9E-06	1.5E-09	1.8E-06	6.5E-08	4.5E-08	1.9E-06	1.1E-09	1.8E-06	5.0E-08	3.4E-08	1.9E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	3.6E-06	ND	ND	3.6E-06	ND	3.6E-06	ND	ND	3.6E-06	ND	3.6E-06	ND	ND	3.6E-06	5.3E-08	3.6E-06	5.7E-06	2.6E-06	1.2E-05
Benzo (a) anthracene	1.8E-08	3.9E-09	2.0E-06	8.9E-07	2.9E-06	1.2E-08	3.9E-09	1.3E-06	6.1E-07	2.0E-06	6.5E-09	3.9E-09	7.1E-07	3.2E-07	1.0E-06	4.2E-09	3.9E-09	4.6E-07	2.1E-07	6.7E-07
Benzo (a) pyrene	1.7E-03	NV	3.1E-04	1.4E-04	2.2E-03	1.2E-03	NV	2.1E-04	9.6E-05	1.5E-03	6.7E-04	NV	1.2E-04	5.5E-05	8.5E-04	5.4E-04	NV	9.8E-05	4.5E-05	6.9E-04
Benzo (b) fluoranthene	7.0E-08	NV	7.6E-06	3.5E-06	1.1E-05	4.7E-08	NV	5.1E-06	2.3E-06	7.5E-06	2.5E-08	NV	2.7E-06	1.2E-06	4.0E-06	1.7E-08	NV	1.9E-06	8.6E-07	2.8E-06
Benzo (k) fluoranthene	2.6E-08	NV	2.9E-06	1.3E-06	4.2E-06	1.8E-08	NV	1.9E-06	8.9E-07	2.9E-06	1.1E-08	NV	1.1E-06	5.2E-07	1.7E-06	8.6E-09	NV	9.4E-07	4.3E-07	1.4E-06
Chrysene	3.7E-08	NV	4.0E-06	1.8E-06	5.8E-06	2.5E-08	NV	2.7E-06	1.2E-06	3.9E-06	1.3E-08	NV	1.4E-06	6.3E-07	2.0E-06	7.9E-09	NV	8.6E-07	3.9E-07	1.3E-06
Fluoranthene	3.2E-09	NV	3.5E-07	1.6E-07	5.1E-07	2.2E-09	NV	2.3E-07	1.1E-07	3.4E-07	1.1E-09	NV	1.2E-07	5.5E-08	1.8E-07	6.8E-10	NV	7.4E-08	3.4E-08	1.1E-07
Phenanthrene	5.2E-11	NV	5.7E-09	2.6E-09	8.3E-09	3.6E-11	NV	3.9E-09	1.8E-09	5.7E-09	1.9E-11	NV	2.1E-09	9.4E-10	3.0E-09	1.2E-11	NV	1.3E-09	6.1E-10	1.9E-09
Pyrene	3.3E-09	1.2E-09	3.6E-07	1.7E-07	5.3E-07	2.3E-09	1.2E-09	2.5E-07	1.1E-07	3.6E-07	1.2E-09	1.2E-09	1.3E-07	5.8E-08	1.9E-07	7.3E-10	1.2E-09	7.9E-08	3.6E-08	1.2E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	3.0E-05	1.4E-04	3.2E-03	1.5E-03	4.9E-03	2.5E-05	1.4E-04	2.7E-03	1.2E-03	4.1E-03	2.0E-05	1.4E-04	2.2E-03	1.0E-03	3.4E-03	1.8E-05	1.4E-04	2.0E-03	9.1E-04	3.1E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	4.8E-06	5.9E-03	5.6E-04	3.8E-04	6.9E-03	4.2E-06	5.9E-03	4.9E-04	3.3E-04	6.7E-03	3.8E-06	5.9E-03	4.5E-04	3.1E-04	6.7E-03	2.9E-06	5.9E-03	3.4E-04	2.3E-04	6.5E-03
TPH as motor oil	1.9E-06	NV	1.4E-04	9.3E-05	2.3E-04	1.3E-06	NV	9.7E-05	6.6E-05	1.7E-04	8.1E-07	NV	5.8E-05	4.0E-05	9.9E-05	5.9E-07	NV	4.3E-05	2.9E-05	7.3E-05
Total Hazard Index	2E-03	6E-03	4E-03	3E-03	2E-02	1E-03	6E-03	4E-03	2E-03	1E-02	7E-04	6E-03	3E-03	2E-03	1E-02	6E-04	6E-03	3E-03	2E-03	1E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4b
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Copper	3.5E-06	NV	5.1E-05	1.8E-04	2.3E-04	2.6E-06	NV	3.8E-05	1.3E-04	1.7E-04	1.6E-06	NV	2.3E-05	8.0E-05	1.0E-04	1.1E-06	NV	1.6E-05	5.5E-05	7.2E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	7.2E-07	NV	1.0E-05	3.5E-05	4.6E-05	5.9E-07	NV	8.5E-06	2.9E-05	3.8E-05	4.3E-07	NV	6.3E-06	2.1E-05	2.8E-05	3.2E-07	NV	4.7E-06	1.6E-05	2.1E-05
Volatile Organic Compounds																				
Chloroform	NS	2.0E-07	NS	NS	2.0E-07	1.0E-09	2.0E-07	3.6E-07	1.2E-07	6.9E-07	9.2E-10	2.0E-07	3.3E-07	1.1E-07	6.4E-07	7.0E-10	2.0E-07	2.5E-07	8.5E-08	5.3E-07
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	1.6E-07	ND	ND	1.6E-07	ND	1.6E-07	ND	ND	1.6E-07	ND	1.6E-07	ND	ND	1.6E-07	1.3E-08	1.6E-07	2.9E-06	6.5E-07	3.7E-06
Benzo (a) anthracene	4.5E-09	1.8E-10	9.8E-07	2.2E-07	1.2E-06	3.1E-09	1.8E-10	6.6E-07	1.5E-07	8.2E-07	1.6E-09	1.8E-10	3.5E-07	8.1E-08	4.4E-07	1.1E-09	1.8E-10	2.3E-07	5.2E-08	2.8E-07
Benzo (a) pyrene	4.3E-04	NV	1.6E-04	3.5E-05	6.2E-04	2.9E-04	NV	1.0E-04	2.4E-05	4.2E-04	1.7E-04	NV	6.1E-05	1.4E-05	2.4E-04	1.4E-04	NV	4.9E-05	1.1E-05	2.0E-04
Benzo (b) fluoranthene	1.8E-08	NV	3.8E-06	8.7E-07	4.7E-06	1.2E-08	NV	2.5E-06	5.8E-07	3.1E-06	6.2E-09	NV	1.4E-06	3.1E-07	1.7E-06	4.3E-09	NV	9.4E-07	2.1E-07	1.2E-06
Benzo (k) fluoranthene	6.6E-09	NV	1.4E-06	3.3E-07	1.8E-06	4.5E-09	NV	9.7E-07	2.2E-07	1.2E-06	2.6E-09	NV	5.7E-07	1.3E-07	7.0E-07	2.2E-09	NV	4.7E-07	1.1E-07	5.8E-07
Chrysene	9.1E-09	NV	2.0E-06	4.5E-07	2.4E-06	6.2E-09	NV	1.3E-06	3.0E-07	1.6E-06	3.2E-09	NV	6.9E-07	1.6E-07	8.5E-07	2.0E-09	NV	4.3E-07	9.8E-08	5.3E-07
Fluoranthene	8.0E-09	NV	1.7E-06	4.0E-07	2.1E-06	5.4E-09	NV	1.2E-06	2.7E-07	1.4E-06	2.8E-09	NV	6.0E-07	1.4E-07	7.4E-07	1.7E-09	NV	3.7E-07	8.5E-08	4.6E-07
Phenanthrene	4.3E-10	NV	9.4E-08	2.1E-08	1.2E-07	3.0E-10	NV	6.4E-08	1.5E-08	7.9E-08	1.6E-10	NV	3.4E-08	7.8E-09	4.2E-08	1.0E-10	NV	2.2E-08	5.0E-09	2.7E-08
Pyrene	8.4E-09	5.5E-10	1.8E-06	4.1E-07	2.2E-06	5.6E-09	5.5E-10	1.2E-06	2.8E-07	1.5E-06	2.9E-09	5.5E-10	6.3E-07	1.4E-07	7.8E-07	1.8E-09	5.5E-10	4.0E-07	9.0E-08	4.9E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	7.4E-06	6.5E-06	1.6E-03	3.7E-04	2.0E-03	6.2E-06	6.5E-06	1.4E-03	3.1E-04	1.7E-03	5.1E-06	6.5E-06	1.1E-03	2.5E-04	1.4E-03	4.6E-06	6.5E-06	1.0E-03	2.3E-04	1.2E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	1.2E-06	2.7E-04	2.8E-04	9.6E-05	6.5E-04	1.0E-06	2.7E-04	2.4E-04	8.4E-05	6.0E-04	9.6E-07	2.7E-04	2.3E-04	7.7E-05	5.7E-04	7.2E-07	2.7E-04	1.7E-04	5.8E-05	5.0E-04
TPH as motor oil	4.7E-07	NV	6.8E-05	2.3E-05	9.2E-05	3.4E-07	NV	4.9E-05	1.7E-05	6.6E-05	2.0E-07	NV	2.9E-05	1.0E-05	3.9E-05	1.5E-07	NV	2.1E-05	7.3E-06	2.9E-05
Total Hazard Index	4E-04	3E-04	2E-03	7E-04	4E-03	3E-04	3E-04	2E-03	6E-04	3E-03	2E-04	3E-04	1E-03	5E-04	2E-03	1E-04	3E-04	1E-03	4E-04	2E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4c
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Copper	6.2E-09	NV	1.3E-05	4.5E-04	4.7E-04	6.2E-09	NV	1.8E-06	4.2E-05	4.4E-05	4.6E-09	NV	9.7E-06	3.3E-04	3.4E-04	4.6E-09	NV	1.3E-06	3.1E-05	3.3E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	1.3E-09	NV	2.7E-06	9.2E-05	9.4E-05	1.3E-09	NV	3.6E-07	8.6E-06	8.9E-06	1.0E-09	NV	2.2E-06	7.5E-05	7.7E-05	1.0E-09	NV	3.0E-07	7.1E-06	7.4E-06
Volatile Organic Compounds																				
Chloroform	NS	5.1E-07	NS	NS	5.1E-07	NS	5.1E-07	NS	NS	5.1E-07	1.8E-12	5.1E-07	9.3E-08	3.2E-07	9.3E-07	1.8E-12	5.1E-07	1.3E-08	3.0E-08	5.5E-07
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	4.2E-07	ND	ND	4.2E-07	ND	4.2E-07	ND	ND	4.2E-07	ND	4.2E-07	ND	ND	4.2E-07	ND	4.2E-07	ND	ND	4.2E-07
Benzo (a) anthracene	7.9E-12	4.6E-10	2.5E-07	5.7E-07	8.3E-07	7.9E-12	4.6E-10	3.4E-08	5.4E-08	8.8E-08	5.4E-12	4.6E-10	1.7E-07	3.9E-07	5.6E-07	5.4E-12	4.6E-10	2.3E-08	3.7E-08	6.0E-08
Benzo (a) pyrene	7.6E-07	NV	4.0E-05	9.2E-05	1.3E-04	7.6E-07	NV	5.4E-06	8.6E-06	1.5E-05	5.1E-07	NV	2.7E-05	6.2E-05	8.9E-05	5.1E-07	NV	3.7E-06	5.8E-06	1.0E-05
Benzo (b) fluoranthene	3.1E-11	NV	9.7E-07	2.2E-06	3.2E-06	3.1E-11	NV	1.3E-07	2.1E-07	3.4E-07	2.1E-11	NV	6.5E-07	1.5E-06	2.2E-06	2.1E-11	NV	8.9E-08	1.4E-07	2.3E-07
Benzo (k) fluoranthene	1.2E-11	NV	3.7E-07	8.5E-07	1.2E-06	1.2E-11	NV	5.0E-08	7.9E-08	1.3E-07	7.9E-12	NV	2.5E-07	5.7E-07	8.2E-07	7.9E-12	NV	3.4E-08	5.4E-08	8.8E-08
Chrysene	1.6E-11	NV	5.1E-07	1.2E-06	1.7E-06	1.6E-11	NV	6.9E-08	1.1E-07	1.8E-07	1.1E-11	NV	3.4E-07	7.9E-07	1.1E-06	1.1E-11	NV	4.7E-08	7.4E-08	1.2E-07
Fluoranthene	1.4E-11	NV	4.4E-07	1.0E-06	1.5E-06	1.4E-11	NV	6.1E-08	9.6E-08	1.6E-07	9.5E-12	NV	3.0E-07	6.9E-07	9.9E-07	9.5E-12	NV	4.1E-08	6.5E-08	1.1E-07
Phenanthrene	7.7E-13	NV	2.4E-08	5.6E-08	8.0E-08	7.7E-13	NV	3.3E-09	5.2E-09	8.5E-09	5.2E-13	NV	1.6E-08	3.8E-08	5.4E-08	5.2E-13	NV	2.3E-09	3.6E-09	5.8E-09
Pyrene	1.5E-11	1.4E-09	4.7E-07	1.1E-06	1.5E-06	1.5E-11	1.4E-09	6.4E-08	1.0E-07	1.7E-07	1.0E-11	1.4E-09	3.1E-07	7.2E-07	1.0E-06	1.0E-11	1.4E-09	4.3E-08	6.8E-08	1.1E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	1.3E-08	1.7E-05	4.1E-04	9.5E-04	1.4E-03	1.3E-08	1.7E-05	5.6E-05	8.9E-05	1.6E-04	1.1E-08	1.7E-05	3.5E-04	8.0E-04	1.2E-03	1.1E-08	1.7E-05	4.7E-05	7.5E-05	1.4E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	2.1E-09	7.0E-04	7.2E-05	2.5E-04	1.0E-03	2.1E-09	7.0E-04	9.8E-06	2.3E-05	7.3E-04	1.8E-09	7.0E-04	6.3E-05	2.2E-04	9.7E-04	1.8E-09	7.0E-04	8.6E-06	2.0E-05	7.2E-04
TPH as motor oil	8.3E-10	NV	1.7E-05	6.0E-05	7.8E-05	8.3E-10	NV	2.4E-06	5.6E-06	8.0E-06	5.9E-10	NV	1.2E-05	4.3E-05	5.5E-05	5.9E-10	NV	1.7E-06	4.0E-06	5.7E-06
Total Hazard Index	8E-07	7E-04	6E-04	2E-03	3E-03	8E-07	7E-04	8E-05	2E-04	1E-03	5E-07	7E-04	5E-04	2E-03	3E-03	5E-07	7E-04	6E-05	1E-04	9E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4d
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Copper	1.2E-08	NV	2.6E-05	9.1E-04	9.3E-04	1.2E-08	NV	3.6E-06	8.5E-05	8.9E-05	9.2E-09	NV	1.9E-05	6.7E-04	6.9E-04	9.2E-09	NV	2.6E-06	6.3E-05	6.5E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	2.5E-09	NV	5.3E-06	1.8E-04	1.9E-04	2.5E-09	NV	7.2E-07	1.7E-05	1.8E-05	2.1E-09	NV	4.4E-06	1.5E-04	1.5E-04	2.1E-09	NV	6.0E-07	1.4E-05	1.5E-05
Volatile Organic Compounds																				
Chloroform	NS	1.0E-06	NS	NS	1.0E-06	NS	1.0E-06	NS	NS	1.0E-06	3.6E-12	1.0E-06	1.9E-07	6.4E-07	1.9E-06	3.6E-12	1.0E-06	2.5E-08	6.0E-08	1.1E-06
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	8.4E-07	ND	ND	8.4E-07	ND	8.4E-07	ND	ND	8.4E-07	ND	8.4E-07	ND	ND	8.4E-07	ND	8.4E-07	ND	ND	8.4E-07
Benzo (a) anthracene	1.6E-11	9.3E-10	5.0E-07	1.1E-06	1.7E-06	1.6E-11	9.3E-10	6.8E-08	1.1E-07	1.8E-07	1.1E-11	9.3E-10	3.4E-07	7.8E-07	1.1E-06	1.1E-11	9.3E-10	4.7E-08	7.3E-08	1.2E-07
Benzo (a) pyrene	1.5E-06	NV	8.0E-05	1.8E-04	2.6E-04	1.5E-06	NV	1.1E-05	1.7E-05	3.0E-05	1.0E-06	NV	5.4E-05	1.2E-04	1.8E-04	1.0E-06	NV	7.3E-06	1.2E-05	2.0E-05
Benzo (b) fluoranthene	6.2E-11	NV	1.9E-06	4.5E-06	6.4E-06	6.2E-11	NV	2.7E-07	4.2E-07	6.9E-07	4.1E-11	NV	1.3E-06	3.0E-06	4.3E-06	4.1E-11	NV	1.8E-07	2.8E-07	4.6E-07
Benzo (k) fluoranthene	2.3E-11	NV	7.4E-07	1.7E-06	2.4E-06	2.3E-11	NV	1.0E-07	1.6E-07	2.6E-07	1.6E-11	NV	5.0E-07	1.1E-06	1.6E-06	1.6E-11	NV	6.8E-08	1.1E-07	1.8E-07
Chrysene	3.2E-11	NV	1.0E-06	2.3E-06	3.4E-06	3.2E-11	NV	1.4E-07	2.2E-07	3.6E-07	2.2E-11	NV	6.9E-07	1.6E-06	2.3E-06	2.2E-11	NV	9.4E-08	1.5E-07	2.4E-07
Fluoranthene	2.8E-11	NV	8.9E-07	2.0E-06	2.9E-06	2.8E-11	NV	1.2E-07	1.9E-07	3.1E-07	1.9E-11	NV	6.0E-07	1.4E-06	2.0E-06	1.9E-11	NV	8.2E-08	1.3E-07	2.1E-07
Phenanthrene	1.5E-12	NV	4.8E-08	1.1E-07	1.6E-07	1.5E-12	NV	6.6E-09	1.0E-08	1.7E-08	1.0E-12	NV	3.3E-08	7.6E-08	1.1E-07	1.0E-12	NV	4.5E-09	7.1E-09	1.2E-08
Pyrene	3.0E-11	2.8E-09	9.3E-07	2.1E-06	3.1E-06	3.0E-11	2.8E-09	1.3E-07	2.0E-07	3.3E-07	2.0E-11	2.8E-09	6.3E-07	1.4E-06	2.1E-06	2.0E-11	2.8E-09	8.6E-08	1.4E-07	2.2E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	2.6E-08	3.4E-05	8.3E-04	1.9E-03	2.8E-03	2.6E-08	3.4E-05	1.1E-04	1.8E-04	3.2E-04	2.2E-08	3.4E-05	7.0E-04	1.6E-03	2.3E-03	2.2E-08	3.4E-05	9.5E-05	1.5E-04	2.8E-04
Total Petroleum Hydrocarbons																				
TPH as diesel	4.2E-09	1.4E-03	1.4E-04	5.0E-04	2.0E-03	4.2E-09	1.4E-03	2.0E-05	4.7E-05	1.5E-03	3.7E-09	1.4E-03	1.3E-04	4.3E-04	1.9E-03	3.7E-09	1.4E-03	1.7E-05	4.1E-05	1.4E-03
TPH as motor oil	1.7E-09	NV	3.5E-05	1.2E-04	1.6E-04	1.7E-09	NV	4.8E-06	1.1E-05	1.6E-05	1.2E-09	NV	2.5E-05	8.6E-05	1.1E-04	1.2E-09	NV	3.4E-06	8.1E-06	1.1E-05
Total Hazard Index	2E-06	1E-03	1E-03	4E-03	6E-03	2E-06	1E-03	2E-04	4E-04	2E-03	1E-06	1E-03	9E-04	3E-03	5E-03	1E-06	1E-03	1E-04	3E-04	2E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4e
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Copper	6.2E-09	NV	1.8E-06	4.2E-05	4.4E-05	4.6E-09	NV	1.3E-06	3.1E-05	3.3E-05
Lead	na	na	na	na	na	na	na	na	na	na
Zinc	1.3E-09	NV	3.6E-07	8.6E-06	8.9E-06	1.0E-09	NV	3.0E-07	7.1E-06	7.4E-06
Volatile Organic Compounds										
Chloroform	NS	5.1E-07	NS	NS	5.1E-07	1.8E-12	5.1E-07	1.3E-08	3.0E-08	5.5E-07
Polycyclic Aromatic Hydrocarbons										
2-Methyl naphthalene	ND	4.2E-07	ND	ND	4.2E-07	ND	4.2E-07	ND	ND	4.2E-07
Benzo (a) anthracene	7.9E-12	4.6E-10	3.4E-08	5.4E-08	8.8E-08	5.4E-12	4.6E-10	2.3E-08	3.7E-08	6.0E-08
Benzo (a) pyrene	7.6E-07	NV	5.4E-06	8.6E-06	1.5E-05	5.1E-07	NV	3.7E-06	5.8E-06	1.0E-05
Benzo (b) fluoranthene	3.1E-11	NV	1.3E-07	2.1E-07	3.4E-07	2.1E-11	NV	8.9E-08	1.4E-07	2.3E-07
Benzo (k) fluoranthene	1.2E-11	NV	5.0E-08	7.9E-08	1.3E-07	7.9E-12	NV	3.4E-08	5.4E-08	8.8E-08
Chrysene	1.6E-11	NV	6.9E-08	1.1E-07	1.8E-07	1.1E-11	NV	4.7E-08	7.4E-08	1.2E-07
Fluoranthene	1.4E-11	NV	6.1E-08	9.6E-08	1.6E-07	9.5E-12	NV	4.1E-08	6.5E-08	1.1E-07
Phenanthrene	7.7E-13	NV	3.3E-09	5.2E-09	8.5E-09	5.2E-13	NV	2.3E-09	3.6E-09	5.8E-09
Pyrene	1.5E-11	1.4E-09	6.4E-08	1.0E-07	1.7E-07	1.0E-11	1.4E-09	4.3E-08	6.8E-08	1.1E-07
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--

Table AOC31-B.4e
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Polychlorinated Biphenyls										
Total PCBs	1.3E-08	1.7E-05	5.6E-05	8.9E-05	1.6E-04	1.1E-08	1.7E-05	4.7E-05	7.5E-05	1.4E-04
Total Petroleum Hydrocarbons										
TPH as diesel	2.1E-09	7.0E-04	9.8E-06	2.3E-05	7.3E-04	1.8E-09	7.0E-04	8.6E-06	2.0E-05	7.2E-04
TPH as motor oil	8.3E-10	NV	2.4E-06	5.6E-06	8.0E-06	5.9E-10	NV	1.7E-06	4.0E-06	5.7E-06
Total Hazard Index	8E-07	7E-04	8E-05	2E-04	1E-03	5E-07	7E-04	6E-05	1E-04	9E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4f
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Copper	1.3E-06	NV	4.8E-05	6.4E-05	1.1E-04	1.3E-06	NV	4.1E-05	2.6E-05	6.9E-05	9.2E-07	NV	3.5E-05	4.7E-05	8.3E-05	9.2E-07	NV	3.0E-05	1.9E-05	5.1E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Zinc	2.5E-07	NV	9.7E-06	1.3E-05	2.3E-05	2.5E-07	NV	8.3E-06	5.3E-06	1.4E-05	2.1E-07	NV	7.9E-06	1.1E-05	1.9E-05	2.1E-07	NV	6.8E-06	4.4E-06	1.1E-05
Volatile Organic Compounds																				
Chloroform	NS	6.4E-08	NS	NS	6.4E-08	NS	6.4E-08	NS	NS	6.4E-08	3.6E-10	6.4E-08	3.4E-07	4.5E-08	4.5E-07	3.6E-10	6.4E-08	2.9E-07	1.9E-08	3.7E-07
Polycyclic Aromatic Hydrocarbons																				
2-Methyl naphthalene	ND	5.3E-08	ND	ND	5.3E-08	ND	5.3E-08	ND	ND	5.3E-08	ND	5.3E-08	ND	ND	5.3E-08	ND	5.3E-08	ND	ND	5.3E-08
Benzo (a) anthracene	1.6E-09	5.8E-11	9.1E-07	8.1E-08	9.9E-07	1.6E-09	5.8E-11	7.8E-07	3.3E-08	8.2E-07	1.1E-09	5.8E-11	6.2E-07	5.5E-08	6.8E-07	1.1E-09	5.8E-11	5.3E-07	2.3E-08	5.6E-07
Benzo (a) pyrene	1.5E-04	NV	1.4E-04	1.3E-05	3.1E-04	1.5E-04	NV	1.2E-04	5.3E-06	2.8E-04	1.0E-04	NV	9.8E-05	8.7E-06	2.1E-04	1.0E-04	NV	8.4E-05	3.6E-06	1.9E-04
Benzo (b) fluoranthene	6.2E-09	NV	3.5E-06	3.2E-07	3.9E-06	6.2E-09	NV	3.0E-06	1.3E-07	3.2E-06	4.2E-09	NV	2.4E-06	2.1E-07	2.6E-06	4.2E-09	NV	2.0E-06	8.7E-08	2.1E-06
Benzo (k) fluoranthene	2.3E-09	NV	1.3E-06	1.2E-07	1.5E-06	2.3E-09	NV	1.2E-06	4.9E-08	1.2E-06	1.6E-09	NV	9.1E-07	8.1E-08	9.9E-07	1.6E-09	NV	7.8E-07	3.3E-08	8.1E-07
Chrysene	3.2E-09	NV	1.8E-06	1.6E-07	2.0E-06	3.2E-09	NV	1.6E-06	6.8E-08	1.7E-06	2.2E-09	NV	1.2E-06	1.1E-07	1.4E-06	2.2E-09	NV	1.1E-06	4.6E-08	1.1E-06
Fluoranthene	2.8E-09	NV	1.6E-06	1.4E-07	1.8E-06	2.8E-09	NV	1.4E-06	5.9E-08	1.5E-06	1.9E-09	NV	1.1E-06	9.7E-08	1.2E-06	1.9E-09	NV	9.3E-07	4.0E-08	9.8E-07
Phenanthrene	1.5E-10	NV	8.8E-08	7.8E-09	9.6E-08	1.5E-10	NV	7.5E-08	3.2E-09	7.9E-08	1.0E-10	NV	6.0E-08	5.3E-09	6.5E-08	1.0E-10	NV	5.1E-08	2.2E-09	5.4E-08
Pyrene	3.0E-09	1.8E-10	1.7E-06	1.5E-07	1.8E-06	3.0E-09	1.8E-10	1.5E-06	6.2E-08	1.5E-06	2.0E-09	1.8E-10	1.1E-06	1.0E-07	1.2E-06	2.0E-09	1.8E-10	9.8E-07	4.2E-08	1.0E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Polychlorinated Biphenyls																				
Total PCBs	2.6E-06	2.1E-06	1.5E-03	1.3E-04	1.6E-03	2.6E-06	2.1E-06	1.3E-03	5.5E-05	1.3E-03	2.2E-06	2.1E-06	1.3E-03	1.1E-04	1.4E-03	2.2E-06	2.1E-06	1.1E-03	4.6E-05	1.1E-03
Total Petroleum Hydrocarbons																				
TPH as diesel	4.2E-07	8.7E-05	2.6E-04	3.5E-05	3.8E-04	4.2E-07	8.7E-05	2.2E-04	1.4E-05	3.3E-04	3.7E-07	8.7E-05	2.3E-04	3.0E-05	3.5E-04	3.7E-07	8.7E-05	2.0E-04	1.3E-05	3.0E-04
TPH as motor oil	1.7E-07	NV	6.3E-05	8.5E-06	7.2E-05	1.7E-07	NV	5.4E-05	3.5E-06	5.8E-05	1.2E-07	NV	4.5E-05	6.0E-06	5.1E-05	1.2E-07	NV	3.9E-05	2.5E-06	4.1E-05
Total Hazard Index	2E-04	9E-05	2E-03	3E-04	3E-03	2E-04	9E-05	2E-03	1E-04	2E-03	1E-04	9E-05	2E-03	2E-04	2E-03	1E-04	9E-05	1E-03	9E-05	2E-03

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
ND = Not detected.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.4g
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Copper	7.8E-10	NV	7.8E-10	5.8E-10	NV	5.8E-10
Lead	na	na	na	na	na	na
Zinc	1.6E-10	NV	1.6E-10	1.3E-10	NV	1.3E-10
Volatile Organic Compounds						
Chloroform	NS	4.2E-08	4.2E-08	2.3E-13	4.2E-08	4.2E-08
Polycyclic Aromatic Hydrocarbons						
2-Methyl naphthalene	ND	3.5E-08	3.5E-08	ND	3.5E-08	3.5E-08
Benzo (a) anthracene	9.9E-13	3.8E-11	3.9E-11	6.7E-13	3.8E-11	3.9E-11
Benzo (a) pyrene	9.5E-08	NV	9.5E-08	6.4E-08	NV	6.4E-08
Benzo (b) fluoranthene	3.9E-12	NV	3.9E-12	2.6E-12	NV	2.6E-12
Benzo (k) fluoranthene	1.5E-12	NV	1.5E-12	9.9E-13	NV	9.9E-13
Chrysene	2.0E-12	NV	2.0E-12	1.4E-12	NV	1.4E-12
Fluoranthene	1.8E-12	NV	1.8E-12	1.2E-12	NV	1.2E-12
Phenanthrene	9.6E-14	NV	9.6E-14	6.5E-14	NV	6.5E-14
Pyrene	1.8E-12	1.2E-10	1.2E-10	1.2E-12	1.2E-10	1.2E-10
B(a)P Equivalent	NA	NV	--	NA	NV	--

Table AOC31-B.4g
Baseline Scenario HIs for COPCs in AOC 31 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Polychlorinated Biphenyls						
Total PCBs	1.6E-09	1.4E-06	1.4E-06	1.4E-09	1.4E-06	1.4E-06
Total Petroleum Hydrocarbons						
TPH as diesel	2.6E-10	5.7E-05	5.7E-05	2.3E-10	5.7E-05	5.7E-05
TPH as motor oil	1.0E-10	NV	1.0E-10	7.4E-11	NV	7.4E-11
Total Hazard Index	1E-07	6E-05	6E-05	7E-08	6E-05	6E-05

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).

ND = Not detected.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

Table AOC31-B.5a

Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	19.0	15.8	11.3	7.4
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR _S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
AF _{S, D}	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
EF _{S, D}	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
AT _{S, D}	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.010	0.008	0.006	0.004
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	0.02	0.02	0.01	0.01
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC31-B.5b

Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	19.0	15.8	11.3	7.4
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR _s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
AF _{s, D}	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
EF _{s, D}	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
AT _{s, D}	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.002	0.002	0.001	0.001
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	0.00	0.00	0.00	0.00
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
P(PbB_{fetal} > PbB_t)	Probability that fetal PbB > PbB_t, assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table AOC31-B.5c

Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	19.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.005	0.009	0.01	0.01	0.01	2159
BLOOD Pb, PICA CHILD	0.010	0.02	0.02	0.03	0.03	1084

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	3.9E-05	1%		3.9E-05	0.4%
Soil Ingestion	2.5E-4	4.8E-03	99%	5.0E-4	9.6E-03	100%
Inhalation	7.0E-8	1.3E-06	0.03%		1.3E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC31-B.5d

Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	15.8
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.004	0.007	0.01	0.01	0.01	2159
BLOOD Pb, PICA CHILD	0.008	0.01	0.02	0.02	0.02	1084

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	3.3E-05	1%		3.3E-05	0.4%
Soil Ingestion	2.5E-4	4.0E-03	99%	5.0E-4	7.9E-03	100%
Inhalation	7.0E-8	1.1E-06	0.03%		1.1E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC31-B.5e

Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	19.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.010	0.018	0.02	0.03	0.03	1079
BLOOD Pb, PICA CHILD	0.019	0.04	0.04	0.05	0.06	542

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	7.9E-05	1%		7.9E-05	0.4%
Soil Ingestion	5.0E-4	9.6E-03	99%	1.0E-3	1.9E-02	100%
Inhalation	1.4E-7	2.7E-06	0.03%		2.7E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC31-B.5f

Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	15.8
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.008	0.015	0.02	0.02	0.02	1079
BLOOD Pb, PICA CHILD	0.016	0.03	0.03	0.04	0.05	542

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	6.5E-05	1%		6.5E-05	0.4%
Soil Ingestion	5.0E-4	7.9E-03	99%	1.0E-3	1.6E-02	100%
Inhalation	1.4E-7	2.2E-06	0.03%		2.2E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table AOC31-B.5g

Baseline Scenario Risk Evaluation for Lead in AOC 31 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	19.0	15.8
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0
IR _s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.05	0.05
AF _{s, d}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{s, d}	Exposure frequency (same for soil and dust)	days/yr	8	8
AT _{s, d}	Averaging time (same for soil and dust)	days/yr	365	365
PbB _{adult}	PbB of adult worker, geometric mean	ug/dL	0.001	0.001
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	0.00	0.00
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0
$P(\text{PbB}_{\text{fetal}} > \text{PbB}_t)$	Probability that fetal PbB > PbB _t , assuming lognormal distribution	%	0%	0%

PRG90

9942

Notes:

Highlighted values are site-specific: soil ingestion rate of 50 mg/day is the default incidental soil ingestion rate evaluation of exposure to lead in soil (USEPA 2003). Exposure frequency (8 days/year) based on the assumption of 8 days per month, 1 month per year as shown in Table 5.1 of the main report.

References:

USEPA. 2003. Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. EPA-540-R-03-001. January.

Table AOC31-B.5h

Baseline Scenario Risk Evaluation for Lead in AOC 31 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	19.0
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.003	0.006	0.01	0.01	0.01
BLOOD Pb, PICA CHILD	0.019	0.04	0.04	0.05	0.06
					PRG-90
					(ug/g)
					3180
					535

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	3.1E-04	10%		3.1E-04	1.6%
Soil Ingestion	1.6E-4	3.0E-03	90%	1.0E-3	1.9E-02	98%
Inhalation	8.7E-9	1.7E-07	0.01%		1.7E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table AOC31-B.5i

Baseline Scenario Risk Evaluation for Lead in AOC 31 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	15.8
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.003	0.005	0.01	0.01	0.01	3180
BLOOD Pb, PICA CHILD	0.016	0.03	0.03	0.04	0.05	535

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	2.6E-04	10%		2.6E-04	1.6%
Soil Ingestion	1.6E-4	2.5E-03	90%	1.0E-3	1.6E-02	98%
Inhalation	8.7E-9	1.4E-07	0.01%		1.4E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at AOC 31 Using
Depth-Weighted EPCs



Attachment AOC31-C**Dose and Risk Calculations for Ecological Receptors at AOC 31 Using Depth-Weighted EPCs**

Table AOC31-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC31
Table AOC31-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for AOC31
Table AOC31-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for AOC31
Table AOC31-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for AOC31
Table AOC31-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for AOC31
Table AOC31-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table AOC31-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for AOC31

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Copper	6.20E+01	70	9E-01	6.20E+01	80	8E-01
Lead	1.90E+01	120	2E-01	1.90E+01	1700	1E-02
Zinc	9.40E+01	160	6E-01	9.40E+01	120	8E-01
Volatile Organic Compounds						
Chloroform	1.10E-02	--	No SL	--	0.05	--
Polycyclic Aromatic Hydrocarbons						
PAH Low molecular weight	5.70E-02	10	6E-03	5.70E-02	29	2E-03
PAH High molecular weight	8.40E-01	1.2	7E-01	8.40E-01	18	5E-02
Polychlorinated Biphenyls						
Total PCBs	6.50E-02	40	2E-03	6.50E-02	1	7E-02

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern

EPC = exposure point concentration

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

mg/kg = milligrams per kilogram

ND = not detected in the applicable depth interval

ng/kg = nanograms per kilogram

no SL = no screening level available

NOAEL = no-observed adverse effect level

PCBs = polychlorinated biphenyls

Table AOC31-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF
= 1, Selected TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Copper	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.9E+01	m	100% Plants	1.0E-01	1.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	9.4E+01	m	100% Plants	1.0E-01	6.0E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Volatile Organic Compounds										
Chloroform	Gambel's Quail	--		100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	5.7E-02	m	100% Plants	1.0E-01	7.3E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
PAH High molecular weight	Gambel's Quail	8.4E-01	m	100% Plants	1.0E-01	1.5E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	6.5E-02	m	100% Plants	1.0E-01	6.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Copper	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.9E+01	m	100% Insects	9.3E-02	8.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	9.4E+01	m	100% Insects	9.3E-02	3.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Volatile Organic Compounds										
Chloroform	Cactus Wren	--		100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	5.7E-02	m	100% Insects	9.3E-02	1.7E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
PAH High molecular weight	Cactus Wren	8.4E-01	m	100% Insects	9.3E-02	2.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	6.5E-02	m	100% Insects	9.3E-02	9.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Copper	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.9E+01	m	100% Insects	2.0E-02	8.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	9.4E+01	m	100% Insects	2.0E-02	3.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds										
Chloroform	Desert Shrew	--		100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	5.7E-02	m	100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.4E-01	m	100% Insects	2.0E-02	2.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	6.5E-02	m	100% Insects	2.0E-02	9.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Copper	Merriam's Kangaroo Rat	6.2E+01	m	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	1.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	9.4E+01	m	100% Plants	2.4E-02	6.0E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Volatile Organic Compounds										
Chloroform	Merriam's Kangaroo Rat	1.1E-02	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	5.7E-02	m	100% Plants	2.4E-02	7.3E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	8.4E-01	m	100% Plants	2.4E-02	1.5E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	6.5E-02	m	100% Plants	2.4E-02	6.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC31-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF
= 1, Selected TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	3.8E-01	--	--	2.5E-01	6.3E-01	4.1E+00	1.2E+01	2E-01	5E-02
Lead	Gambel's Quail	5.3E-02	--	--	7.6E-02	1.3E-01	1.6E+00	3.3E+00	8E-02	4E-02
Zinc	Gambel's Quail	2.3E+00	--	--	3.7E-01	2.7E+00	6.6E+01	1.7E+02	4E-02	2E-02
Volatile Organic Compounds										
Chloroform	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	0.0E+00	0.0E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Gambel's Quail	2.8E-03	--	--	2.3E-04	3.0E-03	2.3E+01	2.3E+02	1E-04	1E-05
PAH High molecular weight	Gambel's Quail	5.9E-03	--	--	3.3E-03	9.3E-03	1.0E+01	1.0E+02	9E-04	9E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	2.5E-05	--	--	2.6E-04	2.8E-04	9.0E-02	1.3E+00	3E-03	2E-04
Inorganics										
Copper	Cactus Wren	--	5.9E+00	--	1.1E+00	6.9E+00	4.1E+00	1.2E+01	2E+00	6E-01
Lead	Cactus Wren	--	1.6E+00	--	3.2E-01	1.9E+00	1.6E+00	3.3E+00	1E+00	6E-01
Zinc	Cactus Wren	--	7.0E+01	--	1.6E+00	7.1E+01	6.6E+01	1.7E+02	1E+00	4E-01
Volatile Organic Compounds										
Chloroform	Cactus Wren	--	--	--	--	0.0E+00	0.0E+00	0.0E+00	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Cactus Wren	--	3.2E-02	--	9.7E-04	3.3E-02	2.3E+01	2.3E+02	1E-03	1E-04
PAH High molecular weight	Cactus Wren	--	4.0E-01	--	1.4E-02	4.1E-01	1.0E+01	1.0E+02	4E-02	4E-03
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.8E-02	--	1.1E-03	1.9E-02	9.0E-02	1.3E+00	2E-01	2E-02
Inorganics										
Copper	Desert Shrew	--	6.5E+00	--	2.5E-01	6.7E+00	9.4E+00	1.6E+01	7E-01	4E-01
Lead	Desert Shrew	--	1.8E+00	--	7.7E-02	1.8E+00	4.7E+00	8.9E+00	4E-01	2E-01
Zinc	Desert Shrew	--	7.7E+01	--	3.8E-01	7.7E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds										
Chloroform	Desert Shrew	--	--	--	--	0.0E+00	1.5E+01	4.1E+01	--	--
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	3.5E-02	--	2.3E-04	3.5E-02	6.6E+01	3.3E+02	5E-04	1E-04
PAH High molecular weight	Desert Shrew	--	4.4E-01	--	3.4E-03	4.5E-01	6.2E-01	3.1E+00	7E-01	1E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.0E-02	--	2.6E-04	2.0E-02	3.6E-01	1.3E+00	6E-02	2E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	8.2E-01	--	--	1.2E-01	9.4E-01	9.0E+00	1.5E+01	1E-01	6E-02
Lead	Merriam's Kangaroo Rat	1.1E-01	--	--	3.7E-02	1.5E-01	4.7E+00	8.9E+00	3E-02	2E-02
Zinc	Merriam's Kangaroo Rat	4.9E+00	--	--	1.9E-01	5.1E+00	7.5E+01	3.0E+02	7E-02	2E-02
Volatile Organic Compounds										
Chloroform	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	2.2E-05	1.5E+01	4.1E+01	1E-06	5E-07
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	6.0E-03	--	--	1.1E-04	6.1E-03	6.6E+01	3.3E+02	9E-05	2E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.3E-02	--	--	1.7E-03	1.4E-02	6.2E-01	3.1E+00	2E-02	5E-03
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	5.3E-05	--	--	1.3E-04	1.8E-04	3.6E-01	1.3E+00	5E-04	1E-04

Notes:
See Notes and Abbreviations following Table AOC31-C.5

Table AOC31-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Copper	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.9E+01	m	100% Plants	1.0E-01	1.4E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	9.4E+01	m	100% Plants	1.0E-01	6.0E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	6.5E-02	m	100% Plants	1.0E-01	6.5E-04	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Copper	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.9E+01	m	100% Insects	9.3E-02	8.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	9.4E+01	m	100% Insects	9.3E-02	3.8E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	6.5E-02	m	100% Insects	9.3E-02	9.9E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Copper	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.9E+01	m	100% Insects	2.0E-02	8.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	9.4E+01	m	100% Insects	2.0E-02	3.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	5.7E-02	m	100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.4E-01	m	100% Insects	2.0E-02	2.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	6.5E-02	m	100% Insects	2.0E-02	9.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Copper	Merriam's Kangaroo Rat	6.2E+01	m	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	1.4E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	9.4E+01	m	100% Plants	2.4E-02	6.0E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	5.7E-02	m	100% Plants	2.4E-02	7.3E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
PAH High molecular weight	Merriam's Kangaroo Rat	8.4E-01	m	100% Plants	2.4E-02	1.5E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	6.5E-02	m	100% Plants	2.4E-02	6.5E-04	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table AOC31-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	3.8E-01	--	--	2.5E-01	6.3E-01	2.3E+00	5.2E+01	3E-01	1E-02
Lead	Gambel's Quail	5.3E-02	--	--	7.6E-02	1.3E-01	1.4E-02	8.8E+00	9E+00	1E-02
Zinc	Gambel's Quail	2.3E+00	--	--	3.7E-01	2.7E+00	1.7E+01	1.7E+02	2E-01	2E-02
Polychlorinated Biphenyls									--	--
Total PCBs	Gambel's Quail	2.5E-05	--	--	2.6E-04	2.8E-04	9.0E-02	1.3E+00	3E-03	2E-04
Inorganics									--	--
Copper	Cactus Wren	--	5.9E+00	--	1.1E+00	6.9E+00	2.3E+00	5.2E+01	3E+00	1E-01
Lead	Cactus Wren	--	1.6E+00	--	3.2E-01	1.9E+00	1.4E-02	8.8E+00	1E+02	2E-01
Zinc	Cactus Wren	--	7.0E+01	--	1.6E+00	7.1E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls									--	--
Total PCBs	Cactus Wren	--	1.8E-02	--	1.1E-03	1.9E-02	9.0E-02	1.3E+00	2E-01	2E-02
Inorganics									--	--
Copper	Desert Shrew	--	6.5E+00	--	2.5E-01	6.7E+00	2.7E+00	6.3E+02	3E+00	1E-02
Lead	Desert Shrew	--	1.8E+00	--	7.7E-02	1.8E+00	1.0E+00	2.4E+02	2E+00	8E-03
Zinc	Desert Shrew	--	7.7E+01	--	3.8E-01	7.7E+01	9.6E+00	4.1E+02	8E+00	2E-01
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Desert Shrew	--	3.5E-02	--	2.3E-04	3.5E-02	5.0E+01	1.5E+02	7E-04	2E-04
PAH High molecular weight	Desert Shrew	--	4.4E-01	--	3.4E-03	4.5E-01	1.3E+00	3.3E+01	3E-01	1E-02
Polychlorinated Biphenyls									--	--
Total PCBs	Desert Shrew	--	2.0E-02	--	2.6E-04	2.0E-02	3.6E-01	1.3E+00	6E-02	2E-02
Inorganics									--	--
Copper	Merriam's Kangaroo Rat	8.2E-01	--	--	1.2E-01	9.4E-01	2.7E+00	6.3E+02	4E-01	1E-03
Lead	Merriam's Kangaroo Rat	1.1E-01	--	--	3.7E-02	1.5E-01	1.0E+00	2.4E+02	2E-01	6E-04
Zinc	Merriam's Kangaroo Rat	4.9E+00	--	--	1.9E-01	5.1E+00	9.6E+00	4.1E+02	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Merriam's Kangaroo Rat	6.0E-03	--	--	1.1E-04	6.1E-03	5.0E+01	1.5E+02	1E-04	4E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.3E-02	--	--	1.7E-03	1.4E-02	1.3E+00	3.3E+01	1E-02	4E-04
Polychlorinated Biphenyls									--	--
Total PCBs	Merriam's Kangaroo Rat	5.3E-05	--	--	1.3E-04	1.8E-04	3.6E-01	1.3E+00	5E-04	1E-04

Notes:
See Notes and Abbreviations following Table AOC31-C.5

Table AOC31-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	6.2E+01 m	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Lead	Gambel's Quail	1.9E+01 m	100% Plants	1.0E-01	1.4E+00	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Zinc	Gambel's Quail	9.4E+01 m	100% Plants	1.0E-01	6.0E+01	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Volatile Organic Compounds									
Chloroform	Gambel's Quail	--	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Gambel's Quail	5.7E-02 m	100% Plants	1.0E-01	7.3E-02	1.7E-01	3.8E-02	4.0E-03	3.2E-03
PAH High molecular weight	Gambel's Quail	8.4E-01 m	100% Plants	1.0E-01	1.5E-01	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	6.5E-02 m	100% Plants	1.0E-01	6.5E-04	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Inorganics									
Copper	Cactus Wren	6.2E+01 m	100% Insects	9.3E-02	3.2E+01	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Lead	Cactus Wren	1.9E+01 m	100% Insects	9.3E-02	8.7E+00	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Zinc	Cactus Wren	9.4E+01 m	100% Insects	9.3E-02	3.8E+02	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Volatile Organic Compounds									
Chloroform	Cactus Wren	--	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Cactus Wren	5.7E-02 m	100% Insects	9.3E-02	1.7E-01	3.9E-02	1.8E-01	1.7E-02	2.4E-02
PAH High molecular weight	Cactus Wren	8.4E-01 m	100% Insects	9.3E-02	2.2E+00	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	6.5E-02 m	100% Insects	9.3E-02	9.9E-02	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Inorganics									
Copper	Desert Shrew	6.2E+01 m	100% Insects	2.0E-02	3.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.9E+01 m	100% Insects	2.0E-02	8.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	9.4E+01 m	100% Insects	2.0E-02	3.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Volatile Organic Compounds									
Chloroform	Desert Shrew	--	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Desert Shrew	5.7E-02 m	100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.4E-01 m	100% Insects	2.0E-02	2.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	6.5E-02 m	100% Insects	2.0E-02	9.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	6.2E+01 m	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Lead	Merriam's Kangaroo Rat	1.9E+01 m	100% Plants	2.4E-02	1.4E+00	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Zinc	Merriam's Kangaroo Rat	9.4E+01 m	100% Plants	2.4E-02	6.0E+01	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Volatile Organic Compounds									
Chloroform	Merriam's Kangaroo Rat	1.1E-02 m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Polycyclic Aromatic Hydrocarbons									
PAH Low molecular weight	Merriam's Kangaroo Rat	5.7E-02 m	100% Plants	2.4E-02	7.3E-02	3.4E-02	8.2E-02	2.0E-03	8.7E-01
PAH High molecular weight	Merriam's Kangaroo Rat	8.4E-01 m	100% Plants	2.4E-02	1.5E-01	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	6.5E-02 m	100% Plants	2.4E-02	6.5E-04	3.4E-02	8.2E-02	2.0E-03	8.7E-01

Table AOC31-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	3.8E-01	--	--	2.5E-01	2.0E-03	4.1E+00	1.2E+01	5E-04	2E-04
Lead	Gambel's Quail	5.3E-02	--	--	7.6E-02	4.1E-04	1.6E+00	3.3E+00	3E-04	1E-04
Zinc	Gambel's Quail	2.3E+00	--	--	3.7E-01	8.5E-03	6.6E+01	1.7E+02	1E-04	5E-05
Volatile Organic Compounds									--	--
Chloroform	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	0.0E+00	0.0E+00	--	--
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Gambel's Quail	2.8E-03	--	--	2.3E-04	9.5E-06	2.3E+01	2.3E+02	4E-07	4E-08
PAH High molecular weight	Gambel's Quail	5.9E-03	--	--	3.3E-03	2.9E-05	1.0E+01	1.0E+02	3E-06	3E-07
Polychlorinated Biphenyls									--	--
Total PCBs	Gambel's Quail	2.5E-05	--	--	2.6E-04	9.0E-07	9.0E-02	1.3E+00	1E-05	7E-07
Inorganics									--	--
Copper	Cactus Wren	--	5.9E+00	--	1.1E+00	1.6E-01	4.1E+00	1.2E+01	4E-02	1E-02
Lead	Cactus Wren	--	1.6E+00	--	3.2E-01	4.5E-02	1.6E+00	3.3E+00	3E-02	1E-02
Zinc	Cactus Wren	--	7.0E+01	--	1.6E+00	1.7E+00	6.6E+01	1.7E+02	3E-02	1E-02
Volatile Organic Compounds									--	--
Chloroform	Cactus Wren	--	--	--	--	0.0E+00	0.0E+00	0.0E+00	--	--
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Cactus Wren	--	3.2E-02	--	9.7E-04	7.7E-04	2.3E+01	2.3E+02	3E-05	3E-06
PAH High molecular weight	Cactus Wren	--	4.0E-01	--	1.4E-02	9.8E-03	1.0E+01	1.0E+02	1E-03	1E-04
Polychlorinated Biphenyls									--	--
Total PCBs	Cactus Wren	--	1.8E-02	--	1.1E-03	4.5E-04	9.0E-02	1.3E+00	5E-03	4E-04
Inorganics									--	--
Copper	Desert Shrew	--	6.5E+00	--	2.5E-01	6.7E+00	9.4E+00	1.6E+01	7E-01	4E-01
Lead	Desert Shrew	--	1.8E+00	--	7.7E-02	1.8E+00	4.7E+00	8.9E+00	4E-01	2E-01
Zinc	Desert Shrew	--	7.7E+01	--	3.8E-01	7.7E+01	7.5E+01	3.0E+02	1E+00	3E-01
Volatile Organic Compounds									--	--
Chloroform	Desert Shrew	--	--	--	--	0.0E+00	1.5E+01	4.1E+01	--	--
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Desert Shrew	--	3.5E-02	--	2.3E-04	3.5E-02	6.6E+01	3.3E+02	5E-04	1E-04
PAH High molecular weight	Desert Shrew	--	4.4E-01	--	3.4E-03	4.5E-01	6.2E-01	3.1E+00	7E-01	1E-01
Polychlorinated Biphenyls									--	--
Total PCBs	Desert Shrew	--	2.0E-02	--	2.6E-04	2.0E-02	3.6E-01	1.3E+00	6E-02	2E-02
Inorganics									--	--
Copper	Merriam's Kangaroo Rat	8.2E-01	--	--	1.2E-01	8.2E-01	9.0E+00	1.5E+01	9E-02	5E-02
Lead	Merriam's Kangaroo Rat	1.1E-01	--	--	3.7E-02	1.3E-01	4.7E+00	8.9E+00	3E-02	1E-02
Zinc	Merriam's Kangaroo Rat	4.9E+00	--	--	1.9E-01	4.4E+00	7.5E+01	3.0E+02	6E-02	1E-02
Volatile Organic Compounds									--	--
Chloroform	Merriam's Kangaroo Rat	0.0E+00	--	--	2.2E-05	1.9E-05	1.5E+01	4.1E+01	1E-06	5E-07
Polycyclic Aromatic Hydrocarbons									--	--
PAH Low molecular weight	Merriam's Kangaroo Rat	6.0E-03	--	--	1.1E-04	5.3E-03	6.6E+01	3.3E+02	8E-05	2E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.3E-02	--	--	1.7E-03	1.2E-02	6.2E-01	3.1E+00	2E-02	4E-03
Polychlorinated Biphenyls									--	--
Total PCBs	Merriam's Kangaroo Rat	5.3E-05	--	--	1.3E-04	1.6E-04	3.6E-01	1.3E+00	4E-04	1E-04

Notes:
See Notes and Abbreviations following Table AOC31-C.5

Table AOC31-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Copper	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	9.9E+00	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Lead	Gambel's Quail	1.9E+01	m	100% Plants	1.0E-01	1.4E+00	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Zinc	Gambel's Quail	9.4E+01	m	100% Plants	1.0E-01	6.0E+01	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	6.5E-02	m	100% Plants	1.0E-01	6.5E-04	1.7E-01	3.8E-02	4.0E-03	3.2E-03
Inorganics										
Copper	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.2E+01	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Lead	Cactus Wren	1.9E+01	m	100% Insects	9.3E-02	8.7E+00	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Zinc	Cactus Wren	9.4E+01	m	100% Insects	9.3E-02	3.8E+02	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	6.5E-02	m	100% Insects	9.3E-02	9.9E-02	3.9E-02	1.8E-01	1.7E-02	2.4E-02
Inorganics										
Copper	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.9E+01	m	100% Insects	2.0E-02	8.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	9.4E+01	m	100% Insects	2.0E-02	3.8E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	5.7E-02	m	100% Insects	2.0E-02	1.7E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
PAH High molecular weight	Desert Shrew	8.4E-01	m	100% Insects	2.0E-02	2.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	6.5E-02	m	100% Insects	2.0E-02	9.9E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Copper	Merriam's Kangaroo Rat	6.2E+01	m	100% Plants	2.4E-02	9.9E+00	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Lead	Merriam's Kangaroo Rat	1.9E+01	m	100% Plants	2.4E-02	1.4E+00	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Zinc	Merriam's Kangaroo Rat	9.4E+01	m	100% Plants	2.4E-02	6.0E+01	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	5.7E-02	m	100% Plants	2.4E-02	7.3E-02	3.4E-02	8.2E-02	2.0E-03	8.7E-01
PAH High molecular weight	Merriam's Kangaroo Rat	8.4E-01	m	100% Plants	2.4E-02	1.5E-01	3.4E-02	8.2E-02	2.0E-03	8.7E-01
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	6.5E-02	m	100% Plants	2.4E-02	6.5E-04	3.4E-02	8.2E-02	2.0E-03	8.7E-01

Table AOC31-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for AOC31

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	3.8E-01	--	--	2.5E-01	2.0E-03	2.3E+00	5.2E+01	9E-04	4E-05
Lead	Gambel's Quail	5.3E-02	--	--	7.6E-02	4.1E-04	1.4E-02	8.8E+00	3E-02	5E-05
Zinc	Gambel's Quail	2.3E+00	--	--	3.7E-01	8.5E-03	1.7E+01	1.7E+02	5E-04	5E-05
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	2.5E-05	--	--	2.6E-04	9.0E-07	9.0E-02	1.3E+00	1E-05	7E-07
Inorganics										
Copper	Cactus Wren	--	5.9E+00	--	1.1E+00	1.6E-01	2.3E+00	5.2E+01	7E-02	3E-03
Lead	Cactus Wren	--	1.6E+00	--	3.2E-01	4.5E-02	1.4E-02	8.8E+00	3E+00	5E-03
Zinc	Cactus Wren	--	7.0E+01	--	1.6E+00	1.7E+00	1.7E+01	1.7E+02	1E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.8E-02	--	1.1E-03	4.5E-04	9.0E-02	1.3E+00	5E-03	4E-04
Inorganics										
Copper	Desert Shrew	--	6.5E+00	--	2.5E-01	6.7E+00	2.7E+00	6.3E+02	3E+00	1E-02
Lead	Desert Shrew	--	1.8E+00	--	7.7E-02	1.8E+00	1.0E+00	2.4E+02	2E+00	8E-03
Zinc	Desert Shrew	--	7.7E+01	--	3.8E-01	7.7E+01	9.6E+00	4.1E+02	8E+00	2E-01
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Desert Shrew	--	3.5E-02	--	2.3E-04	3.5E-02	5.0E+01	1.5E+02	7E-04	2E-04
PAH High molecular weight	Desert Shrew	--	4.4E-01	--	3.4E-03	4.5E-01	1.3E+00	3.3E+01	3E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	2.0E-02	--	2.6E-04	2.0E-02	3.6E-01	1.3E+00	6E-02	2E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	8.2E-01	--	--	1.2E-01	8.2E-01	2.7E+00	6.3E+02	3E-01	1E-03
Lead	Merriam's Kangaroo Rat	1.1E-01	--	--	3.7E-02	1.3E-01	1.0E+00	2.4E+02	1E-01	5E-04
Zinc	Merriam's Kangaroo Rat	4.9E+00	--	--	1.9E-01	4.4E+00	9.6E+00	4.1E+02	5E-01	1E-02
Polycyclic Aromatic Hydrocarbons										
PAH Low molecular weight	Merriam's Kangaroo Rat	6.0E-03	--	--	1.1E-04	5.3E-03	5.0E+01	1.5E+02	1E-04	4E-05
PAH High molecular weight	Merriam's Kangaroo Rat	1.3E-02	--	--	1.7E-03	1.2E-02	1.3E+00	3.3E+01	1E-02	4E-04
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	5.3E-05	--	--	1.3E-04	1.6E-04	3.6E-01	1.3E+00	4E-04	1E-04

Notes:
See Notes and Abbreviations following Table AOC31-C.5

Table AOC31-C Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment PG&E Topock Compressor Station Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times \text{SIR}) + (C_{\text{plants}} \times \text{FIR} \times F_{\text{plants}}) + (C_{\text{insects}} \times \text{FIR} \times F_{\text{insects}}) + (C_{\text{mammals}} \times \text{FIR} \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.

Appendix UA2

Soil HHERA for UA-2 Exposure Area



Pacific Gas and Electric Company

APPENDIX UA2 SOIL HHERA FOR UA-2 EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular areas, creating a complex, angular form. A thin white line runs diagonally through the shape, and a thin white horizontal line intersects it near the bottom.

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FIGURE

UA2-1.1 Soil Sampling Locations UA-2/300B Exposure Area

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- A Dataset and Exposure Point Concentration Calculations for the UA-2 HHERA
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- C Dose and Risk Calculations for Ecological Receptors at UA-2 Using Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

AOC	area of concern
Arcadis	Arcadis U.S., Inc.
As	arsenic
B(a)PEQ	benzo(a)pyrene equivalent
bgs	below ground surface
BCW	Bat Cave Wash
BTAG	Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
BTV	background threshold value
CH2M	CH2M HILL, Inc.
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HMW	high molecular weight
HQ	hazard quotient
ILCR	incremental lifetime cancer risk
LMW	low molecular weight
LOAEL	lowest-observed adverse effects level
LOE	line of evidence
µg/dL	microgram per deciliter
mg/kg	milligram per kilogram

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NA	not applicable
NOAEL	no-observed adverse effects level
OCS	outside the compressor station
OEHHA	California Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
RAWP	Human Health and Ecological Risk Assessment Work Plan
RFI/RI	Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation
SUF	site use factor
SVOC	semi-volatile organic compound
T&E	threatened and endangered
TCS	Topock Compressor Station
TPH	total petroleum hydrocarbon
TRV	toxicity reference value
UA	undesignated area
UA-2	Undesignated Area 2
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WOE	weight of evidence
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for the Undesignated Area 2 (UA-2) soil potential exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The UA-2 potential exposure area, shown on Figure UA2-1.1, is approximately 0.10 acre and includes the sample locations identified in Table UA2-1.1. Available soil data for the UA-2 potential exposure area were used to conduct a quantitative HHERA as presented herein. The human health risk assessment (HHRA) and the ecological risk assessment (ERA) results are summarized in Sections 5 and 6, respectively, of the Soil Human Health and Ecological Risk Assessment Report (the “main report”). This appendix refers to “HHRA” when discussing specific information for assessing risks to human health, “ERA” when discussing specific information for assessing risks to potential ecological receptors, and “HHERA” when discussing topics that are common to both the HHRA and the ERA.

Descriptions of the physical location and characteristics of the UA-2 potential exposure area and the HHERA methodologies are provided in the main report and the Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and results of the HHERA risk characterization for soil in the UA-2 potential exposure area. Tables and figures specific to the UA-2 potential exposure area HHERA are also presented in this appendix.

1.1 Summary of Site Use

The UA-2 potential exposure area, also referred to as the UA or former 300B pipeline liquids tank area, is located southeast of the TCS on a shelf in the hill next to old Route 66, on Havasu National Wildlife Refuge property.

The 300B pipeline liquids tank was formerly used to collect pipeline liquids from the 300B natural gas pipeline. It was an aboveground tank located on two concrete saddle supports. The tank pad was unpaved, and oil-stained soil was observed underneath and immediately adjacent to a portion of the tank (CH2M HILL, Inc. [CH2M] 2006). The tank was removed in 1995, and cleanup according to a closure plan was implemented and soil excavation was conducted in 1996. Soil was excavated to a total depth of 5.5 feet (ft) below ground surface (bgs). Confirmation samples indicated that the closure plan target of 1,000 milligrams per kilogram (mg/kg) was met. The soil excavation and sampling results are documented in the Closure Certification Report (Trident Environmental and Engineering 1996).

The primary sources of contamination in the UA-2 potential exposure area consisted of potential historical spills while filling or emptying the 300B pipeline liquids tank, and potential historical leaks from the tank. Any constituents released would have been released in liquid form to surface soil. If released, volatile organic compounds (VOCs) in surface soil would be expected to have been degraded by heat and light and likely are no longer present. The majority of the affected soil has been removed, as documented by post-remediation confirmation sampling. Therefore, surface soil is the primary source medium.

2 DATA EVALUATION AND COPC/COPEC SELECTION

This section summarizes the data considered for the UA-2 potential exposure area HHERA and presents the constituents of potential concern (COPCs) for human health and constituents of potential ecological concern (COPECs) selected for the UA-2 potential exposure area.

All soil sampling locations at the UA-2 potential exposure area are presented on Figure UA2-1.1 and in Table UA2-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Draft Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation (RFI/RI) Report Volume 3 (currently being prepared by Jacobs).

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHERA. All available soil data for the UA-2 potential exposure area were considered usable for the HHERA and are presented in Attachment UA2-A1. For the UA-2 potential exposure area, potential soil contact does not extend below 10 ft bgs (Table UA2-1.1); therefore, available soil data from 18 samples collected from 0 to 10 ft bgs were considered for use in the HHERA.

Data processed for the HHERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] polycyclic aromatic hydrocarbons [PAHs], benzo[a]pyrene equivalent [B(a)PEQ], and polychlorinated biphenyls [PCBs]) are described in detail in Section 3 of the main report.

The process for identifying COPCs and COPECs included in the HHERA is detailed in Section 3.4 of the main report. COPCs and COPECs were selected for the UA-2 potential exposure area using soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 10 ft bgs for the UA-2 potential exposure area), as presented in Attachment UA2-A1. Only a few metals are present at concentrations above background levels in UA-2 potential exposure area soil (0 to 10 ft bgs), and therefore are included as COPCs and/or COPECs in the four baseline exposure depths evaluated in the HHERA. B(a)PEQ was within the range of background, and therefore, B(a)PEQ and associated carcinogenic PAHs (i.e., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, chrysene, and indeno[1,2,3-cd]pyrene) were not selected as COPCs. HMW and LMW PAHs were within the range of background and were not selected as COPECs. All other detected organic constituents in UA-2 potential exposure area soil in the baseline exposure depths are included as COPCs and/or COPECs in the HHERA. COPCs and/or COPECs selected for exposure depths and scenarios (baseline) evaluated in the HHERA for the UA-2 potential exposure area are summarized in Tables UA2-2.1a through UA2-2.1d. The selected COPCs and COPECs are discussed further in Sections 4 and 5, respectively, of this appendix.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted exposure point concentrations (EPCs) for COPCs/COPECs in soil at the UA-2 potential exposure area were calculated as described in Section 4.2 of the main report. For the UA-2 potential exposure area, one scenario was evaluated: Baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment UA2-A2. The summary statistics for these UA-2 potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Although data are only available for 0 to 6 ft bgs, the depth-weighting process allows for EPCs to be calculated for the subsurface II (0 to 10 ft bgs) depth interval.

Soil summary statistics for constituents measured at the UA-2 potential exposure area¹ that were detected at least once and depth-weighted EPCs for COPCs/COPECs calculated using depth-weighted data from the exposure depths listed above for the UA-2 potential exposure area for the baseline scenario are presented in Table UA2-3.1. Due to the small sizes of the surface, shallow, subsurface I, and subsurface II soil datasets for the UA-2 potential exposure area (i.e., insufficient data to calculate upper confidence limits [UCLs] on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

Per the RAWP documents (Arcadis 2008, 2009, 2015), area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). Similarly, for the ERA, area-weighted EPCs are evaluated only if depth-weighted EPCs suggest potential risk to potential ecological receptors (i.e., hazard quotient [HQ] is greater than 1 for any COPEC). For the UA-2 potential exposure area, due to the small dataset (i.e., sample size of two or five), area-weighted EPCs were not calculated since they would be equivalent to the depth-weighted EPCs (i.e., both are based on maximum depth-weighted concentrations).

¹ The list of constituents shown in the main report Section 3 tables is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) and measured at UA-2.

4 HUMAN HEALTH RISK ASSESSMENT

This section summarizes the HHRA approach; presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the UA-2 potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors at the UA-2 potential exposure area are presented in Attachment UA2-B.

Risks/hazards estimated for an individual exposure area such as the UA-2 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual areas of concern (AOCs) are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all exposure areas located outside the TCS rather than have a lifetime of contact limited to the area of a single exposure area. Therefore, estimated risks/hazards presented for individual exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks and hazards associated with a lifetime of contact with soil only in the UA-2 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the UA-2 potential exposure area. The potential receptors and potential exposure pathways evaluated for the UA-2 potential exposure area included:

- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Recreational Users (child and/or adult campers, hikers, hunters, and off-highway vehicle [OHV] riders)** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil
- **Tribal Users** – Inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the UA-2 potential exposure area were selected in accordance with the RAWP documents (Arcadis 2008, 2009, 2015) and as described in Section 3.4 of the main report. Data used in the COPC

selection process are presented in Attachment UA2-A1. COPCs for the four exposure depths and one scenario (baseline) evaluated for the UA-2 potential exposure area HHRA are summarized in Table UA2-4.1 (details are presented in Tables UA2-2.1a through UA2-2.1d).

COPCs included metals (arsenic, barium, lead, manganese, and zinc), semi-volatile organic compounds (SVOCs; 4-methylphenol and bis [2-ethylhexyl] phthalate), PAHs, total petroleum hydrocarbon (TPH) as diesel, and TPH as motor oil in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment UA2-A2. Depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapor used to estimate risk in the HHRA are summarized in Tables UA2-4.2a through UA2-4.2h for the four exposure depths in the baseline scenario.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Short- and Long-Term Maintenance Worker** – surface, shallow, subsurface I, and subsurface II soil
- **Recreational User (child and/or adult campers, hikers, hunters, and OHV riders)** – surface and shallow soil
- **Tribal User** – surface and shallow soil.

4.4 Estimation of Dose

The EC and chronic daily intake for potential carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and chronic daily intake values are presented in Tables UA2-B.1a through UA2-B.1h (carcinogenic effects) and Tables UA2-B.2a through UA2-B.2g (noncarcinogenic effects) in Attachment UA2-B for the potential receptors evaluated. Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment is provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to California Department of Toxic Substances Control (DTSC) guidance (2015). Toxicity values for carcinogenic and noncarcinogenic

effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors, assuming lifetime soil exposure is limited to the UA-2 potential exposure area, the incremental lifetime cancer risks (ILCRs) and/or noncancer HQs were calculated for each COPC and potentially complete exposure pathway. Cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC's point of departure for risk management decision of 1×10^{-6} ; risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks with between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (United States Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table UA2-4.3 summarizes cumulative ILCRs and HIs estimated using depth-weighted EPCs for potential exposure to soil for each potential human receptor evaluated at the UA-2 potential exposure area in the baseline scenario. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables UA2-B.3a through UA2-B.3g) and noncancer hazard calculations (Tables UA2-B.4a through UA2-B.4g) are presented in Attachment UA2-B.

Risk and hazard estimates for the baseline scenario are summarized in the tables below. Assuming that lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for each receptor potentially exposed to COPCs in UA-2 potential exposure area soil at all exposure depths are below the *de minimis* levels of 1×10^{-6} and 1, respectively, for the hunter and tribal user. Estimates for potential soil contact limited to the UA-2 potential exposure area for lifetime exposure are above *de minimis* levels, but within the acceptable risk management range, for short- and long-term maintenance workers and certain recreational users (campers, hikers, hunter, and OHV riders).

Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		UA-2 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Short-Term Maintenance Worker	Surface	1E-06	NA	0.5	NA
	Shallow	2E-06	As (2E-06)	0.5	NA
	Subsurface I	2E-06	As (2E-06)	0.5	NA
	Subsurface II	1E-06	NA	0.5	NA
Long-Term Maintenance Worker	Surface	1E-05	As (1E-05)	1	NA
	Shallow	2E-05	As (2E-05)	1	NA
	Subsurface I	2E-05	As (2E-05)	1	NA
	Subsurface II	1E-05	As (1E-05)	1	NA

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

As = arsenic

NA = not applicable

The depth-weighted estimated cumulative ILCRs for the short-term maintenance worker potentially exposed to COPCs in UA-2 potential exposure area surface and subsurface II soil are at 1×10^{-6} , the point of departure for risk management decisions. However, assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative ILCRs for the short-term maintenance worker potentially exposed to COPCs in shallow and subsurface I soil are above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this potential receptor, risk estimates above *de minimis* levels were approximately 100% attributed to arsenic (Table UA2-B.3a). Approximately 20% of the ILCRs for arsenic for the short-term maintenance worker is attributed to background concentrations of arsenic in soil (i.e., background cancer risk of 4×10^{-7} based on a background UCL of 4.5 mg/kg).

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this potential receptor, risk estimates above *de minimis* levels were approximately 100% attributed to arsenic (Table UA2-B.3b). Approximately 20% to 40% of the ILCRs for arsenic for the long-term maintenance worker is attributed to background concentrations of arsenic in soil (i.e., background cancer risk of 4×10^{-6}).

As indicated previously in Section 3, the depth-weighted EPC is based on the maximum depth-weighted concentration. Arsenic was detected at concentrations above the background threshold value (BTv) of 11 mg/kg in seven of 17 samples at three sampling locations (UA2-300B-1, UA2-300B-2, and UA2-300B-3) at various depths within the top 6 ft of soil. The maximum concentration of 24 mg/kg detected in a sample collected from 0.5 to 1.0 ft bgs is at sampling location UA2-300B-1. Therefore, the cumulative ILCRs for the short- and long-term maintenance workers are likely overestimated.

APPENDIX UA2

SOIL HHERA FOR UA-2 EXPOSURE AREA

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative HIs for short- and long-term maintenance workers potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil (Tables UA2-B.4a and UA2-B.4b, respectively) are at or below 1. The depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the UA-2 potential exposure area are not expected to result in an increase in blood lead levels above the California Office of Environmental Health Hazard Assessment (OEHHA) benchmark value of 1 microgram per deciliter ($\mu\text{g/dL}$) in the fetus of a short- or long-term maintenance worker (Tables UA2-B.5a and UA2-B.5b, respectively).

Recreational Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		UA-2 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Camper	Surface	5E-06	As (5E-06)	1	NA
	Shallow	7E-06	As (7E-06)	2	As
Hiker	Surface	1E-05	As (1E-05)	3	As
	Shallow	1E-05	As (1E-05)	4	As
Hunter	Surface	2E-06	As (2E-06)	0.1	NA
	Shallow	2E-06	As (2E-06)	0.2	NA
OHV Rider	Surface	5E-06	As (5E-06)	0.6	NA
	Shallow	8E-06	As (8E-06)	0.8	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative ILCRs for the camper, hiker, and OHV rider potentially exposed to COPCs in surface and shallow soil under the baseline scenario are above the point of departure for risk management decisions of 1×10^{-6} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . For these potential receptors, risk estimates above *de minimis* levels were approximately 100% attributed to arsenic (Tables UA2-B.3c through UA2-B.3f). Approximately 21% to 32% of the ILCRs for arsenic for the camper (1.6×10^{-6}), hiker (3.1×10^{-6}), hunter (4.9×10^{-7}), and OHV rider (1.7×10^{-6}) are attributed to background concentrations of arsenic in soil.

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated HIs for the camper and hiker potentially exposed to COPCs in surface and/or shallow soil under the baseline scenario are above 1; approximately 100% attributed to arsenic (Tables UA2-B.4c through UA2-B.4f). Approximately 20% to 40% of the HIs for arsenic for the camper (0.4) and hiker (0.82) are attributed to background concentrations of arsenic in soil.

As indicated previously in Section 3, the depth-weighted EPC is based on the maximum depth-weighted concentration. Arsenic was detected at concentrations above the BTV of 11 mg/kg in seven of 17 samples at three sampling locations (UA2-300B-1, UA2-300B-2, and UA2-300B-3) at various depths within the top 6 ft of soil. The maximum concentration of 24 mg/kg detected in a sample collected from 0.5 to 1.0 ft bgs is at

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sampling location UA2-300B-1. Therefore, the cumulative ILCRs and HIs for the recreational user are likely overestimated.

The depth-weighted EPCs for lead in surface and shallow soil at the UA-2 potential exposure area under the baseline scenario are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL for the child recreational user or the fetus of a hunter (Tables UA2-B.5c through UA2-B.5i).

Tribal Users

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		UA-2 Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Tribal User	Surface	8E-11	NA	0.0003	NA
	Shallow	1E-10	NA	0.0003	NA

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the depth-weighted estimated cumulative ILCRs and HIs for the tribal user potentially exposed to COPCs in surface and shallow soil (Tables UA2-B.3g and UA2-B.4g, respectively) are below the *de minimis* level of 1×10^{-6} , the point of departure for risk management decisions, and HI of 1, respectively.

Due to the small dataset (i.e., sample size of two or five), a UCL was not calculated and the maximum depth-weighted concentrations were used as the EPCs. Consequently, area-weighted EPCs and associated risk and hazard estimates are not provided for the UA-2 potential exposure area.

4.6.2 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance, and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the UA-2 potential exposure area are discussed below.

Uncertainties for the UA-2 potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table UA2-3.1. As stated previously in Section 3, due to the small dataset sizes for surface, shallow, subsurface I, and subsurface II soil in the UA-2 potential exposure area (i.e., insufficient data to calculate UCLs on the mean), the depth-weighted EPCs were based on maximum depth-weighted concentrations.

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The use of the maximum depth-weighted soil concentration as the EPC for the COPCs may not appropriately represent exposures and resulting risks/hazards for maintenance workers, recreational users, and tribal users evaluated in the UA-2 potential exposure area HHRA.

5 ECOLOGICAL RISK ASSESSMENT

This section summarizes the ERA approach; presents the COPECs, EPCs, dose, and risk tables for the UA-2 potential exposure area ERA; and characterizes potential risk to potential ecological receptors exposed to COPECs in soil at the UA-2 potential exposure area. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the UA-2 potential exposure area ERA based on risk calculations conducted using depth-weighted EPCs are presented in Attachment UA2-C and described below.

As noted in Section 3, the depth-weighted EPCs are based on the maximum depth-weighted concentration due to the small datasets available for this exposure area. Use of the maximum concentration as the EPC may not appropriately characterize exposure and risk. Ecological risk calculations based on maximum depth-weighted EPCs, specified in the RAWP (Arcadis 2008) and DTSC guidance (1996), are the same as presented below.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and on Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil at the UA-2 potential exposure area. These potential receptors included plants, invertebrates, and small home-range receptors, as follows:

- **Plants** – may be exposed to COPECs via root uptake from surface, shallow, and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** – may be exposed to COPECs via direct contact/uptake from surface soil.
- **Mammals** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammal indicator receptors evaluated in this ERA for the UA-2 potential exposure area were:
 - **Merriam's Kangaroo Rat** – representative of granivorous small mammal populations, exposed to surface, shallow, and/or subsurface I soil (incidental and through biota uptake).
 - **Desert Shrew** – representative of invertivorous small mammal populations, exposed only to surface soil (incidental and through biota uptake).
- **Birds** – may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for the UA-2 potential exposure area were:
 - **Cactus Wren** – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake).
 - **Gambel's Quail** – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Large home-range potential receptors (i.e., desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs/investigation areas) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the UA-2 potential exposure area were estimated and characterized as part of the evaluation of all AOCs/investigation areas outside the compressor station (OCS) and all AOCs outside the compressor station excluding Bat Cave Wash (BCW) and AOC 4 (OCSxBCW+AOC4); see Appendix OCS and Appendix OCSxBCW+AOC4 for risk characterization for these large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas is described in detail in various reports (see Section 2.4 of the main report). Although potential habitat exists for special-status² species at or near the site, none have been recorded as observed at the UA-2 potential exposure area. The primary vegetation present at the UA-2 potential exposure area is sparse creosote bush (*Larrea tridentate*). No federal- or state-listed threatened and endangered (T&E) plants or candidates for listing were found at the site, including the UA-2 potential exposure area.

Several species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). However, no federal- or state-listed T&E species or candidates for listing were observed at the UA-2 potential exposure area.

The risk estimates presented here are considered to be protective of special-status species due to the conservative nature of the ERA, where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical potential receptors at the site within that group, and use of no-effects-based toxicity values) were used to assess risks to a wide range of potential receptors at various trophic levels. Therefore, further evaluation of special-status species was not considered necessary.

5.2 Constituents of Potential Ecological Concern

COPECs for the UA-2 potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the HHERA (i.e., 0 to 6 ft bgs for the UA-2 potential exposure area) and used in the COPEC selection process are presented in Attachment UA2-A1.

Because a potential ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by potential ecological receptors in the baseline scenario.

Additionally, essential nutrients (e.g., calcium, potassium) and analytes typically measured to evaluate geochemical conditions (e.g., chloride, nitrate, sulfate) are not typically evaluated in ERAs and were not

² Special-status species include both federal- and state--listed fully protected threatened and endangered (T&E) species, state/federal species of concern, and traditional culturally significant plants. Protection at the no-observed adverse effects level (NOAEL) is warranted only for fully protected species.

selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table UA2-5.1.

COPECs include five metals (arsenic, barium, lead, manganese, and zinc), TPH as diesel, and TPH as motor oil in all three exposure depths. Two SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate) are also included as COPECs in shallow and subsurface I soil. Due to lack of appropriate toxicity values to evaluate TPHs for potential ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs), when detected, are used to characterize TPH risks. However, BTEX were not detected and PAHs were below the BTVs at the UA-2 potential exposure area. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological CSM, soil EPCs were calculated as described in Section 4.3 of the main report and presented in Section 3 of this appendix.

For the UA-2 potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs due to the small dataset sizes; these depth-weighted EPCs are equivalent to maximum depth-weighted concentrations. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment UA2-A2.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in Section 6.3 and shown on Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each potential receptor are presented in Table UA2-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these potential receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table UA2-5.3 for the baseline scenario, and the representative soil and/or biota EPCs identified for the baseline risk calculations are bolded in this table.

The SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate) were not identified as COPECs in surface soil (not detected). Therefore, risks to potential receptors only exposed to surface soil are not estimated for these COPECs. These potential receptors include soil invertebrates, invertivorous small mammals (desert shrew), and insectivorous birds (cactus wren).

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), two risk calculations are required for each COPEC based on two EPC options: 1) the maximum detected concentration; and 2) the UCL. However, as the datasets were of insufficient size to estimate UCLs, depth-weighted EPCs are based on the maximum depth-weighted concentrations for depth intervals evaluated in the ERA. Therefore, only the depth-weighted EPCs (based on the maximum depth-weighted concentrations) and associated risk calculations are provided for each COPEC for the UA-2 potential exposure area.

5.4 Estimation of Exposure Concentration or Dose

Potential exposures for ecological communities (plants and soil invertebrates) are quantified as ECs (e.g., in mg/kg). Potential exposures for wildlife (mammals and birds) are quantified as doses (e.g., in mg/kg body weight per day). ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, ECs are equal to the depth-weighted soil EPCs for COPECs at the UA-2 potential exposure area for the baseline scenario and are presented in Table UA2-5.3.

For wildlife, doses were calculated using the exposure parameters and equations presented in Table 6-4 of the main report and depth-weighted soil and biota tissue EPCs at the UA-2 potential exposure area, as presented in Table UA2-5.3 for the depth-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment UA2-C.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and the dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to ecological receptors potentially exposed to COPECs in soil and biota tissue at the UA-2 potential exposure area.

For plants and soil invertebrates, the screening values are discussed in Section 6.5 and presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the no-observed adverse effects level (NOAEL)-based TRVs and lowest-observed adverse effects level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop USEPA's Ecological Soil Screening Levels (USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-based TRVs³, based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009), was

³ Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily LOAELs. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in Tables 6-7 through 6-10 of the main report.

Avian TRVs are not available for barium and 4-methylphenol, and mammalian TRVs are not available for 4-methylphenol; therefore, risks to these potential receptors from exposure to these specific COPECs could not be estimated. In addition, appropriate screening values and TRVs are not available for TPHs; therefore, BTEX and PAHs were used as indicator chemicals to characterize TPH risks at the UA-2 potential exposure area. The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both those efforts. Risk characterization includes two major components: risk estimation and risk description. As presented in tables and discussed below, risk estimates (HQs) involved integrating exposure profiles with the exposure-effects information. For each potential receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are provided below for interpreting the risk results and identifying potential unacceptable risk to potential ecological receptors. Uncertainties specific to the UA-2 potential exposure area are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.7 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC to respective screening values and these HQs were compared to the target HQ of 1. Following USEPA (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach based on multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to plants and soil invertebrates.
- COPECs with HQs greater than 1 indicate unacceptable risk to plants and soil invertebrates is possible. However, exceedances of the screening values (which are conservative and generally uncertain) do not always clearly indicate that adverse effects to ecological communities are occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection, site use history, and confidence in the screening values, was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: 1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOEs to support a conclusion of no unacceptable risk); or 3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOEs).

For wildlife, a range of HQs were calculated using NOAEL- and LOAEL-based TRVs previously identified in RAWP documents (Arcadis 2008, 2009, 2015). HQs based on LOAEL-based TRVs selected in the RAWP are

referred to as “LOAEL-based HQs.” HQs based on NOAEL-based TRVs selected in the RAWP are referred to as “NOAEL-based HQs.” Additionally, NOAEL- and LOAEL-based HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The BTAG NOAEL-based TRVs are considered very conservative, resulting in a wide range of risks to wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.7.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at the UA-2 potential exposure area.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to individuals and populations of potential wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1 but a LOAEL-based HQ less than or equal to 1 pose no unacceptable risks to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study, and the nature and magnitude of the effects, if any, that may occur at exposures between these values are unknown. In such cases, a WOE approach, including multiple LOEs, was used in reducing uncertainty for characterizing potential risk to individual potential wildlife receptors.
- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of potential wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach was used in reducing uncertainty for characterizing potential risk to wildlife populations at the UA-2 potential exposure area, as described in the preceding bullet.
- NOAEL-based HQs greater than 1 are considered one LOE in assessing potential risk to sensitive species, if present in this exposure area. Evaluation of T&E species for the UA-2 potential exposure area is presented in Section 5.1.1.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE approach: 1) unacceptable risk to wildlife is possible (i.e., indicated by sufficient and strong supporting LOEs); 2) unacceptable risk to wildlife is unlikely (i.e., indicated by sufficient and strong LOEs supporting a conclusion of no unacceptable risk); or 3) unacceptable risk to wildlife is uncertain (i.e., indicated by insufficient LOEs).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each potential receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOE in reaching the WOE conclusions.

For the UA-2 potential exposure area, evaluations were completed for the following scenario and are discussed in this section:

- Baseline scenario using depth-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables UA2-5.4a and UA2-5.4b. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community-/population-level risk was predicted using the most refined

exposure and effects assumptions evaluated for this exposure area (i.e., site-specific site use factor [SUF], depth-weighted EPCs, and selected TRVs).

5.6.1 Risk Characterization (Baseline Scenario and Depth-Weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) for the baseline scenario using depth-weighted EPCs are summarized in this section. As mentioned previously in Section 5.4, ECs and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. Detailed risk calculations for plants and soil invertebrates (Table UA2-C.1) and detailed dose and risk calculations for wildlife (Tables UA2-C.2 through UA2-C.5) are presented in Attachment UA2-C. COPECs at the UA-2 potential exposure area include five metals (arsenic, barium, lead, manganese, and zinc), two SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), and TPHs (TPH as diesel and TPH as motor oil) in soil. Potential risk to potential receptors exposed to these COPECs is described below.

As noted previously, the risks estimated in this scenario are based on maximum depth-weighted concentrations as the EPCs because there are too few samples available to reliably calculate UCLs. Because the samples were collected in a targeted manner near known or suspected source areas (see Section 1.1), use of the maximum concentration as the EPC likely overestimates potential soil exposure for the UA-2 potential exposure area and may not appropriately characterize risk. As such, the risk estimates presented below are likely overestimated as well.

5.6.1.1 Plants and Soil Invertebrates

Table UA2-5.4a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the UA-2 potential exposure area for the baseline scenario using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are greater than 1 only for manganese based on the highest EPC value from the shallow, surface, and subsurface I soil depth intervals. HQs for remaining COPECs are less than 1 for plants, indicating *de minimis risk* to plants from exposure to these COPECs.

Soil invertebrates can potentially be exposed only to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, HQs are greater than 1 for manganese based on exposure to surface soil only. HQs for remaining COPECs are less than 1 for soil invertebrates, indicating *de minimis risk* to soil invertebrates from exposure to these COPECs. As mentioned in Section 5.3, 4-methylphenol and bis (2-ethylhexyl) phthalate were not detected in surface soil; therefore, risks for these COPECs to soil invertebrates, which are only exposed to surface soil, were not estimated.

For manganese, the plant and soil invertebrate HQs are greater than 1, based on a maximum depth-weighted EPC of 840 mg/kg. Samples were collected only in surface soil, where manganese was detected at both (N = 2) locations. Depth-weighted concentrations were greater than the BTV (402 mg/kg) at both locations. The plant HQ is based on a plant screening value (220 mg/kg) that is considered to be conservative and less than the BTV. Similarly, for soil invertebrates, the magnitude of the HQ is low and is based on an invertebrate screening value (450 mg/kg) that is similar to the BTV (402 mg/kg). Potential risk to plants and soil invertebrates may not be appropriately characterized because the depth-weighted EPC is the maximum depth-weighted concentration for manganese, and there is low confidence in the screening values to predict

site risk. Unacceptable risk to plant and soil invertebrate communities from exposure to manganese at the UA-2 potential exposure area is unlikely.

For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk to plants and soil invertebrates at the UA-2 potential exposure area. BTEX were not detected in any samples (Attachment UA2-A1) and PAHs were not selected as COPECs, as they are below the BTVs. No unacceptable risk to plant and soil invertebrate communities from exposure to TPHs at the UA-2 potential exposure area is expected.

Vegetation communities observed at the site during floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017) are typical of Mojave Desert plant communities (summarized in Section 2.4.2 of the main report). More than 100 vascular plant species were observed within the survey area, which included the UA-2 potential exposure area, documented as Segment H in these survey reports (GANDA and CH2M 2013; CH2M 2017). The floristic surveys identified a diverse assemblage of plant species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic survey documentation provides site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

Risk Summary and Risk Drivers for Ecological Communities

No risk drivers were identified for potential unacceptable ecological community-level risk based on HQs using the most refined exposure and effects assumptions evaluated for this exposure area (i.e., depth-weighted EPCs based on maximum depth-weighted concentrations) and supporting WOE. Based on the risk results, WOE, and supporting LOEs, unacceptable risk to plant and soil invertebrate communities is considered unlikely for manganese. No unacceptable risks are expected for the remaining COPECs in soil at the UA-2 potential exposure area.

5.6.1.2 Small Mammals

For the UA-2 potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using Selected TRVs

Table UA2-5.4a summarizes HQs estimated for mammals at the UA-2 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

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- **Merriam's kangaroo rat (granivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals at the UA-2 potential exposure area.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs were less than the BTVs, indicating that no unacceptable risk to granivorous small mammals from exposure to TPHs is expected.
- **Desert shrew (invertivorous small mammal)** – This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. The NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of invertivorous small mammals at the UA-2 potential exposure area.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs were less than the BTVs, indicating that no unacceptable risk to invertivorous small mammals from exposure to TPHs is expected.

Based on the risk estimates for the UA-2 potential exposure area using the selected TRVs and a SUF of 1, *de minimis* risk is expected for small mammals in this evaluation.

Risks Evaluated Using the BTAG TRVs

Table UA2-5.4a also summarizes HQs estimated for mammals at the UA-2 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized below.

- **Merriam's kangaroo rat (granivorous small mammal)** – NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal)** – The NOAEL-based HQ for zinc is greater than 1 and the LOAEL-based HQ for zinc is less than 1, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The risk from zinc may not be appropriately characterized, as it was based on the maximum depth-weighted concentration of 62 mg/kg, which is slightly above the BTV (58 mg/kg). NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to populations of invertivorous small mammals from these COPECs.

Summarized below are all HQ estimates for mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	5E-02	1E-02	4E-01	1E-02	9E-01	2E-01	7E+00	2E-01

Note:

Bold indicates an HQ greater than 1.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table UA2-5.4b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the UA-2 site exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUFs were estimated as 0.7 and 1, respectively, for these potential receptors (i.e., the home range for desert shrew is less than or equal to the size of the exposure area). Therefore, the risk results for desert shrew for this scenario are the same as discussed above for the generic SUF of 1. The NOAEL- and LOAEL-based HQs are less than 1 for all COPECs for Merriam's kangaroo rat using the selected TRVs and BTAG TRVs and the site-specific SUF, similar to the results discussed above using a generic SUF of 1.

5.6.1.2.3 Baseline Risk Summary for Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of small mammals exposed to COPECs in soil at the UA-2 potential exposure area using selected TRVs, depth-weighted EPCs (based on maximum depth-weighted concentrations due to small dataset sizes), and a site- and species-specific SUF, the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammals), the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous small mammals for all COPECs.
- For desert shrew (invertivorous small mammals), the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals for all COPECs.

NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to populations or individual small mammals from exposure to soil at the UA-2 potential exposure area. Further evaluation of these potential receptors using area-weighted EPCs is not warranted.

Potential Risk Drivers for Small Mammals at UA-2 Exposure Area

No risk-driving COPECs for small mammals were identified at the UA-2 potential exposure area, as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted based on HQs calculated using the most refined exposure and effects assumptions evaluated in this scenario (i.e., site-specific SUF, depth-weighted EPCs,⁴ and selected TRVs) and additional supporting WOE. Additionally,

⁴ Evaluation of area-weighted EPCs is not warranted for these receptors.

no COPECs with NOAEL-based HQs greater than 1, using the most refined exposure and effects assumptions and additional LOEs supporting the conclusions of unacceptable risk, were identified at the UA-2 potential exposure area.

5.6.1.3 Birds

For the UA-2 potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using Selected TRVs

Table UA2-5.4a summarizes HQs estimated for birds at the UA-2 potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these potential receptors are characterized below based on indicator chemicals.

- **Gambel's quail (granivorous bird):** This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to subsurface I soil (0 to 6 ft bgs) through its diet. NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds.
 - For TPH mixtures, individual constituents were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and PAHs were less than the BTVs, indicating that unacceptable risk to granivorous birds from exposure to TPHs is not expected.
- **Cactus wren (insectivorous bird):** This potential receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. NOAEL- and LOAEL-based HQs for COPECs in soil are less than 1, indicating *de minimis* risk to populations or individual insectivorous birds.
 - For TPH mixtures, individual constituents were used to evaluate the potential for unacceptable risk. BTEX were not detected in any samples and PAHs were less than the BTVs, indicating that unacceptable risk to insectivorous birds from exposure to TPHs is not expected.

Based on the risk estimates for the UA-2 potential exposure area, *de minimis* risk is expected for birds in this scenario.

Risks Evaluated Using the BTAG TRVs

Table UA2-5.4a also summarizes HQs estimated for birds at the UA-2 potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized below.

- **Gambel's quail (granivorous bird)** – The NOAEL-based HQ for lead is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ. The risks from lead are likely overestimated due to the conservative avian TRV and the EPC based on the maximum depth-weighted concentration. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird)** – NOAEL-based HQs for lead and zinc are greater than 1 and the LOAEL-based HQs are less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for these COPECs based on the HQ. The risks from lead and zinc are likely overestimated due to the conservative avian TRVs and the EPCs based on the maximum depth-weighted concentrations, which may not appropriately characterize risk. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to populations of insectivorous birds from these COPECs.

Summarized below are all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	6E-02	3E-02	7E+00	1E-02	9E-01	4E-01	1E+02	2E-01
Zinc	3E-02	1E-02	1E-01	1E-02	9E-01	4E-01	4E+00	4E-01

Note:

Bold indicates an HQ less than 1.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using Selected TRVs

Table UA2-5.4b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this potential receptor is 0.003, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of granivorous birds at the UA-2 potential exposure area when accounting for site use.
- **Cactus wren (insectivorous bird):** The site-specific SUF for this potential receptor is 0.02, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds at the UA-2 potential exposure area when accounting for site use.

Based on the risk estimates for the UA-2 potential exposure area, *de minimis* risk is expected for birds in this scenario.

Risks Evaluated Using the BTAG TRVs

Table UA2-5.4b also summarizes HQs calculated using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this potential receptor is 0.003, which reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs, including lead. Thus, *de minimis* risk to populations and individual granivorous birds is expected when accounting for site use at the UA-2 potential exposure area.
- **Cactus wren (insectivorous bird):** The site-specific SUF for this potential receptor is 0.02. The NOAEL-based HQ was reduced to less than 1 for zinc. The NOAEL-based HQ was reduced for lead in this evaluation, but is still greater than 1. LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for exposure to lead in soil based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individuals and populations of insectivorous birds from these COPECs.

For the COPECs with NOAEL-based HQs greater than 1 using a SUF of 1 (using the selected TRV or BTAG TRV), HQ estimates using the species- and site-specific SUF for birds are summarized below.

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.003)				Cactus Wren (SUF = 0.02)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	2E-04	8E-05	2E-02	3E-05	2E-02	8E-03	2E+00	3E-03
Zinc	8E-05	3E-05	3E-04	3E-05	2E-02	7E-03	7E-02	7E-03

Note:

Bold indicates a HQ greater than 1.

5.6.1.3.3 Baseline Risks Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the UA-2 potential exposure area using selected TRVs,⁵ depth-weighted EPCs (based on maximum depth-weighted concentrations due to small dataset sizes), and a site-specific SUF (or SUF of 1), the risk conclusions are as follows:

⁵ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

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- For Gambel's quail (granivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for all COPECs.
- For the cactus wren (insectivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individuals and populations of insectivorous birds for all COPECs.

Potential Risk Drivers for Birds at UA-2 Exposure Area

No risk-driving COPECs for birds were identified at the UA-2 potential exposure area, as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1) was predicted based on HQs calculated using the most refined exposure and effects assumptions evaluated in this scenario (i.e., site-specific SUF, depth-weighted EPCs,⁶ and selected TRVs) and additional supporting WOE. Additionally, no COPECs with NOAEL-based HQs greater than 1, using the most refined exposure and effects assumptions and additional LOEs supporting the conclusions of unacceptable risk, were identified at the UA-2 potential exposure area.

⁶ Evaluation of area-weighted EPCs is not warranted for these receptors.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Estimated potential cumulative cancer risks and noncancer hazards for potential human receptors are presented in Section 4, and estimated potential risks for potential ecological receptors are presented in Section 5. Uncertainties related to the HHRA and ERAs at the site are discussed in detail in Section 5.6 and 6.7 of the main report, and uncertainties specific to the UA-2 potential exposure area are discussed in this appendix. For the UA-2 potential exposure area, the HHRA and ERA were conducted in accordance with the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline [no scouring]) was evaluated. Risks were estimated for various potential receptors using depth-weighted EPCs, which were based on the maximum depth-weighted concentrations due to small sample sizes for this exposure area.

At the UA-2 potential exposure area, the COPCs/COPECs identified for the HHRA include metals (arsenic, barium, lead, manganese, and zinc), SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), TPH as diesel, and TPH as motor oil. The results and conclusions regarding potential risk associated with exposure to these COPCs/COPECs in soil at the UA-2 potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are summarized in this section.

6.1 Summary and Conclusions for the HHRA

The cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the UA-2 potential exposure area using depth-weighted EPCs were estimated. Assuming lifetime soil contact is limited to the UA-2 potential exposure area for the potential receptors evaluated, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		UA-2 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-Wt	Depth-Wt
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	2×10^{-6} (As)	≤ 1
	Subsurface I	2×10^{-6} (As)	≤ 1
	Subsurface II	$\leq 1 \times 10^{-6}$	≤ 1
Long-Term Maintenance Worker	Surface	1×10^{-5} (As)	≤ 1
	Shallow	2×10^{-5} (As)	≤ 1
Long-Term Maintenance Worker	Subsurface I	2×10^{-5} (As)	≤ 1
	Subsurface II	1×10^{-5} (As)	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index			
Potential Receptor and Exposure Depth		UA-2 Potential Exposure Area	
		Cumulative ILCR	HI
		Depth-Wt	Depth-Wt
Camper	Surface	5×10^{-6} (As)	≤ 1
	Shallow	7×10^{-6} (As)	2 (As)
Hiker	Surface	1×10^{-5} (As)	3 (As)
	Shallow	1×10^{-5} (As)	4 (As)
Hunter	Surface	2×10^{-6} (As)	≤ 1
	Shallow	2×10^{-6} (As)	≤ 1
OHV Rider	Surface	5×10^{-6} (As)	≤ 1
	Shallow	8×10^{-6} (As)	≤ 1
Tribal User	Surface	$\leq 1 \times 10^{-6}$	≤ 1
	Shallow	$\leq 1 \times 10^{-6}$	≤ 1

Note:

wt = weighted

Depth-Weighted

Potential exposures that are at or below *de minimis* levels include the following:

- **HI ≤ 1** – Short-Term Maintenance Worker (all depths), Long-Term Maintenance Worker (all depths), Camper (surface), Hunter (surface and shallow), OHV Rider (surface and shallow), and Tribal User (surface and shallow)
- **ILCR $\leq 1 \times 10^{-6}$** – Short-Term Maintenance Worker (surface and subsurface II) and Tribal User (surface and shallow).

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – Camper (shallow) and Hiker (surface)
- **HI > 3** – Hiker (shallow)
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Short-Term Maintenance Worker (shallow and subsurface I), Camper (surface), Hunter (surface and shallow), and OHV Rider (surface)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Long-Term Maintenance Worker (shallow and subsurface II), Camper (shallow), Hiker (surface and shallow), and OHV Rider (shallow)

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- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – Long-Term Maintenance Worker (shallow and subsurface I).

Potential exposures above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

Due to the small dataset (i.e., sample size of two or five), a UCL was not calculated and the maximum depth-weighted concentrations were used as the EPCs. Consequently, area-weighted EPCs and associated risk and hazard estimates are not provided for the UA-2 potential exposure area.

OVERALL SUMMARY

Assuming lifetime soil contact is limited to the UA-2 potential exposure area, the cumulative ILCRs and HIs associated with potential exposure to COPCs in soil for the tribal user are at or below 1×10^{-6} and 1, respectively. The cumulative ILCRs for the camper, hiker, and OHV rider are above the point of departure for risk management decisions of 1×10^{-6} but below or at 1×10^{-5} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . The cumulative ILCRs for the long-term maintenance worker are just above 1×10^{-5} , but well within the risk management range of 1×10^{-6} and 1×10^{-4} . The cumulative HIs associated with potential exposure to COPCs in soil at the UA-2 potential exposure area for the short- and long-term maintenance worker, hunter, and OHV rider are at or below 1. The cumulative HIs for the camper (shallow) and hiker (surface and shallow) are above 1.

The estimated cumulative ILCRs and HIs above 1×10^{-6} and 1 are due to arsenic detected in UA-2 potential exposure area soil. As noted in Section 2.2.4.1 of the main report, the arsenic concentrations detected at the UA-2 potential exposure area may represent a different background population from the sample population used to establish background comparison concentrations. The UA-2 potential exposure area is located on bedrock, whereas the majority of the samples comprising the background dataset were collected from alluvial material. The potential for the arsenic concentrations detected at this unit to represent background concentrations was evaluated statistically and visually via probability plot (included on Figure C9-4 in Appendix A, Subappendix C9 of the RFI/RI Work Plan [CH2M 2013]). The distribution of detected arsenic concentrations at UA-2 is consistent with a single population or background dataset. Therefore, considering the substantial contribution of background arsenic in soil to the cumulative ILCRs and HIs for the receptors potentially exposed to UA-2 potential exposure area soil, it is likely that incremental risks and HIs for site-related COPCs in soil are below *de minimis* levels.

Risks/hazards estimated for an individual exposure area such as the UA-2 potential exposure area are not considered representative of the realistic or likely potential exposures for the human populations that could be present in the areas outside the TCS (such as maintenance workers, recreational users, and tribal users). Risks/hazards calculated separately for individual AOCs are conservative and likely overestimate site risks/hazards. As described in the RAWP documents (Arcadis 2008, 2009, 2015), these human populations would more likely be exposed randomly, over the course of a lifetime, to soil present in all exposure areas located outside the TCS, rather than have a lifetime of contact limited to a single exposure area. Therefore, estimated risks/hazards presented for individual exposure areas are not believed to be representative of the potential health risks to humans potentially contacting the soil outside the TCS. Rather, the HHRA results presented in Appendix OCS for all exposure areas located outside the TCS combined will help to inform risk management decisions for the site. The estimated risks/hazards associated with a lifetime of contact with soil only in the UA-2 potential exposure area are presented at the request of the agencies and are not suitable to provide the sole basis of risk management decisions to protect human health.

6.2 Summary and Conclusions for the ERA

At the UA-2 potential exposure area, five metals (arsenic, barium, lead, manganese, and zinc), two SVOCs (4-methylphenol and bis [2-ethylhexyl] phthalate), and TPHs (TPH as diesel and TPH as motor oil) were identified as COPECs. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted EPCs, which are based on the maximum depth-weighted concentrations due to small samples sizes for this exposure area. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to potential ecological communities (plants and soil invertebrates).
- COPECs with HQs greater than 1 could indicate potential risk to potential ecological communities. A WOE approach was used to characterize potential risk to plants and soil invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risk to wildlife populations; however, the potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual potential receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors based on the HQ.

The risk estimates (HQs) represent a single LOE in the risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties, was used to characterize risk to wildlife populations at the UA-2 potential exposure area.

HQs for all COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are summarized in Table UA2-6.1. The HQs/LOAEL-based HQs based on depth-weighted EPCs were greater than 1 for the following COPECs:

- **Plant Community** – manganese
- **Soil Invertebrate Community** – manganese
- **Small Mammals** – none for granivorous and invertivorous small mammals
- **Birds** – none for granivorous and insectivorous birds.

Evaluation of area-weighted EPCs was not warranted based on potential risks estimated using depth-weighted EPCs. Based on the ecological risk characterization for the UA-2 potential exposure area, using depth-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs, the following conclusions were made, as described in the subsections below.

6.2.1 Plant Communities

Overall, no unacceptable risk was identified for plants, including special-status species. Conclusions are as follows:

- No federal- or state-listed T&E plants or candidates for listing were found at the site, including the UA-2 potential exposure area.
- Potential risks to plants are *de minimis* for all COPECs, including TPHs (based on BTEX and PAH data) at the UA-2 potential exposure area, except for manganese.
- Unacceptable risk to plant communities from exposure to manganese is unlikely based on the following LOEs: 1) low frequency of detection; 2) EPCs based on the maximum depth-weighted EPCs; for areas where a constituent is largely not detected, use of a maximum concentration may not appropriately characterize HQs; and 3) low confidence in the screening value to predict toxicity to plants (plant screening value less than the BTV).
- Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017) are typical of Mojave Desert plant communities (summarized in Section 2.4.2 of the main report). More than 100 vascular plant species were observed within the survey area, which included the UA-2 potential exposure area, documented as Segment H in these survey reports (GANDA and CH2M 2013; CH2M 2017). The floristic surveys identified a diverse assemblage of plant species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic survey documentation provides site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

6.2.2 Soil Invertebrate Communities

Overall, no unacceptable risk to soil invertebrates is expected. Conclusions are as follows:

- Potential risks to soil invertebrates are *de minimis* for all COPECs, including TPHs (based on BTEX and PAH data) at the UA-2 potential exposure area, except for manganese.
- Unacceptable risk to soil invertebrate communities from exposure to manganese is unlikely based on the same WOE as discussed above for plants.

6.2.3 Small Mammals

Potential risk to small mammals (granivorous and invertivorous) is *de minimis* for all COPECs in soil at the UA-2 potential exposure area (i.e., the NOAEL- and LOAEL-based HQs are less than 1).

6.2.4 Birds

Potential risk to birds (granivorous and insectivorous) is *de minimis* for all COPECs in soil at the UA-2 potential exposure area (i.e., the NOAEL- and LOAEL-based HQs are less than 1).

6.2.5 Potential Risk Drivers for UA-2 Exposure Area

As presented in Table UA2-6.2 and summarized in the table below, no risk drivers were identified for the UA-2 potential exposure area, based on unacceptable community-/population-level risk (i.e., HQ greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds) predicted from HQs calculated using the most refined exposure and effects assumptions evaluated in this exposure area (i.e., site-specific SUF, depth-weighted EPCs, and selected TRVs) and additional LOEs supporting the conclusion of unacceptable risk.

Scenario	Potential Receptors and Risk Drivers at the UA-2 Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's Kangaroo Rat)	Invertivorous Mammals (Desert Shrew)	Granivorous Birds (Gambel's Quail)	Insectivorous Birds (Cactus Wren)
Baseline	None	None	None	None	None	None

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APPENDIX UA2
SOIL HHERA FOR UA-2 EXPOSURE AREA

USEPA. 1999. Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities. EPA, Office of Solid Waste and Emergency Response. EPA/530/D-99/001A. August.

USEPA. 2008. Guidance for Developing Ecological Soil Screening Levels, Interim Final Documents. Available at: https://rais.ornl.gov/guidance/epa_eco.html.

TABLES



Table UA2-1.1
Samples and Sampling Locations Included in the UA-2 Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
300B-1-10001	09/23/08	UA2-300B-1	0	0.5	0.5	0-0.5	--
300B-1-10002	09/23/08	UA2-300B-1	0.5	1	1	0-03	--
300B-1-10003	10/23/08	UA2-300B-1	2.5	3	3	0-03	--
300B-1-10004	10/23/08	UA2-300B-1	5.5	6	6	0-06	--
300B-2-10005	10/03/08	UA2-300B-2	0	0.5	0.5	0-0.5	--
300B-2-10006	10/03/08	UA2-300B-2	0.5	1	1	0-03	--
300B-2-10007	10/03/08	UA2-300B-2	2	3	3	0-03	--
300B-3-10009	10/03/08	UA2-300B-3	0	0.5	0.5	0-0.5	--
300B-3-10010	10/03/08	UA2-300B-3	0.5	1	1	0-03	--
300B-3-10011	10/03/08	UA2-300B-3	0.5	1	1	0-03	--
300B-3-10012	10/03/08	UA2-300B-3	2	3	3	0-03	--
300B-3-10013	10/03/08	UA2-300B-3	5	6	6	0-06	--
300B-4-10014	10/03/08	UA2-300B-4	0	0.5	0.5	0-0.5	--
300B-4-10015	10/03/08	UA2-300B-4	0.5	1	1	0-03	--
300B-4-10016	10/03/08	UA2-300B-4	2	3	3	0-03	--
300B-5-10018	10/03/08	UA2-300B-5	0	0.5	0.5	0-0.5	--
300B-5-10019	10/03/08	UA2-300B-5	0.5	1	1	0-03	--
300B-5-10020	10/03/08	UA2-300B-5	2	3	3	0-03	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	11,000	mg/kg	No	Within Background
Antimony	0 / 5	ND	mg/kg	No	Not Detected
Arsenic	5 / 5	8.0 - 14	mg/kg	Yes	Above Background
Barium	5 / 5	220 - 290	mg/kg	Yes	Above Background
Beryllium	0 / 5	ND	mg/kg	No	Not Detected
Cadmium	0 / 5	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	21,000 - 26,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 5	ND	mg/kg	No	Not Detected
Chromium, total	5 / 5	17 - 25	mg/kg	No	Within Background
Cobalt	5 / 5	7.0 - 8.4	mg/kg	No	Within Background
Copper	5 / 5	11 - 13	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	20,000 - 27,000	mg/kg	No	Within Background
Lead	5 / 5	4.4 - 13	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,400 - 8,900	mg/kg	No	Within Background
Manganese ^b	2 / 2	670 - 840	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 5	ND	mg/kg	No	Not Detected
Molybdenum	0 / 5	ND	mg/kg	No	Not Detected
Nickel	5 / 5	13 - 17	mg/kg	No	Within Background
Potassium ^b	2 / 2	2,400 - 2,900	mg/kg	No	Within Background
Selenium	0 / 5	ND	mg/kg	No	Not Detected
Silver	0 / 5	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 230	mg/kg	No	Within Background
Thallium	0 / 5	ND	mg/kg	No	Not Detected
Vanadium	5 / 5	27 - 33	mg/kg	No	Within Background
Zinc	5 / 5	46 - 62	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 5	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 5	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 5	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 5	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 5	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 5	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 5	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 5	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 5	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 5	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 5	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 5	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 5	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 5	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 5	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 5	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 5	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 5	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 5	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 5	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 5	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 5	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 5	ND	ug/kg	No	Not Detected
Phenol	0 / 5	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	5 / 5	0	ug/kg	No	Within Background
PAH Low molecular weight	5 / 5	0	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 5	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 5	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 5	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 5	ND	ug/kg	No	Not Detected
Anthracene	0 / 5	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	0 / 5	ND	ug/kg	No	Not Detected
Benzo (a) pyrene ^c	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	0 / 5	ND	ug/kg	No	Not Detected
Benzo (ghi) perylene	0 / 5	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^c	0 / 5	ND	ug/kg	No	Not Detected
Chrysene ^c	0 / 5	ND	ug/kg	No	Not Detected
Dibenzo (a,h) anthracene ^c	0 / 5	ND	ug/kg	No	Not Detected
Fluoranthene	0 / 5	ND	ug/kg	No	Not Detected
Fluorene	0 / 5	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	0 / 5	ND	ug/kg	No	Not Detected
Naphthalene	0 / 5	ND	ug/kg	No	Not Detected
Phenanthrene	0 / 5	ND	ug/kg	No	Not Detected
Pyrene	0 / 5	ND	ug/kg	No	Not Detected
B(a)P Equivalent ^d	0 / 5	ND	ug/kg	No	Not Detected
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 5	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	0 / 5	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	1 / 5	11	mg/kg	Yes	Detected
TPH as motor oil	3 / 5	15 - 60	mg/kg	Yes	Detected

Table UA2-2.1a

Chemicals Included in the Risk Assessment: UA-2 Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	11,000	mg/kg	No	Within Background
Antimony	0 / 15	ND	mg/kg	No	Not Detected
Arsenic	15 / 15	8.0 - 24	mg/kg	Yes	Above Background
Barium	15 / 15	180 - 520	mg/kg	Yes	Above Background
Beryllium	0 / 15	ND	mg/kg	No	Not Detected
Cadmium	0 / 15	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	21,000 - 26,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 15	ND	mg/kg	No	Not Detected
Chromium, total	15 / 15	17 - 35	mg/kg	No	Within Background
Cobalt	15 / 15	7.0 - 11	mg/kg	No	Within Background
Copper	15 / 15	11 - 15	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	20,000 - 27,000	mg/kg	No	Within Background
Lead	15 / 15	3.4 - 13	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,400 - 8,900	mg/kg	No	Within Background
Manganese ^b	2 / 2	670 - 840	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 15	ND	mg/kg	No	Not Detected
Molybdenum	0 / 15	ND	mg/kg	No	Not Detected
Nickel	15 / 15	13 - 25	mg/kg	No	Within Background
Potassium ^b	2 / 2	2,400 - 2,900	mg/kg	No	Within Background
Selenium	0 / 15	ND	mg/kg	No	Not Detected
Silver	0 / 15	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 230	mg/kg	No	Within Background
Thallium	0 / 15	ND	mg/kg	No	Not Detected
Vanadium	15 / 15	27 - 38	mg/kg	No	Within Background
Zinc	15 / 15	46 - 65	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 5	ND	ug/kg	No	Not Detected
Acetone	0 / 5	ND	ug/kg	No	Not Detected
Acrolein	0 / 5	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 5	ND	ug/kg	No	Not Detected
Benzene	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 15	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 15	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 5	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 5	ND	ug/kg	No	Not Detected
Bromoform	0 / 5	ND	ug/kg	No	Not Detected
Bromomethane	0 / 5	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 5	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 5	ND	ug/kg	No	Not Detected
Chloro methane	0 / 5	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
Chloroethane	0 / 5	ND	ug/kg	No	Not Detected
Chloroform	0 / 5	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 5	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 5	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 5	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 15	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 15	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 5	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 5	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 15	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 5	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Styrene	0 / 5	ND	ug/kg	No	Not Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 5	ND	ug/kg	No	Not Detected
Toluene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 5	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 5	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 5	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 5	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 15	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 15	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 15	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 15	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 15	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 15	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 15	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 15	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 15	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 15	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 15	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 15	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 15	460	ug/kg	Yes	Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 15	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 15	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 15	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 15	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 15	1,300	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 15	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 15	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 15	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 15	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 15	ND	ug/kg	No	Not Detected
Phenol	0 / 15	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	15 / 15	0 - 6.5	ug/kg	No	Within Background
PAH Low molecular weight	15 / 15	0 - 11	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 15	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 15	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 15	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 15	ND	ug/kg	No	Not Detected
Anthracene	0 / 15	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	0 / 15	ND	ug/kg	No	Not Detected
Benzo (a) pyrene ^c	0 / 15	ND	ug/kg	No	Not Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	0 / 15	ND	ug/kg	No	Not Detected
Benzo (ghi) perylene	0 / 15	ND	ug/kg	No	Not Detected
Benzo (k) fluoranthene ^c	0 / 15	ND	ug/kg	No	Not Detected
Chrysene ^c	1 / 15	6.5	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 15	ND	ug/kg	No	Not Detected
Fluoranthene	0 / 15	ND	ug/kg	No	Not Detected
Fluorene	0 / 15	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	0 / 15	ND	ug/kg	No	Not Detected
Naphthalene	0 / 15	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 15	11	ug/kg	Yes	Detected
Pyrene	0 / 15	ND	ug/kg	No	Not Detected
B(a)P Equivalent ^d	1 / 15	5.8	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 15	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	0 / 15	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 15	11 - 140	mg/kg	Yes	Detected
TPH as gasoline	0 / 5	ND	mg/kg	No	Not Detected
TPH as motor oil	9 / 15	11 - 902	mg/kg	Yes	Detected

Table UA2-2.1b

Chemicals Included in the Risk Assessment: UA-2 Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	11,000	mg/kg	No	Within Background
Antimony	0 / 17	ND	mg/kg	No	Not Detected
Arsenic	17 / 17	8.0 - 24	mg/kg	Yes	Above Background
Barium	17 / 17	150 - 890	mg/kg	Yes	Above Background
Beryllium	0 / 17	ND	mg/kg	No	Not Detected
Cadmium	0 / 17	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	21,000 - 26,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 17	ND	mg/kg	No	Not Detected
Chromium, total	17 / 17	17 - 35	mg/kg	No	Within Background
Cobalt	17 / 17	6.7 - 11	mg/kg	No	Within Background
Copper	17 / 17	9.4 - 15	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	20,000 - 27,000	mg/kg	No	Within Background
Lead	17 / 17	3.2 - 13	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,400 - 8,900	mg/kg	No	Within Background
Manganese ^b	2 / 2	670 - 840	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 17	ND	mg/kg	No	Not Detected
Molybdenum	1 / 17	1.1	mg/kg	No	Within Background
Nickel	17 / 17	13 - 25	mg/kg	No	Within Background
Potassium ^b	2 / 2	2,400 - 2,900	mg/kg	No	Within Background
Selenium	0 / 17	ND	mg/kg	No	Not Detected
Silver	0 / 17	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 230	mg/kg	No	Within Background
Thallium	0 / 17	ND	mg/kg	No	Not Detected
Vanadium	17 / 17	22 - 38	mg/kg	No	Within Background
Zinc	17 / 17	46 - 65	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 7	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 7	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 7	ND	ug/kg	No	Not Detected
Acetone	0 / 7	ND	ug/kg	No	Not Detected
Acrolein	0 / 7	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 7	ND	ug/kg	No	Not Detected
Benzene	0 / 7	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 17	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 17	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 7	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Bromodichloromethane	0 / 7	ND	ug/kg	No	Not Detected
Bromoform	0 / 7	ND	ug/kg	No	Not Detected
Bromomethane	0 / 7	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 7	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 7	ND	ug/kg	No	Not Detected
Chloro methane	0 / 7	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
Chloroethane	0 / 7	ND	ug/kg	No	Not Detected
Chloroform	0 / 7	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 7	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 7	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 7	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 7	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 17	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 17	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 7	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 7	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 7	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 7	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 17	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 7	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 7	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Styrene	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
tert-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 7	ND	ug/kg	No	Not Detected
Toluene	0 / 7	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 7	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 7	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 7	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 7	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 17	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 17	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 17	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 17	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 17	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 17	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 17	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 17	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 17	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 17	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 17	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 17	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 17	460	ug/kg	Yes	Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
4-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 17	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 17	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 17	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 17	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 17	1,300	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 17	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 17	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 17	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 17	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 17	ND	ug/kg	No	Not Detected
Phenol	0 / 17	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	17 / 17	0 - 12	ug/kg	No	Within Background
PAH Low molecular weight	17 / 17	0 - 11	ug/kg	No	Within Background
1-Methyl naphthalene	0 / 17	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 17	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 17	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 17	ND	ug/kg	No	Not Detected
Anthracene	0 / 17	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	0 / 17	ND	ug/kg	No	Not Detected
Benzo (a) pyrene ^c	0 / 17	ND	ug/kg	No	Not Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Benzo (b) fluoranthene ^c	1 / 17	5.3	ug/kg	No	Within Background
Benzo (ghi) perylene	1 / 17	6.2	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	0 / 17	ND	ug/kg	No	Not Detected
Chrysene ^c	1 / 17	6.5	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 17	ND	ug/kg	No	Not Detected
Fluoranthene	0 / 17	ND	ug/kg	No	Not Detected
Fluorene	0 / 17	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	0 / 17	ND	ug/kg	No	Not Detected
Naphthalene	0 / 17	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 17	11	ug/kg	Yes	Detected
Pyrene	0 / 17	ND	ug/kg	No	Not Detected
B(a)P Equivalent ^d	2 / 17	5.8 - 6.1	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC/COPEC in Risk Assessment
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 17	ND	ug/kg	No	Not Detected
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	0 / 17	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 17	11 - 140	mg/kg	Yes	Detected
TPH as gasoline	0 / 7	ND	mg/kg	No	Not Detected
TPH as motor oil	10 / 17	11 - 902	mg/kg	Yes	Detected

Table UA2-2.1c

Chemicals Included in the Risk Assessment: UA-2 Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to both human health and ecological risk assessment (HHRA/ERA), unless otherwise noted.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA and ERA. Human health toxicity values are available for iron and manganese and ecological toxicity values are available for manganese, thus these chemicals are evaluated in the HHRA and ERA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	2 / 2	11,000	mg/kg	No	Within Background
Antimony	0 / 17	ND	mg/kg	No	Not Detected
Arsenic	17 / 17	8.0 - 24	mg/kg	Yes	Above Background
Barium	17 / 17	150 - 890	mg/kg	Yes	Above Background
Beryllium	0 / 17	ND	mg/kg	No	Not Detected
Cadmium	0 / 17	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	21,000 - 26,000	mg/kg	No	Within Background
Chromium, Hexavalent	0 / 17	ND	mg/kg	No	Not Detected
Chromium, total	17 / 17	17 - 35	mg/kg	No	Within Background
Cobalt	17 / 17	6.7 - 11	mg/kg	No	Within Background
Copper	17 / 17	9.4 - 15	mg/kg	No	Within Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	2 / 2	20,000 - 27,000	mg/kg	No	Within Background
Lead	17 / 17	3.2 - 13	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,400 - 8,900	mg/kg	No	Within Background
Manganese ^b	2 / 2	670 - 840	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 17	ND	mg/kg	No	Not Detected
Molybdenum	1 / 17	1.1	mg/kg	No	Within Background
Nickel	17 / 17	13 - 25	mg/kg	No	Within Background
Potassium ^b	2 / 2	2,400 - 2,900	mg/kg	No	Within Background
Selenium	0 / 17	ND	mg/kg	No	Not Detected
Silver	0 / 17	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 2	210 - 230	mg/kg	No	Within Background
Thallium	0 / 17	ND	mg/kg	No	Not Detected
Vanadium	17 / 17	22 - 38	mg/kg	No	Within Background
Zinc	17 / 17	46 - 65	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 7	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 7	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 7	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 7	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 7	ND	ug/kg	No	Not Detected
Acetone	0 / 7	ND	ug/kg	No	Not Detected
Acrolein	0 / 7	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 7	ND	ug/kg	No	Not Detected
Benzene	0 / 7	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 17	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 17	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 7	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Bromodichloromethane	0 / 7	ND	ug/kg	No	Not Detected
Bromoform	0 / 7	ND	ug/kg	No	Not Detected
Bromomethane	0 / 7	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 7	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 7	ND	ug/kg	No	Not Detected
Chloro methane	0 / 7	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 7	ND	ug/kg	No	Not Detected
Chloroethane	0 / 7	ND	ug/kg	No	Not Detected
Chloroform	0 / 7	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 7	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 7	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 7	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 7	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 17	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 17	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 7	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 7	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 7	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 7	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 17	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 7	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 7	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Styrene	0 / 7	ND	ug/kg	No	Not Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
tert-Butylbenzene	0 / 7	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 7	ND	ug/kg	No	Not Detected
Toluene	0 / 7	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 7	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 7	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 7	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 7	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 7	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 7	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 17	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 17	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 17	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 17	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 17	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 17	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 17	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 17	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 17	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 17	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 17	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 17	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 17	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 17	ND	ug/kg	No	Not Detected
4-Methylphenol	1 / 17	460	ug/kg	Yes	Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
4-Nitroaniline	0 / 17	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 17	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 17	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 17	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 17	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 17	1,300	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 17	ND	ug/kg	No	Not Detected
Caprolactam	0 / 1	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 17	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 17	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 17	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 17	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 17	ND	ug/kg	No	Not Detected
Phenol	0 / 17	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 17	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 17	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 17	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 17	ND	ug/kg	No	Not Detected
Anthracene	0 / 17	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	0 / 17	ND	ug/kg	No	Not Detected
Benzo (a) pyrene ^c	0 / 17	ND	ug/kg	No	Not Detected
Benzo (b) fluoranthene ^c	1 / 17	5.3	ug/kg	No	Within Background
Benzo (ghi) perylene	1 / 17	6.2	ug/kg	Yes	Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzo (k) fluoranthene ^c	0 / 17	ND	ug/kg	No	Not Detected
Chrysene ^c	1 / 17	6.5	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	0 / 17	ND	ug/kg	No	Not Detected
Fluoranthene	0 / 17	ND	ug/kg	No	Not Detected
Fluorene	0 / 17	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	0 / 17	ND	ug/kg	No	Not Detected
Naphthalene	0 / 17	ND	ug/kg	No	Not Detected
Phenanthrene	1 / 17	11	ug/kg	Yes	Detected
Pyrene	0 / 17	ND	ug/kg	No	Not Detected
B(a)P Equivalent ^d	2 / 17	5.8 - 6.1	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 2	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 2	ND	ug/kg	No	Not Detected
Aldrin	0 / 2	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 2	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
beta-BHC	0 / 2	ND	ug/kg	No	Not Detected
delta-BHC	0 / 2	ND	ug/kg	No	Not Detected
Dieldrin	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 2	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 2	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 2	ND	ug/kg	No	Not Detected
Endrin	0 / 2	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 2	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 2	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor	0 / 2	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 2	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 2	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 17	ND	ug/kg	No	Not Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Toxaphene	0 / 2	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	0 / 17	ND	ug/kg	No	Not Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 17	11 - 140	mg/kg	Yes	Detected
TPH as gasoline	0 / 7	ND	mg/kg	No	Not Detected
TPH as motor oil	10 / 17	11 - 902	mg/kg	Yes	Detected

Table UA2-2.1d

Chemicals Included in the Risk Assessment: UA-2 Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																	
Inorganic Compounds																	
Aluminum	mg/kg	0-0.5	2 / 2	100	11000	11000	NA	NA	11000	11000	11000	0	0	--	--	--	
Antimony	mg/kg	0-0.5	0 / 5	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--	
Arsenic	mg/kg	0-0.5	5 / 5	100	8	14	NA	NA	9.86	9.86	9.1	5.828	2.414	X	14	Max Detect	
Barium	mg/kg	0-0.5	5 / 5	100	220	290	NA	NA	256	256	250	1080	32.86	X	290	Max Detect	
Beryllium	mg/kg	0-0.5	0 / 5	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Cadmium	mg/kg	0-0.5	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Chromium, hexavalent	mg/kg	0-0.5	0 / 5	0	NA	NA	0.2	0.21	NA	NA	NA	NA	NA	--	--	--	
Chromium, total	mg/kg	0-0.5	5 / 5	100	17	25	NA	NA	21.4	21.4	22	8.3	2.881	--	--	--	
Cobalt	mg/kg	0-0.5	5 / 5	100	7	8.4	NA	NA	7.6	7.6	7.7	0.365	0.604	--	--	--	
Copper	mg/kg	0-0.5	5 / 5	100	11	13	NA	NA	11.4	11.4	11	0.8	0.894	--	--	--	
Cyanide	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Iron	mg/kg	0-0.5	2 / 2	100	20000	27000	NA	NA	23500	23500	23500	24500000	4950	--	--	--	
Lead	mg/kg	0-0.5	5 / 5	100	4.4	13	NA	NA	7.44	7.44	6.6	11.41	3.378	X	13	Max Detect	
Manganese	mg/kg	0-0.5	2 / 2	100	670	840	NA	NA	755	755	755	14450	120.2	X	840	Max Detect	
Mercury	mg/kg	0-0.5	0 / 5	0	NA	NA	0.05	0.05	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-0.5	0 / 5	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-0.5	5 / 5	100	13	17	NA	NA	15.4	15.4	16	2.3	1.517	--	--	--	
Selenium	mg/kg	0-0.5	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Silver	mg/kg	0-0.5	0 / 5	0	NA	NA	0.5	1	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-0.5	0 / 5	0	NA	NA	1	2	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-0.5	5 / 5	100	27	33	NA	NA	29.6	29.6	28	9.8	3.13	--	--	--	
Zinc	mg/kg	0-0.5	5 / 5	100	46	62	NA	NA	53.4	53.4	53	32.8	5.727	X	62	Max Detect	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-0.5	0 / 5	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Butylbenzylphthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-0.5	0 / 5	0	NA	NA	165	165	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-0.5	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--	
PAH high molecular weight	µg/kg	0-0.5	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--	
1-Methyl naphthalene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--	
2-Methyl naphthalene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--	
Acenaphthene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--	
Acenaphthylene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--	
Anthracene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--	

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
Benzo (a) anthracene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Benzo (a) pyrene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Benzo (b) fluoranthene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Benzo (ghi) perylene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Benzo (k) fluoranthene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Chrysene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Dibenzo (a,h) anthracene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Fluorene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
Pyrene	µg/kg	0-0.5	0 / 5	0	NA	NA	2.5	2.5	NA	NA	NA	NA	NA	--	--	--
B(a)P equivalent	µg/kg	0-0.5	0 / 5	0	NA	NA	5.8	5.8	NA	NA	NA	NA	NA	--	--	--
Pesticides																
4,4-DDE	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
4,4-DDT	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Alpha-Chlordane	µg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Dieldrin	µg/kg	0-0.5	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Gamma-Chlordane	µg/kg	0-0.5	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-0.5	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-0.5	1 / 5	20	10.5	10.5	5	5	10.5	6.1	10.5	NA	NA	X	10.5	Max Detect
TPH as motor oil	mg/kg	0-0.5	3 / 5	60	15.1	60	5	5	35.7	23.42	32	514.3	22.68	X	60	Max Detect
Soil Depth Interval: 0-3 ft bgs																
Inorganic Compounds																
Aluminum	mg/kg	0-3	2 / 2	100	11000	11000	NA	NA	11000	11000	11000	0	0	--	--	--
Antimony	mg/kg	0-3	0 / 5	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-3	5 / 5	100	9.53	21	NA	NA	12.87	12.87	10.7	21.81	4.67	X	21	Max Detect
Barium	mg/kg	0-3	5 / 5	100	207	400	NA	NA	293.4	293.4	285	7592	87.13	X	400	Max Detect
Beryllium	mg/kg	0-3	0 / 5	0	NA	NA	0.75	1	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-3	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-3	0 / 5	0	NA	NA	0.204	0.208	NA	NA	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-3	5 / 5	100	23	31.8	NA	NA	27.46	27.46	27	14.13	3.759	--	--	--
Cobalt	mg/kg	0-3	5 / 5	100	8.77	10.3	NA	NA	9.468	9.468	9.62	0.438	0.662	--	--	--
Copper	mg/kg	0-3	5 / 5	100	11.3	13.7	NA	NA	12.6	12.6	12.7	0.79	0.889	--	--	--
Cyanide	mg/kg	0-3	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	
Iron	mg/kg	0-3	2 / 2	100	20000	27000	NA	NA	23500	23500	23500	24500000	4950	--	--	--	
Lead	mg/kg	0-3	5 / 5	100	3.57	6.12	NA	NA	4.938	4.938	5.25	0.966	0.983	X	6.12	Max Detect	
Manganese	mg/kg	0-3	2 / 2	100	670	840	NA	NA	755	755	755	14450	120.2	X	840	Max Detect	
Mercury	mg/kg	0-3	0 / 5	0	NA	NA	0.0498	0.05	NA	NA	NA	NA	NA	--	--	--	
Molybdenum	mg/kg	0-3	0 / 5	0	NA	NA	0.75	1	NA	NA	NA	NA	NA	--	--	--	
Nickel	mg/kg	0-3	5 / 5	100	16.8	22.8	NA	NA	19.5	19.5	18.8	5.45	2.335	--	--	--	
Selenium	mg/kg	0-3	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--	
Silver	mg/kg	0-3	0 / 5	0	NA	NA	0.75	1	NA	NA	NA	NA	NA	--	--	--	
Thallium	mg/kg	0-3	0 / 5	0	NA	NA	1.52	2.02	NA	NA	NA	NA	NA	--	--	--	
Vanadium	mg/kg	0-3	5 / 5	100	30.2	35.3	NA	NA	33.2	33.2	34	4.715	2.171	--	--	--	
Zinc	mg/kg	0-3	5 / 5	100	53.7	63.5	NA	NA	59.34	59.34	59.7	12.55	3.542	X	63.5	Max Detect	
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Acetone	µg/kg	0-3	0 / 5	0	NA	NA	31.5	42.5	NA	NA	NA	NA	NA	--	--	--	
Bromomethane	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Chloro methane	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Chloroform	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Ethyl- benzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Isopropylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Methyl acetate	µg/kg	0-3	0 / 2	0	NA	NA	3.15	3.85	NA	NA	NA	NA	NA	--	--	--	
Methyl ethyl ketone	µg/kg	0-3	0 / 5	0	NA	NA	31.5	42.5	NA	NA	NA	NA	NA	--	--	--	
Methylene chloride	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
N-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Toluene	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, m,p-	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Xylene, o-	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Xylenes, total	µg/kg	0-3	0 / 5	0	NA	NA	3.15	4.25	NA	NA	NA	NA	NA	--	--	--	
Semi-Volatile Organic Compounds																	
4-Methylphenol	µg/kg	0-3	1 / 5	20	214	214	165	167	214	174.8	214	NA	NA	X	214	Max Detect	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	1 / 5	20	354	354	165	167	354	202.8	354	NA	NA	X	354	Max Detect	
Butylbenzylphthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	167	NA	NA	NA	NA	NA	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	167	NA	NA	NA	NA	NA	--	--	--	
Isophorone	µg/kg	0-3	0 / 5	0	NA	NA	165	167	NA	NA	NA	NA	NA	--	--	--	
Polycyclic Aromatic Hydrocarbons																	
PAH low molecular weight	µg/kg	0-3	1 / 5	20	1.83	1.83	0	0	1.83	0.366	1.83	NA	NA	--	--	--	

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
PAH high molecular weight	µg/kg	0-3	1 / 5	20	1.08	1.08	0	0	1.08	0.216	1.08	NA	NA	--	--	--
1-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Benzo (a) pyrene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Benzo (b) fluoranthene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Benzo (ghi) perylene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Benzo (k) fluoranthene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Chrysene	µg/kg	0-3	1 / 5	20	3.2	3.2	2.54	2.54	3.2	2.672	3.2	NA	NA	X	3.2	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Fluorene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-3	1 / 5	20	3.95	3.95	2.54	2.54	3.95	2.822	3.95	NA	NA	X	3.95	Max Detect
Pyrene	µg/kg	0-3	0 / 5	0	NA	NA	2.53	2.54	NA	NA	NA	NA	NA	--	--	--
B(a)P equivalent	µg/kg	0-3	1 / 5	20	5.87	5.87	5.88	5.88	5.87	5.87	5.87	NA	NA	--	--	--
Pesticides																
4,4-DDE	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
4,4-DDT	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Alpha-Chlordane	µg/kg	0-3	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Dieldrin	µg/kg	0-3	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Gamma-Chlordane	µg/kg	0-3	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-3	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-3	2 / 5	40	5.92	27.5	5	5	16.71	9.684	16.71	232.8	15.26	X	27.5	Max Detect
TPH as gasoline	mg/kg	0-3	0 / 5	0	NA	NA	0.375	0.85	NA	NA	NA	NA	NA	--	--	--
TPH as motor oil	mg/kg	0-3	3 / 5	60	13	178	5	5	73.2	45.92	28.6	8298	91.09	X	178	Max Detect
Soil Depth Interval: 0-6 ft bgs																
Inorganic Compounds																
Aluminum	mg/kg	0-6	2 / 2	100	11000	11000	NA	NA	11000	11000	11000	0	0	--	--	--
Antimony	mg/kg	0-6	0 / 5	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-6	5 / 5	100	9.47	18.2	NA	NA	12.39	12.39	11.7	11.41	3.378	X	18.2	Max Detect
Barium	mg/kg	0-6	5 / 5	100	213	362	NA	NA	304.8	304.8	314	3730	61.07	X	362	Max Detect

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
Beryllium	mg/kg	0-6	0 / 5	0	NA	NA	0.875	1	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-6	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-6	0 / 5	0	NA	NA	0.204	0.206	NA	NA	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-6	5 / 5	100	25.3	33.4	NA	NA	28.52	28.52	26.1	15.86	3.983	--	--	--
Cobalt	mg/kg	0-6	5 / 5	100	8.63	10.7	NA	NA	9.878	9.878	9.88	0.629	0.793	--	--	--
Copper	mg/kg	0-6	5 / 5	100	11.7	13.7	NA	NA	12.54	12.54	12.2	0.693	0.832	--	--	--
Cyanide	mg/kg	0-6	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Iron	mg/kg	0-6	2 / 2	100	20000	27000	NA	NA	23500	23500	23500	24500000	4950	--	--	--
Lead	mg/kg	0-6	5 / 5	100	3.48	5.66	NA	NA	4.396	4.396	4.33	0.687	0.829	X	5.66	Max Detect
Manganese	mg/kg	0-6	2 / 2	100	670	840	NA	NA	755	755	755	14450	120.2	X	840	Max Detect
Mercury	mg/kg	0-6	0 / 5	0	NA	NA	0.0499	0.05	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-6	1 / 5	20	0.967	0.967	0.875	1	0.967	0.898	0.967	NA	NA	--	--	--
Nickel	mg/kg	0-6	5 / 5	100	17.8	23.9	NA	NA	20.46	20.46	19.8	5.963	2.442	--	--	--
Selenium	mg/kg	0-6	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Silver	mg/kg	0-6	0 / 5	0	NA	NA	0.875	1	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-6	0 / 5	0	NA	NA	1.78	2.03	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-6	5 / 5	100	29	35.9	NA	NA	33.98	33.98	35	7.922	2.815	--	--	--
Zinc	mg/kg	0-6	5 / 5	100	58.3	62.8	NA	NA	60.54	60.54	61.3	3.663	1.914	X	62.8	Max Detect
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-6	0 / 5	0	NA	NA	31.8	42.5	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Ethyl- benzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Methyl acetate	µg/kg	0-6	0 / 2	0	NA	NA	3.15	3.85	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-6	0 / 5	0	NA	NA	31.8	42.5	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
N-Propylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
sec-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Toluene	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylene, m,p-	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylene, o-	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylenes, total	µg/kg	0-6	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Semi-Volatile Organic Compounds																

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
4-Methylphenol	µg/kg	0-6	1 / 5	20	313	313	165	168	313	194.6	313	NA	NA	X	313	Max Detect
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	1 / 5	20	733	733	165	168	733	278.6	733	NA	NA	X	733	Max Detect
Butylbenzylphthalate	µg/kg	0-6	0 / 5	0	NA	NA	165	168	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-6	0 / 5	0	NA	NA	165	168	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-6	0 / 5	0	NA	NA	165	168	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH low molecular weight	µg/kg	0-6	1 / 5	20	5.5	5.5	0	0	5.5	1.1	5.5	NA	NA	--	--	--
PAH high molecular weight	µg/kg	0-6	1 / 5	20	4.21	4.21	0	0	4.21	0.842	4.21	NA	NA	--	--	--
1-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (a) pyrene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (b) fluoranthene	µg/kg	0-6	1 / 5	20	2.75	2.75	2.55	2.55	2.75	2.59	2.75	NA	NA	X	2.75	Max Detect
Benzo (ghi) perylene	µg/kg	0-6	1 / 5	20	2.83	2.83	2.55	2.55	2.83	2.606	2.83	NA	NA	X	2.83	Max Detect
Benzo (k) fluoranthene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Chrysene	µg/kg	0-6	1 / 5	20	4.52	4.52	2.55	2.55	4.52	2.944	4.52	NA	NA	X	4.52	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Fluorene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-6	1 / 5	20	6.77	6.77	2.55	2.55	6.77	3.394	6.77	NA	NA	X	6.77	Max Detect
Pyrene	µg/kg	0-6	0 / 5	0	NA	NA	2.52	2.55	NA	NA	NA	NA	NA	--	--	--
B(a)P equivalent	µg/kg	0-6	1 / 5	20	5.86	5.86	5.89	5.89	5.86	5.86	5.86	NA	NA	--	--	--
Pesticides																
4,4-DDE	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
4,4-DDT	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Alpha-Chlordane	µg/kg	0-6	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Dieldrin	µg/kg	0-6	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Gamma-Chlordane	µg/kg	0-6	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-6	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-6	2 / 5	40	5.46	72.5	5	5	38.98	18.59	38.98	2247	47.4	X	72.5	Max Detect
TPH as gasoline	mg/kg	0-6	0 / 5	0	NA	NA	0.375	0.85	NA	NA	NA	NA	NA	--	--	--

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
TPH as motor oil	mg/kg	0-6	3 / 5	60	13	470	5	5	167.6	102.6	19.9	68581	261.9	X	470	Max Detect
Soil Depth Interval: 0-10 ft bgs																
Inorganic Compounds																
Aluminum	mg/kg	0-10	2 / 2	100	11000	11000	NA	NA	11000	11000	11000	0	0	--	--	--
Antimony	mg/kg	0-10	0 / 5	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Arsenic	mg/kg	0-10	5 / 5	100	9.44	15.7	NA	NA	12.03	12.03	11.5	5.515	2.348	X	15.7	Max Detect
Barium	mg/kg	0-10	5 / 5	100	216	545	NA	NA	337.4	337.4	337	17590	132.6	X	545	Max Detect
Beryllium	mg/kg	0-10	0 / 5	0	NA	NA	0.75	1	NA	NA	NA	NA	NA	--	--	--
Cadmium	mg/kg	0-10	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Chromium, hexavalent	mg/kg	0-10	0 / 5	0	NA	NA	0.203	0.206	NA	NA	NA	NA	NA	--	--	--
Chromium, total	mg/kg	0-10	5 / 5	100	22	34.1	NA	NA	28.82	28.82	28.5	24.34	4.933	--	--	--
Cobalt	mg/kg	0-10	5 / 5	100	7.86	10.8	NA	NA	9.906	9.906	10.3	1.443	1.201	--	--	--
Copper	mg/kg	0-10	5 / 5	100	11.1	14.2	NA	NA	12.12	12.12	11.8	1.447	1.203	--	--	--
Cyanide	mg/kg	0-10	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Iron	mg/kg	0-10	2 / 2	100	20000	27000	NA	NA	23500	23500	23500	24500000	4950	--	--	--
Lead	mg/kg	0-10	5 / 5	100	3.45	4.68	NA	NA	4	4	3.96	0.225	0.474	X	4.68	Max Detect
Manganese	mg/kg	0-10	2 / 2	100	670	840	NA	NA	755	755	755	14450	120.2	X	840	Max Detect
Mercury	mg/kg	0-10	0 / 5	0	NA	NA	0.0498	0.05	NA	NA	NA	NA	NA	--	--	--
Molybdenum	mg/kg	0-10	1 / 5	20	1.02	1.02	0.925	1	1.02	0.944	1.02	NA	NA	--	--	--
Nickel	mg/kg	0-10	5 / 5	100	15.9	24.4	NA	NA	20.64	20.64	20.7	10.1	3.179	--	--	--
Selenium	mg/kg	0-10	0 / 5	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Silver	mg/kg	0-10	0 / 5	0	NA	NA	0.75	1	NA	NA	NA	NA	NA	--	--	--
Thallium	mg/kg	0-10	0 / 5	0	NA	NA	1.5	2.04	NA	NA	NA	NA	NA	--	--	--
Vanadium	mg/kg	0-10	5 / 5	100	26.2	36.4	NA	NA	34	34	35.9	19.15	4.375	--	--	--
Zinc	mg/kg	0-10	5 / 5	100	54.2	62.5	NA	NA	59.94	59.94	60.9	11.17	3.343	X	62.5	Max Detect
Volatile Organic Compounds																
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Acetone	µg/kg	0-10	0 / 5	0	NA	NA	31.8	42.5	NA	NA	NA	NA	NA	--	--	--
Bromomethane	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Chloro methane	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Chloroform	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Ethyl- benzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Methyl acetate	µg/kg	0-10	0 / 2	0	NA	NA	3.15	3.85	NA	NA	NA	NA	NA	--	--	--
Methyl ethyl ketone	µg/kg	0-10	0 / 5	0	NA	NA	31.8	42.5	NA	NA	NA	NA	NA	--	--	--
Methylene chloride	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
N-Propylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Toluene	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylene, m,p-	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylene, o-	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Xylenes, total	µg/kg	0-10	0 / 5	0	NA	NA	3.18	4.25	NA	NA	NA	NA	NA	--	--	--
Semi-Volatile Organic Compounds																
4-Methylphenol	µg/kg	0-10	1 / 5	20	254	254	165	169	254	182.8	254	NA	NA	X	254	Max Detect
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	1 / 5	20	506	506	165	169	506	233.2	506	NA	NA	X	506	Max Detect
Butylbenzylphthalate	µg/kg	0-10	0 / 5	0	NA	NA	165	169	NA	NA	NA	NA	NA	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 5	0	NA	NA	165	169	NA	NA	NA	NA	NA	--	--	--
Isophorone	µg/kg	0-10	0 / 5	0	NA	NA	165	169	NA	NA	NA	NA	NA	--	--	--
Polycyclic Aromatic Hydrocarbons																
PAH low molecular weight	µg/kg	0-10	1 / 5	20	3.3	3.3	0	0	3.3	0.66	3.3	NA	NA	--	--	--
PAH high molecular weight	µg/kg	0-10	1 / 5	20	7.13	7.13	0	0	7.13	1.426	7.13	NA	NA	--	--	--
1-Methyl naphthalene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
2-Methyl naphthalene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Acenaphthene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Acenaphthylene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Anthracene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (a) anthracene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (a) pyrene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Benzo (b) fluoranthene	µg/kg	0-10	1 / 5	20	3.77	3.77	2.55	2.55	3.77	2.794	3.77	NA	NA	X	3.77	Max Detect
Benzo (ghi) perylene	µg/kg	0-10	1 / 5	20	4.18	4.18	2.55	2.55	4.18	2.876	4.18	NA	NA	X	4.18	Max Detect
Benzo (k) fluoranthene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Chrysene	µg/kg	0-10	1 / 5	20	3.71	3.71	2.55	2.55	3.71	2.782	3.71	NA	NA	X	3.71	Max Detect
Dibenzo (a,h) anthracene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Fluoranthene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Fluorene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Naphthalene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
Phenanthrene	µg/kg	0-10	1 / 5	20	5.06	5.06	2.55	2.55	5.06	3.052	5.06	NA	NA	X	5.06	Max Detect
Pyrene	µg/kg	0-10	0 / 5	0	NA	NA	2.51	2.55	NA	NA	NA	NA	NA	--	--	--
B(a)P equivalent	µg/kg	0-10	1 / 5	20	5.96	5.96	5.9	5.9	5.96	5.912	5.96	NA	NA	--	--	--
Pesticides																
4,4-DDE	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
4,4-DDT	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Alpha-Chlordane	µg/kg	0-10	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--

Table UA2-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
UA-2 (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC/ COPEC?	Exposure Point Concentration ^{b,c}	
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis
Dieldrin	µg/kg	0-10	0 / 2	0	NA	NA	1	1	NA	NA	NA	NA	NA	--	--	--
Gamma-Chlordane	µg/kg	0-10	0 / 2	0	NA	NA	0.5	0.5	NA	NA	NA	NA	NA	--	--	--
Polychlorinated Biphenyls																
Total PCBs	µg/kg	0-10	0 / 5	0	NA	NA	0	0	NA	NA	NA	NA	NA	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	0-10	2 / 5	40	5.28	45.5	5	5	25.39	13.16	25.39	808.8	28.44	X	45.5	Max Detect
TPH as gasoline	mg/kg	0-10	0 / 5	0	NA	NA	0.375	0.85	NA	NA	NA	NA	NA	--	--	--
TPH as motor oil	mg/kg	0-10	3 / 5	60	13	306	5	5	111.8	69.08	16.4	28288	168.2	X	306	Max Detect

Notes:

^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.

^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.

^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

"--" = not applicable

B(a)P equivalent = benzo(a)pyrene equivalent

COPC = constituent of potential concern

COPEC = constituent of potential ecological concern

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

EPC = exposure point concentration

FOD = frequency of detection

ft bgs = feet below ground surface

KM = Kaplan-Meier

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not applicable

ND = not detected

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PG&E = Pacific Gas and Electric Company

TCDD = Tetrachlorodibenzo-p-dioxin

TEQ = toxic equivalent

TPH = total petroleum hydrocarbons

UCL = upper confidence limit

X = COPC/COPEC in the exposure depth interval

Table UA2-4.1a
Summary of COPCs Evaluated in the HHRA for UA-2: Baseline Scenario

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Arsenic	x	x	x	x
Barium	x	x	x	x
Lead	x	x	x	x
Manganese	x	x	x	x
Zinc	x	x	x	x
Semi-Volatile Organic Compounds				
4-Methylphenol	--	x	x	x
bis (2-ethylhexyl) phthalate	--	x	x	x
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	--	--	x	x
Phenanthrene	--	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table UA2-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in UA-2 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	1.4E+01	1.6E+01	1.4E-05	NV	1.4E-05	NV
Barium	2.9E+02	5.5E+02	2.9E-04	NV	2.9E-04	NV
Lead	1.3E+01	4.7E+00	1.3E-05	NV	1.3E-05	NV
Manganese	8.4E+02	8.4E+02	8.4E-04	NV	8.4E-04	NV
Zinc	6.2E+01	6.3E+01	6.2E-05	NV	6.2E-05	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	ND	2.5E-01	NA	NV	NA	NV
bis (2-ethylhexyl) phthalate	ND	5.1E-01	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	ND	4.2E-03	NA	NV	NA	NV
Phenanthrene	ND	5.1E-03	NA	NV	NA	NV
Total Petroleum Hydrocarbons						
TPH as diesel	1.1E+01	4.6E+01	1.1E-05	9.4E-02	1.1E-05	1.7E-02
TPH as motor oil	6.0E+01	3.1E+02	6.0E-05	NV	6.0E-05	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in UA-2 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	2.1E+01	1.6E+01	2.1E-05	NV	2.1E-05	NV
Barium	4.0E+02	5.5E+02	4.0E-04	NV	4.0E-04	NV
Lead	6.1E+00	4.7E+00	6.1E-06	NV	6.1E-06	NV
Manganese	8.4E+02	8.4E+02	8.4E-04	NV	8.4E-04	NV
Zinc	6.4E+01	6.3E+01	6.4E-05	NV	6.4E-05	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	2.1E-01	2.5E-01	2.1E-07	NV	2.1E-07	NV
bis (2-ethylhexyl) phthalate	3.5E-01	5.1E-01	3.5E-07	NV	3.5E-07	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	ND	4.2E-03	NA	NV	NA	NV
Phenanthrene	4.0E-03	5.1E-03	4.0E-09	NV	4.0E-09	NV
Total Petroleum Hydrocarbons						
TPH as diesel	2.8E+01	4.6E+01	2.8E-05	9.4E-02	2.8E-05	1.7E-02
TPH as motor oil	1.8E+02	3.1E+02	1.8E-04	NV	1.8E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in UA-2 Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Arsenic	1.8E+01	1.6E+01	1.8E-05	NV	1.8E-05	NV
Barium	3.6E+02	5.5E+02	3.6E-04	NV	3.6E-04	NV
Lead	5.7E+00	4.7E+00	5.7E-06	NV	5.7E-06	NV
Manganese	8.4E+02	8.4E+02	8.4E-04	NV	8.4E-04	NV
Zinc	6.3E+01	6.3E+01	6.3E-05	NV	6.3E-05	NV
Semi-Volatile Organic Compounds						
4-Methylphenol	3.1E-01	2.5E-01	3.1E-07	NV	3.1E-07	NV
bis (2-ethylhexyl) phthalate	7.3E-01	5.1E-01	7.3E-07	NV	7.3E-07	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.8E-03	4.2E-03	2.8E-09	NV	2.8E-09	NV
Phenanthrene	6.8E-03	5.1E-03	6.8E-09	NV	6.8E-09	NV
Total Petroleum Hydrocarbons						
TPH as diesel	7.3E+01	4.6E+01	7.3E-05	9.4E-02	7.3E-05	1.7E-02
TPH as motor oil	4.7E+02	3.1E+02	4.7E-04	NV	4.7E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in UA-2 Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Arsenic	1.6E+01	1.6E-05	NV	1.6E-05	NV
Barium	5.5E+02	5.5E-04	NV	5.5E-04	NV
Lead	4.7E+00	4.7E-06	NV	4.7E-06	NV
Manganese	8.4E+02	8.4E-04	NV	8.4E-04	NV
Zinc	6.3E+01	6.3E-05	NV	6.3E-05	NV
Semi-Volatile Organic Compounds					
4-Methylphenol	2.5E-01	2.5E-07	NV	2.5E-07	NV
bis (2-ethylhexyl) phthalate	5.1E-01	5.1E-07	NV	5.1E-07	NV
Polycyclic Aromatic Hydrocarbons					
Benzo (ghi) perylene	4.2E-03	4.2E-09	NV	4.2E-09	NV
Phenanthrene	5.1E-03	5.1E-09	NV	5.1E-09	NV
Total Petroleum Hydrocarbons					
TPH as diesel	4.6E+01	4.6E-05	9.4E-02	4.6E-05	1.7E-02
TPH as motor oil	3.1E+02	3.1E-04	NV	3.1E-04	NV

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.2e
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in UA-2 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Arsenic	1.4E+01	1.6E+01	1.0E-08	NV	1.0E-08	NV	1.0E-08	NV	1.7E-05	NV
Barium	2.9E+02	5.5E+02	2.1E-07	NV	2.1E-07	NV	2.1E-07	NV	3.4E-04	NV
Lead	1.3E+01	4.7E+00	9.6E-09	NV	9.6E-09	NV	9.6E-09	NV	1.5E-05	NV
Manganese	8.4E+02	8.4E+02	6.2E-07	NV	6.2E-07	NV	6.2E-07	NV	9.9E-04	NV
Zinc	6.2E+01	6.3E+01	4.6E-08	NV	4.6E-08	NV	4.6E-08	NV	7.3E-05	NV
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	2.5E-01	NA	NV	NA	NV	NA	NV	NA	NV
bis (2-ethylhexyl) phthalate	ND	5.1E-01	NA	NV	NA	NV	NA	NV	NA	NV
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	4.2E-03	NA	NV	NA	NV	NA	NV	NA	NV
Phenanthrene	ND	5.1E-03	NA	NV	NA	NV	NA	NV	NA	NV
Total Petroleum Hydrocarbons										
TPH as diesel	1.1E+01	4.6E+01	7.7E-09	1.8E-02	7.7E-09	1.8E-02	7.7E-09	1.8E-02	1.2E-05	1.8E-02
TPH as motor oil	6.0E+01	3.1E+02	4.4E-08	NV	4.4E-08	NV	4.4E-08	NV	7.1E-05	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table UA2-4.2f
Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Recreational Users:
COPCs in UA-2 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Recreational User - Camper		Recreational User - Hiker		Recreational User - Hunter		Recreational User - Off-Highway Vehicle Rider	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^e	(mg/m ³) ^d
Inorganics										
Arsenic	2.1E+01	1.6E+01	1.5E-08	NV	1.5E-08	NV	1.5E-08	NV	2.5E-05	NV
Barium	4.0E+02	5.5E+02	2.9E-07	NV	2.9E-07	NV	2.9E-07	NV	4.7E-04	NV
Lead	6.1E+00	4.7E+00	4.5E-09	NV	4.5E-09	NV	4.5E-09	NV	7.2E-06	NV
Manganese	8.4E+02	8.4E+02	6.2E-07	NV	6.2E-07	NV	6.2E-07	NV	9.9E-04	NV
Zinc	6.4E+01	6.3E+01	4.7E-08	NV	4.7E-08	NV	4.7E-08	NV	7.5E-05	NV
Semi-Volatile Organic Compounds										
4-Methylphenol	2.1E-01	2.5E-01	1.6E-10	NV	1.6E-10	NV	1.6E-10	NV	2.5E-07	NV
bis (2-ethylhexyl) phthalate	3.5E-01	5.1E-01	2.6E-10	NV	2.6E-10	NV	2.6E-10	NV	4.2E-07	NV
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	4.2E-03	NA	NV	NA	NV	NA	NV	NA	NV
Phenanthrene	4.0E-03	5.1E-03	2.9E-12	NV	2.9E-12	NV	2.9E-12	NV	4.7E-09	NV
Total Petroleum Hydrocarbons										
TPH as diesel	2.8E+01	4.6E+01	2.0E-08	1.8E-02	2.0E-08	1.8E-02	2.0E-08	1.8E-02	3.2E-05	1.8E-02
TPH as motor oil	1.8E+02	3.1E+02	1.3E-07	NV	1.3E-07	NV	1.3E-07	NV	2.1E-04	NV

- Notes:**
- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
 - ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
 - ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for recreational users (campers, hikers, and hunters) as recommended by Department of Toxic Substances Control (2014).
 - ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.
 - ^e PEF of 8.5×10⁵ m³/kg was used for recreational users (off-highway vehicle rider) as calculated in United States Environmental Protection Agency (2008, 2009) and recommended in "Revised Technical Memorandum, Recreational Visitor Exposure Scenario for Federal Land, PG&E Topock Compressor Station Remediation Project, California," prepared by the Department of the Interior (DOI).

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:
Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.
United States Environmental Protection Agency (USEPA). 2008. Clear Creek Management Areas Asbestos Exposure and Human Health Risk Assessment. Region 9. May. Available at: <http://www.epa.gov/region09/toxic/noa/clearcreek/pdf/CCMARiskDoc24Apr08-withoutAppxG.pdf>
USEPA. 2009. Baseline Human Health Risk Assessment for the Standard Mine Site, Gunnison County, CO; Addendum. Prepared by SRC for USEPA Region 8. November 24. Available at: http://www2.epa.gov/sites/production/files/documents/SM_HHRA_Addendum.pdf

Table UA2-4.2g

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in UA-2 Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	1.4E+01	1.6E+01	1.0E-08	NV
Barium	2.9E+02	5.5E+02	2.1E-07	NV
Lead	1.3E+01	4.7E+00	9.6E-09	NV
Manganese	8.4E+02	8.4E+02	6.2E-07	NV
Zinc	6.2E+01	6.3E+01	4.6E-08	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	ND	2.5E-01	NA	NV
bis (2-ethylhexyl) phthalate	ND	5.1E-01	NA	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	ND	4.2E-03	NA	NV
Phenanthrene	ND	5.1E-03	NA	NV
Total Petroleum Hydrocarbons				
TPH as diesel	1.1E+01	4.6E+01	7.7E-09	1.2E-02
TPH as motor oil	6.0E+01	3.1E+02	4.4E-08	NV

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.2h

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Tribal Users:
COPCs in UA-2 Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Tribal User	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Arsenic	2.1E+01	1.6E+01	1.5E-08	NV
Barium	4.0E+02	5.5E+02	2.9E-07	NV
Lead	6.1E+00	4.7E+00	4.5E-09	NV
Manganese	8.4E+02	8.4E+02	6.2E-07	NV
Zinc	6.4E+01	6.3E+01	4.7E-08	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	2.1E-01	2.5E-01	1.6E-10	NV
bis (2-ethylhexyl) phthalate	3.5E-01	5.1E-01	2.6E-10	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	ND	4.2E-03	NA	NV
Phenanthrene	4.0E-03	5.1E-03	2.9E-12	NV
Total Petroleum Hydrocarbons				
TPH as diesel	2.8E+01	4.6E+01	2.0E-08	1.2E-02
TPH as motor oil	1.8E+02	3.1E+02	1.3E-07	NV

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.4×10⁹ m³/kg was used for tribal users as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table UA2-4.3

Human Health Risk and Hazard Estimate Summary at UA-2 for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Receptor	Depth Interval	ILCR	HI
Short-Term Maintenance Worker	Surface	1E-06	5E-01
	Shallow	2E-06	5E-01
	Subsurface I	2E-06	5E-01
	Subsurface II	1E-06	5E-01
Long-Term Maintenance Worker	Surface	1E-05	1E+00
	Shallow	2E-05	1E+00
	Subsurface I	2E-05	1E+00
	Subsurface II	1E-05	1E+00
Recreational User - Camper	Surface	5E-06	1E+00
	Shallow	7E-06	2E+00
Recreational User - Hiker	Surface	1E-05	3E+00
	Shallow	1E-05	4E+00
Recreational User - Hunter	Surface	2E-06	1E-01
	Shallow	2E-06	2E-01
Recreational User - OHV Rider	Surface	5E-06	6E-01
	Shallow	8E-06	8E-01
Tribal User	Surface	8E-11	3E-04
	Shallow	1E-10	3E-04

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table UA2-5.1
Summary of COPECs Evaluated in the ERA for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Arsenic	X
Barium	X
Lead	X
Manganese	X
Zinc	X
Semi-Volatile Organic Compounds	
4-Methylphenol	X
Bis (2-ethylhexyl) phthalate	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Note:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, polycyclic aromatic hydrocarbons, and dioxins (if sampled). All detected organic compounds were selected as COPECs. See Section 2 of Appendix UA2 for details.

Abbreviations:

COPEC = constituent of potential ecological concern

ERA = ecological risk assessment

ft bgs = feet below ground surface

TPH = total petroleum hydrocarbon

UA-2 = Undesignated Area-2

X = COPEC in that exposure depth interval

Table UA2-5.2
Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs (modeled from soil EPCs)		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Note:

^a EPCs for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and spatially-weighted 95% UCL, as relevant for this exposure area. See Section 5 of Appendix UA2 for details.

Abbreviations:

95% UCL = 95% upper confidence limit

EPC = exposure point concentration

ft bgs = feet below ground surface

X = representative EPC for the pathway/receptor

Table UA2-5.3

Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for UA-2

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations						Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs		0-3 ft bgs		0-6 ft bgs		Plants			Insects	Mammals
								0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics												
Arsenic	mg/kg	1.40E+01	m	2.10E+01	m	1.82E+01	m	5.25E-01	7.88E-01	6.83E-01	1.56E+00	6.81E-02
Barium	mg/kg	2.90E+02	m	4.00E+02	m	3.62E+02	m	4.52E+01	6.24E+01	5.65E+01	2.64E+01	3.39E-01
Lead	mg/kg	1.30E+01	m	6.12E+00	m	5.66E+00	m	1.12E+00	7.32E-01	7.01E-01	6.37E+00	3.35E+00
Manganese	mg/kg	8.40E+02	m	8.40E+02	m	8.40E+02	m	6.64E+01	6.64E+01	6.64E+01	4.40E+01	1.72E+01
Zinc	mg/kg	6.20E+01	m	6.35E+01	m	6.28E+01	m	4.75E+01	4.82E+01	4.79E+01	3.31E+02	1.05E+02
Semi-Volatile Organic Compounds												
4-Methylphenol	mg/kg	--	nd	2.14E-01	m	3.13E-01	m	--	0.00E+00	0.00E+00	--	--
Bis (2-ethylhexyl) phthalate	mg/kg	--	nd	3.54E-01	m	7.33E-01	m	--	0.00E+00	0.00E+00	--	--

Notes:^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.^b EPCs equal to 0.0 indicate no bioaccumulation from soil.**Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

UA-2 = Undesignated Area-2

Table UA2-5.4a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Arsenic	1E+00	2E-01	4E-02	2E-02	2E-01	1E-01	2E-01	2E-01	7E-02	5E-02	2E-02	4E-03	1E-01	2E-02	1E+00	8E-02	3E-01	2E-02
Barium	8E-01	9E-01	--	--	--	--	1E-01	8E-02	1E-01	7E-02	--	--	--	--	--	--	--	--
Lead	1E-01	8E-03	6E-02	3E-02	9E-01	4E-01	3E-01	2E-01	3E-02	1E-02	7E+00	1E-02	1E+02	2E-01	1E+00	6E-03	1E-01	5E-04
Manganese	4E+00	2E+00	3E-02	2E-02	1E-01	6E-02	2E-01	8E-02	1E-01	5E-02	8E-02	8E-03	3E-01	3E-02	9E-01	8E-02	5E-01	4E-02
Zinc	4E-01	5E-01	3E-02	1E-02	9E-01	4E-01	9E-01	2E-01	5E-02	1E-02	1E-01	1E-02	4E+00	4E-01	7E+00	2E-01	4E-01	1E-02
Semi-Volatile Organic Compounds																		
4-Methylphenol	3E-02	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	4E-03	ND	--	--	--	--	--	--	8E-05	8E-06	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = HQs could not be estimated because COPEC not detected in soil interval, or uptake factor and/or toxicity reference value unavailable.

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

ND = not detected in the applicable depth interval

NOAEL = no-observed adverse effect level

TRV = toxicity reference value

UA-2 = Undesignated Area-2

Table UA2-5.4b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.003		SUF = 0.02		SUF = 1		SUF = 0.7		SUF = 0.003		SUF = 0.02		SUF = 1		SUF = 0.7	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Arsenic	1E-04	6E-05	5E-03	3E-03	2E-01	1E-01	5E-02	3E-02	4E-05	1E-05	2E-03	5E-04	1E+00	8E-02	2E-01	2E-02
Barium	--	--	--	--	1E-01	8E-02	8E-02	5E-02	--	--	--	--	--	--	--	--
Lead	2E-04	8E-05	2E-02	8E-03	3E-01	1E-01	2E-02	1E-02	2E-02	3E-05	2E+00	3E-03	1E+00	5E-03	9E-02	4E-04
Manganese	9E-05	4E-05	2E-03	1E-03	2E-01	8E-02	1E-01	4E-02	2E-04	2E-05	6E-03	6E-04	9E-01	7E-02	4E-01	3E-02
Zinc	8E-05	3E-05	2E-02	7E-03	9E-01	2E-01	4E-02	1E-02	3E-04	3E-05	7E-02	7E-03	7E+00	2E-01	3E-01	7E-03
Semi-Volatile Organic Compounds																
4-Methylphenol	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	--	--	--	--	--	--	6E-05	6E-06	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = HQs could not be estimated because COPEC not detected in soil interval, or uptake factor and/or toxicity reference value unavailable.

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

HQ = hazard quotient

LOAEL = lowest observed adverse effect level

ND = not detected in the applicable depth interval

NOAEL = no-observed adverse effect level

TRV = toxicity reference value

UA-2 = Undesignated Area-2

Table UA2-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs ^a				Baseline HQs based on Selected TRVs ^a											
	Plants		Soil Invertebrates		Gambel's Quail			Cactus Wren			Desert Shrew			Merriam's Kangaroo Rat		
	Depth-Weighted HQ	WOE Result ^b	Depth-Weighted HQ	WOE Result ^b	Depth-Weighted		WOE Result ^b	Depth-Weighted		WOE Result ^b	Depth-Weighted		WOE Result ^b	Depth-Weighted		WOE Result ^b
					SUF = 0.003			SUF = 0.02			SUF = 0.96			SUF = 0.7		
					NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL		NOAEL	LOAEL	
Inorganics																
Arsenic	1E+00	HQ ≤ 1	2E-01	HQ ≤ 1	1E-04	6E-05	HQ ≤ 1	5E-03	3E-03	HQ ≤ 1	2E-01	1E-01	HQ ≤ 1	5E-02	3E-02	HQ ≤ 1
Barium	8E-01	HQ ≤ 1	9E-01	HQ ≤ 1	--	--	--	--	--	--	1E-01	8E-02	HQ ≤ 1	8E-02	5E-02	HQ ≤ 1
Lead	1E-01	HQ ≤ 1	8E-03	HQ ≤ 1	2E-04	8E-05	HQ ≤ 1	2E-02	8E-03	HQ ≤ 1	3E-01	1E-01	HQ ≤ 1	2E-02	1E-02	HQ ≤ 1
Manganese	4E+00	Unlikely	2E+00	Unlikely	9E-05	4E-05	HQ ≤ 1	2E-03	1E-03	HQ ≤ 1	2E-01	8E-02	HQ ≤ 1	1E-01	4E-02	HQ ≤ 1
Zinc	4E-01	HQ ≤ 1	5E-01	HQ ≤ 1	8E-05	3E-05	HQ ≤ 1	2E-02	7E-03	HQ ≤ 1	9E-01	2E-01	HQ ≤ 1	4E-02	1E-02	HQ ≤ 1
Semi-Volatile Organic Compounds																
4-Methylphenol	3E-02	HQ ≤ 1	ND	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	4E-03	HQ ≤ 1	ND	--	--	--	--	--	--	--	--	--	--	6E-05	6E-06	HQ ≤ 1

Notes:
^a For UA-2, due to the small dataset (i.e., sample size of 2 or 5), area-weighted HQs are not estimated.
^b WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using depth-weighted EPCs, and 2.) supporting LOE

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:
-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOE = line of evidence
LOAEL = lowest observed adverse effect level
ND = not detected
NOAEL = no-observed adverse effect level
UA-2 = Undesignated Area-2
WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table UA2-6.2
Risk Conclusions and Lines of Evidence Summary for UA-2/300B

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Depth-Weighted HQs			Additional Lines of Evidence ^c								Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g	
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals		Populations
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
UA-2 ^e	Plants	Manganese	4E+00	--	--	Yes	2/2	0	2E+00		--	Low	--	No	Unlikely		No
	Soil Invertebrates	Manganese	2E+00	--	--	Yes	2/2	0	9E-01		--	Low	--	No	Unlikely		No
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
	Desert Shrew	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
	Cactus Wren	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	

Notes:
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

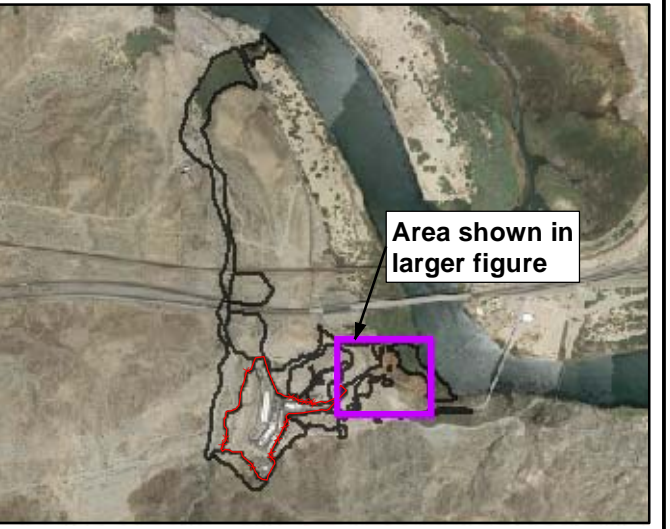
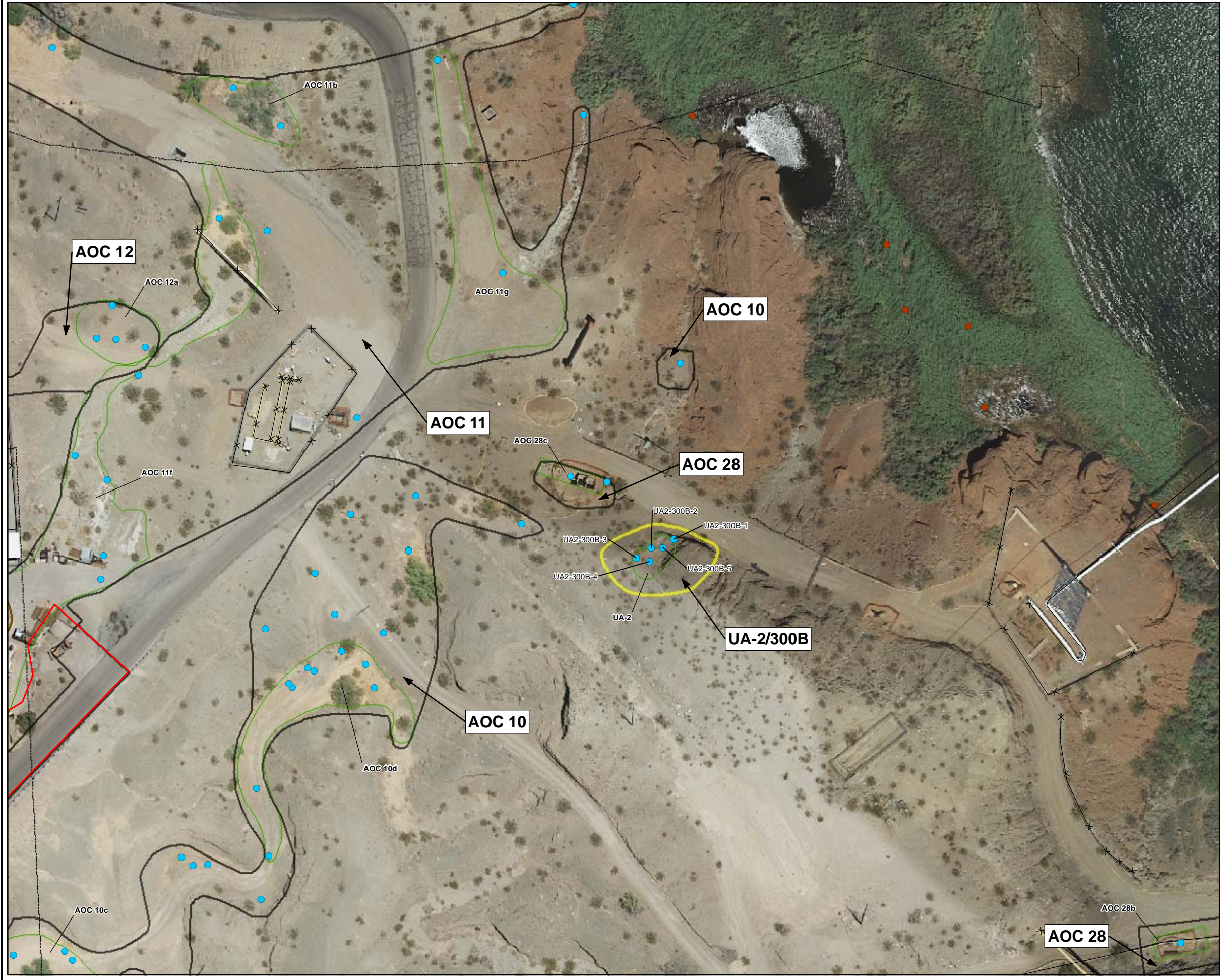
--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

Abbreviations:
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit

LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

FIGURE



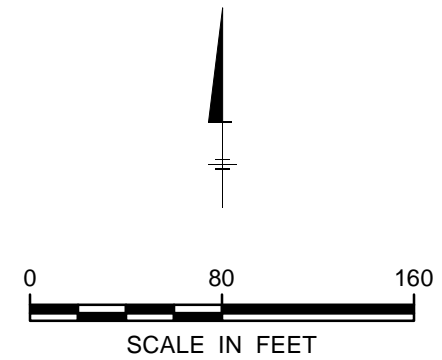


Legend:

- Soil Sampling Location
- Sediment Sampling Location
- Area of Concern
- Potential Burning Related Location
- UA-2/300B Exposure Area
- Exposure Area
- Property Boundaries
- Fencing
- Inside the Topock Compressor Station boundary, as defined by current fenceline

AOC 28 Label for Exposure Area
AOC 28c Label for Area of Concern

Notes:
1. All sample locations with a labeled location ID are included in the UA-2/300B exposure area.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**SOIL SAMPLING LOCATIONS
UA-2/300B EXPOSURE AREA**

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
UA2-1.1

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the UA-2
HHERA



Attachment UA2-A
Dataset and Exposure Point Concentration Calculations for the UA-2 HHERA

Attachment UA2-A1

Table UA2-A1 Dataset for UA-2 HHERA

Attachment UA2-A2 (provided separately in excel files)

Table UA2-A2 Depth-Weighting Files: InputSamplesFor_UA-2_300B_Baseline_0-005
 Depth-Weighting Files: InputSamplesFor_UA-2_300B_Baseline_0-03
 Depth-Weighting Files: InputSamplesFor_UA-2_300B_Baseline_0-06
 Depth-Weighting Files: InputSamplesFor_UA-2_300B_Baseline_0-10

 ProUCL Input: UA-2_300B_0-005_ForProUCL
 ProUCL Input: UA-2_300B_0-03_ForProUCL
 ProUCL Input: UA-2_300B_0-06_ForProUCL
 ProUCL Input: UA-2_300B_0-10_ForProUCL

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-2	UA2-300B-2	UA2-300B-2	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-4	UA2-300B-4	UA2-300B-4	UA2-300B-5
	SAMPLE	300B-1-10001	300B-1-10002	300B-1-10003	300B-1-10004	300B-2-10005	300B-2-10006	300B-2-10007	300B-3-10009	300B-3-10010	300B-3-10011	300B-3-10012	300B-3-10013	300B-4-10014	300B-4-10015	300B-4-10016	300B-5-10018
	DATE	9/23/2008	9/23/2008	10/23/2008	10/23/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)	0	0.5	2.5	5.5	0	0.5	2	0	0.5	0.5	0.5	2	5	0	0.5	2	0
SAMPLE BOTTOM DEPTH (FT)	0.5	1	3	6	0.5	1	3	0.5	1	1	1	3	6	0.5	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	0.5	1	3	6	0.5	1	3	0.5	1	1	1	3	6	0.5	1	3	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Metals																	
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 UJ
Arsenic	mg/kg	14	24	16	12	8	15	11	9.8	10	--	12	14	9.1	11	11	8.4
Barium	mg/kg	290	280	300	150	220	520	310	250	220	--	180	890	230	190	220	290 J
Beryllium	mg/kg	1 U	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	1 U	2 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.42 U	0.4 U	0.4 U	0.4 U	0.42 U	0.41 U	0.4 U	--	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Chromium, total	mg/kg	25	28	25	17	17	33	34	21	26	--	25	32	22	20	28	22
Cobalt	mg/kg	7.7	9.1	8.8	6.7	7	10	11	7.9	10	--	9.9	10	8.4	7.4	11	7
Copper	mg/kg	13	14	13	10	11	15	11	11	13	--	13	9.4	11	11	15	11
Lead	mg/kg	7.9	5.8	5.6	3.2	6.6	4.3	3.4	5.3	6.3	--	4	3.6	4.4	3.4	3.4	13
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U	0.099 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	2 U	2 U	1.1	1 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	1 U	2 U	1 U
Nickel	mg/kg	16	19	18	13	13	22	23	16	19	--	20	22	17	14	21	15
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	2 U	2 U	1 U	1 U	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	1 U	2 U	1 U
Thallium	mg/kg	2 U	4 U	4 U	2 U	2 U	4 U	4 U	4 U	4 U	--	4.1 U	4.1 U	4 U	2 U	4.1 U	2 U
Vanadium	mg/kg	28	31	29	22	27	35	36	33	37	--	34	37	33	27	38	27
Zinc	mg/kg	54	61	59	48	46	62	63	52	60	--	65	58	53	47	64	62
Metals CLP																	
Aluminum	mg/kg	11000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11000
Calcium	mg/kg	21000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26000
Cyanide	mg/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Iron	mg/kg	20000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27000
Magnesium	mg/kg	7400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8900
Manganes	mg/kg	670	--	--	--	--	--	--	--	--	--	--	--	--	--	--	840
Potassium	mg/kg	2900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2400
Sodium	mg/kg	230	--	--	--	--	--	--	--	--	--	--	--	--	--	--	210
Pesticides																	
4,4-DDD	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
4,4-DDE	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
4,4-DDT	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Aldrin	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
alpha-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
alpha-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
beta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
delta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Dieldrin	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Endo sulfan I	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Endo sulfan II	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Endrin	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Endrin aldehyde	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
Endrin ketone	ug/kg	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 U
gamma-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
gamma-Chlordane	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Heptachlor	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U
Methoxy chlor	ug/kg	5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5 U
Toxaphene	ug/kg	50 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-2	UA2-300B-2	UA2-300B-2	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-4	UA2-300B-4	UA2-300B-4	UA2-300B-5
	SAMPLE	300B-1-10001	300B-1-10002	300B-1-10003	300B-1-10004	300B-2-10005	300B-2-10006	300B-2-10007	300B-3-10009	300B-3-10010	300B-3-10011	300B-3-10012	300B-3-10013	300B-4-10014	300B-4-10015	300B-4-10016	300B-5-10018
	DATE	9/23/2008	9/23/2008	10/23/2008	10/23/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0	0.5	2.5	5.5	0	0.5	2	0	0.5	0.5	2	5	0	0.5	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Aroclor 1221	ug/kg	33 U	33 U	33 U	33 U	33 U	33 U	33 U	33 U	33 U	--	33 U	33 U	33 U	33 U	33 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1268	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	0 U	--	0 U	0 U	0 U	0 U	0 U	0 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
2-Methyl naphthalene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Acenaphthene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Acenaphthylene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Anthracene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
B(a)P Equivalent	ug/kg	5.8 U	5.9 U	5.8	6.1	5.8 U	5.9 U	5.9 U	5.8 U	5.9 U	--	5.9 U	5.9 U	5.8 U	5.9 U	5.9 U	5.8 U
Benzo (a) anthracene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Benzo (a) pyrene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Benzo (b) fluoranthene	ug/kg	5 U	5.1 U	5 U	5.3	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Benzo (ghi) perylene	ug/kg	5 U	5.1 U	5 U	6.2	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Benzo (k) fluoranthene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Chrysene	ug/kg	5 U	5.1 U	6.5	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Dibenzo (a,h) anthracene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Fluoranthene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Fluorene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Naphthalene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
PAH High molecular weight	ug/kg	0	0	6.5	11.5	0	0	0	0	0	--	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	11	0	0	0	0	0	0	--	0	0	0	0	0	0
Phenanthrene	ug/kg	5 U	5.1 U	11	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Pyrene	ug/kg	5 U	5.1 U	5 U	5 U	5 U	5.1 U	5.1 U	5 U	5.1 U	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
1,2,4,5-Tetrachlorobenzene	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2-Nitrophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
2,4-Dichlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	660 U	660 U	660 U	670 U	670 U	660 U	670 U	--	670 U	670 U	660 U	670 U	670 U	660 U
4-Chloroaniline	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	330 U	330 U	460	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U

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Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-2	UA2-300B-2	UA2-300B-2	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-4	UA2-300B-4	UA2-300B-4	UA2-300B-5
	SAMPLE	300B-1-10001	300B-1-10002	300B-1-10003	300B-1-10004	300B-2-10005	300B-2-10006	300B-2-10007	300B-3-10009	300B-3-10010	300B-3-10011	300B-3-10012	300B-3-10013	300B-4-10014	300B-4-10015	300B-4-10016	300B-5-10018
	DATE	9/23/2008	9/23/2008	10/23/2008	10/23/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0	0.5	2.5	5.5	0	0.5	2	0	0.5	0.5	2	5	0	0.5	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
4-Nitroaniline	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4-Nitrophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
Atrazine	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
Benzaldehyde	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	700 U
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	660 U	670 U	660 U	660 U	660 U	670 U	670 U	660 U	670 U	--	670 U	670 U	660 U	670 U	670 U	660 U
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	1300	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	330 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	330 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330 U
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Dibenzofuran	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
Phenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	140	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 UJ	10 U	10 U	10 U	10.5
TPH as gasoline	mg/kg	--	--	1.4 U	1.1 U	--	--	1.4 U	--	--	--	1.6 U	1.6 U	--	--	0.75 U	--
TPH as motor oil	mg/kg	32	33.6	902	60	15.1 J	12.2 J	13 J	10 U	10 U	--	10 U	10 UJ	10 U	10 U	10 U	60 J
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1-Dichloroethene	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1-Dichloropropene	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1,1-Trichloroethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1,2-Trichloroethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2-Dibromoethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2-Dichlorobenzene	ug/kg	330 U	330 U	6.3 UJ	7 U	330 U	330 U	8 U	330 U	330 U	--	6.8 U	5.9 U	330 U	330 U	8.5 U	330 U
1,2-Dichloroethane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2-Dichloropropane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2,3-Trichlorobenzene	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2,3-Trichloropropane	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,2,4-Trichlorobenzene	ug/kg	330 U	330 U	6.3 UJ	7 U	330 U	330 U	8 U	330 U	330 U	--	6.8 U	5.9 U	330 U	330 U	8.5 U	330 U
1,2,4-Trimethylbenzene	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,3-Dichlorobenzene	ug/kg	330 U	330 U	6.3 UJ	7 U	330 U	330 U	8 U	330 U	330 U	--	6.8 U	5.9 U	330 U	330 U	8.5 U	330 U
1,3-Dichloropropane	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,3,5-Trimethylbenzene	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
1,4-Dichlorobenzene	ug/kg	330 U	330 U	6.3 UJ	7 U	330 U	330 U	8 U	330 U	330 U	--	6.8 U	5.9 U	330 U	330 U	8.5 U	330 U
1,4-Dioxane	ug/kg	330 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330 U
2-Chlorotoluene	ug/kg	--	--	6.3 UJ	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-2	UA2-300B-2	UA2-300B-2	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-4	UA2-300B-4	UA2-300B-4	UA2-300B-5
	SAMPLE	300B-1-10001	300B-1-10002	300B-1-10003	300B-1-10004	300B-2-10005	300B-2-10006	300B-2-10007	300B-3-10009	300B-3-10010	300B-3-10011	300B-3-10012	300B-3-10013	300B-4-10014	300B-4-10015	300B-4-10016	300B-5-10018
	DATE	9/23/2008	9/23/2008	10/23/2008	10/23/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0	0.5	2.5	5.5	0	0.5	2	0	0.5	0.5	2	5	0	0.5	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
2-Hexanone	ug/kg	--	--	63 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U	--	1600 U	1600 U	1600 U	1600 U	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Acetone	ug/kg	--	--	63 U	70 U	--	--	80 U	--	--	--	68 U	59 U	--	--	85 U	--
Acrolein	ug/kg	--	--	130 U	140 U	--	--	160 U	--	--	--	140 U	120 U	--	--	170 U	--
Acrylonitrile	ug/kg	--	--	63 U	70 U	--	--	80 U	--	--	--	68 U	59 U	--	--	85 U	--
Benzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Bromochloromethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Bromodichloromethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Bromoform	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Bromomethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Carbon disulfide	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Carbon tetrachloride	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Chloro methane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Chlorobenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Chloroethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Chloroform	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Cyclohexane	ug/kg	--	--	63 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Dibromomethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Dichlorodifluoromethane	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Ethyl- benzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Hexachlorobutadiene	ug/kg	330 U	330 U	63 U	7 U	330 U	330 U	8 U	330 U	330 U	--	6.8 U	5.9 U	330 U	330 U	8.5 U	330 U
Hexachlorocyclopentadiene	ug/kg	660 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	660 U
Isophorone	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Methyl acetate	ug/kg	--	--	63 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	63 U	70 U	--	--	80 U	--	--	--	68 U	59 U	--	--	85 U	--
Methyl isobutyl ketone	ug/kg	--	--	63 U	70 U	--	--	80 U	--	--	--	68 U	59 U	--	--	85 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Methylcyclohexane	ug/kg	--	--	63 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
N-Butylbenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
N-Propylbenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Nitrobenzene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
sec-Butylbenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Styrene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
tert-Butylbenzene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Tetrachloroethene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Toluene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
trans-1,2-Dichloroethene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Trichloroethene	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	63 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-1	UA2-300B-2	UA2-300B-2	UA2-300B-2	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-3	UA2-300B-4	UA2-300B-4	UA2-300B-4	UA2-300B-5
	SAMPLE	300B-1-10001	300B-1-10002	300B-1-10003	300B-1-10004	300B-2-10005	300B-2-10006	300B-2-10007	300B-3-10009	300B-3-10010	300B-3-10011	300B-3-10012	300B-3-10013	300B-4-10014	300B-4-10015	300B-4-10016	300B-5-10018
	DATE	9/23/2008	9/23/2008	10/23/2008	10/23/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0	0.5	2.5	5.5	0	0.5	2	0	0.5	0.5	2	5	0	0.5	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	1	3	6	0.5	1	3	0.5	1	1	3	6	0.5	1	3	0.5
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Vinyl chloride	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Xylene, m,p-	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Xylene, o-	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--
Xylenes, total	ug/kg	--	--	6.3 U	7 U	--	--	8 U	--	--	--	6.8 U	5.9 U	--	--	8.5 U	--

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-5	UA2-300B-5
	SAMPLE	300B-5-10019	300B-5-10020
	DATE	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0.5	2
SAMPLE BOTTOM DEPTH (FT)		1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	3
SAMPLE TYPE			
ANALYTE	UNITS		
Metals			
Antimony	mg/kg	2 U	2 U
Arsenic	mg/kg	10	9.4
Barium	mg/kg	390	360
Beryllium	mg/kg	2 U	2 U
Cadmium	mg/kg	1 U	1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.41 U
Chromium, total	mg/kg	33	35
Cobalt	mg/kg	11	11
Copper	mg/kg	11	12
Lead	mg/kg	3.9	3.4
Mercury	mg/kg	0.1 U	0.1 U
Molybdenum	mg/kg	2 U	2 U
Nickel	mg/kg	24	25
Selenium	mg/kg	1 U	1 U
Silver	mg/kg	2 U	2 U
Thallium	mg/kg	4.1 U	4.1 U
Vanadium	mg/kg	36	37
Zinc	mg/kg	65	62
Metals CLP			
Aluminum	mg/kg	--	--
Calcium	mg/kg	--	--
Cyanide	mg/kg	--	--
Iron	mg/kg	--	--
Magnesium	mg/kg	--	--
Manganese	mg/kg	--	--
Potassium	mg/kg	--	--
Sodium	mg/kg	--	--
Pesticides			
4,4-DDD	ug/kg	--	--
4,4-DDE	ug/kg	--	--
4,4-DDT	ug/kg	--	--
Aldrin	ug/kg	--	--
alpha-BHC	ug/kg	--	--
alpha-Chlordane	ug/kg	--	--
beta-BHC	ug/kg	--	--
delta-BHC	ug/kg	--	--
Dieldrin	ug/kg	--	--
Endo sulfan I	ug/kg	--	--
Endo sulfan II	ug/kg	--	--
Endosulfan sulfate	ug/kg	--	--
Endrin	ug/kg	--	--
Endrin aldehyde	ug/kg	--	--
Endrin ketone	ug/kg	--	--
gamma-BHC	ug/kg	--	--
gamma-Chlordane	ug/kg	--	--
Heptachlor	ug/kg	--	--
Heptachlor Epoxide	ug/kg	--	--
Methoxy chlor	ug/kg	--	--
Toxaphene	ug/kg	--	--
Polychlorinated Biphenyls			
Aroclor 1016	ug/kg	17 U	17 U

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-5	UA2-300B-5
	SAMPLE	300B-5-10019	300B-5-10020
	DATE	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0.5	2
SAMPLE BOTTOM DEPTH (FT)		1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	3
SAMPLE TYPE			
ANALYTE	UNITS		
Aroclor 1221	ug/kg	33 U	34 U
Aroclor 1232	ug/kg	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U
Aroclor 1262	ug/kg	17 U	17 U
Aroclor 1268	ug/kg	17 U	17 U
Total PCBs	ug/kg	0 U	0 U
Polycyclic Aromatic Hydrocarbons			
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U
Acenaphthene	ug/kg	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	5.1 U
Anthracene	ug/kg	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	5.9 U	5.9 U
Benzo (a) anthracene	ug/kg	5.1 U	5.1 U
Benzo (a) pyrene	ug/kg	5.1 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5.1 U	5.1 U
Benzo (ghi) perylene	ug/kg	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5.1 U	5.1 U
Chrysene	ug/kg	5.1 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 U
Fluoranthene	ug/kg	5.1 U	5.1 U
Fluorene	ug/kg	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	5.1 U
Naphthalene	ug/kg	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	0
PAH Low molecular weight	ug/kg	0	0
Phenanthrene	ug/kg	5.1 U	5.1 U
Pyrene	ug/kg	5.1 U	5.1 U
Semi-Volatile Organic Compounds			
1,1'-Biphenyl	ug/kg	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--
2-Chloro naphthalene	ug/kg	330 U	340 U
2-Chlorophenol	ug/kg	330 U	340 U
2-Methylphenol	ug/kg	330 U	340 U
2-Nitroaniline	ug/kg	1600 U	1600 U
2-Nitrophenol	ug/kg	330 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--
2,4-Dichlorophenol	ug/kg	330 U	340 U
2,4-Dimethylphenol	ug/kg	330 U	340 U
2,4-Dinitrophenol	ug/kg	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	330 U	340 U
2,6-Dinitrotoluene	ug/kg	330 U	340 U
3-Nitroaniline	ug/kg	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	330 U	340 U
4-Bromophenyl phenyl ether	ug/kg	330 U	340 U
4-Chloro-3-methylphenol	ug/kg	670 U	670 U
4-Chloroaniline	ug/kg	330 U	340 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	340 U
4-Methylphenol	ug/kg	330 U	340 U

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-5	UA2-300B-5
	SAMPLE	300B-5-10019	300B-5-10020
	DATE	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0.5	2
SAMPLE BOTTOM DEPTH (FT)		1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	3
SAMPLE TYPE			
ANALYTE	UNITS		
4-Nitroaniline	ug/kg	1600 U	1600 U
4-Nitrophenol	ug/kg	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U
Acetophenone	ug/kg	--	--
Atrazine	ug/kg	--	--
Benzaldehyde	ug/kg	--	--
Benzoic acid	ug/kg	1700 U	1700 U
Benzyl alcohol	ug/kg	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	330 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	340 U
Butylbenzylphthalate	ug/kg	330 U	340 U
Caprolactam	ug/kg	--	--
Carbazole	ug/kg	--	--
Di-n-butyl phthalate	ug/kg	330 U	340 U
Di-n-octyl phthalate	ug/kg	330 U	340 U
Dibenzofuran	ug/kg	330 U	340 U
Diethyl phthalate	ug/kg	330 U	340 U
Dimethyl phthalate	ug/kg	330 U	340 U
Hexachlorobenzene	ug/kg	330 U	340 U
Hexachloroethane	ug/kg	330 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	340 U
N-nitrosodiphenylamine	ug/kg	330 U	340 U
Pentachlorophenol	ug/kg	1600 U	1600 U
Phenol	ug/kg	330 U	340 U
Total Petroleum Hydrocarbons			
TPH as diesel	mg/kg	10 U	10 U
TPH as gasoline	mg/kg	--	1.7 U
TPH as motor oil	mg/kg	29.7 J	11.2 J
Volatile Organic Compounds			
1,1-Dichloroethane	ug/kg	--	7.7 U
1,1-Dichloroethene	ug/kg	--	7.7 U
1,1-Dichloropropene	ug/kg	--	7.7 U
1,1,1-Trichloroethane	ug/kg	--	7.7 U
1,1,1,2-Tetrachloroethane	ug/kg	--	7.7 U
1,1,2-Trichloroethane	ug/kg	--	7.7 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	7.7 U
1,1,2,2-Tetrachloroethane	ug/kg	--	7.7 U
1,2-Dibromo-3-chloropropane	ug/kg	--	7.7 U
1,2-Dibromoethane	ug/kg	--	7.7 U
1,2-Dichlorobenzene	ug/kg	330 U	7.7 U
1,2-Dichloroethane	ug/kg	--	7.7 U
1,2-Dichloropropane	ug/kg	--	7.7 U
1,2,3-Trichlorobenzene	ug/kg	--	7.7 U
1,2,3-Trichloropropane	ug/kg	--	7.7 U
1,2,4-Trichlorobenzene	ug/kg	330 U	7.7 U
1,2,4-Trimethylbenzene	ug/kg	--	7.7 U
1,3-Dichlorobenzene	ug/kg	330 U	7.7 U
1,3-Dichloropropane	ug/kg	--	7.7 U
1,3,5-Trimethylbenzene	ug/kg	--	7.7 U
1,4-Dichlorobenzene	ug/kg	330 U	7.7 U
1,4-Dioxane	ug/kg	--	--
2-Chlorotoluene	ug/kg	--	7.7 U

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-5	UA2-300B-5
	SAMPLE	300B-5-10019	300B-5-10020
	DATE	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0.5	2
SAMPLE BOTTOM DEPTH (FT)		1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	3
SAMPLE TYPE			
ANALYTE	UNITS		
2-Hexanone	ug/kg	--	7.7 U
2,2-Dichloropropane	ug/kg	--	7.7 U
2,4,5-Trichlorophenol	ug/kg	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	330 U	340 U
4-Isopropyltoluene	ug/kg	--	7.7 U
Acetone	ug/kg	--	7.7 U
Acrolein	ug/kg	--	150 U
Acrylonitrile	ug/kg	--	7.7 U
Benzene	ug/kg	--	7.7 U
bis (2-chloroethyl) ether	ug/kg	330 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	340 U
Bromobenzene	ug/kg	--	7.7 U
Bromochloromethane	ug/kg	--	7.7 U
Bromodichloromethane	ug/kg	--	7.7 U
Bromoform	ug/kg	--	7.7 U
Bromomethane	ug/kg	--	7.7 U
Carbon disulfide	ug/kg	--	7.7 U
Carbon tetrachloride	ug/kg	--	7.7 U
Chloro methane	ug/kg	--	7.7 U
Chlorobenzene	ug/kg	--	7.7 U
Chloroethane	ug/kg	--	7.7 U
Chloroform	ug/kg	--	7.7 U
cis-1,2-Dichloroethene	ug/kg	--	7.7 U
cis-1,3-Dichloropropene	ug/kg	--	7.7 U
Cyclohexane	ug/kg	--	7.7 U
Dibromochloromethane	ug/kg	--	7.7 U
Dibromomethane	ug/kg	--	7.7 U
Dichlorodifluoromethane	ug/kg	--	7.7 U
Ethyl- benzene	ug/kg	--	7.7 U
Hexachlorobutadiene	ug/kg	330 U	7.7 U
Hexachlorocyclopentadiene	ug/kg	--	--
Isophorone	ug/kg	330 U	340 U
Isopropylbenzene	ug/kg	--	7.7 U
Methyl acetate	ug/kg	--	7.7 U
Methyl ethyl ketone	ug/kg	--	7.7 U
Methyl isobutyl ketone	ug/kg	--	7.7 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	7.7 U
Methylcyclohexane	ug/kg	--	7.7 U
Methylene chloride	ug/kg	--	7.7 U
N-Butylbenzene	ug/kg	--	7.7 U
N-Propylbenzene	ug/kg	--	7.7 U
Nitrobenzene	ug/kg	330 U	340 U
p-Chlorotoluene	ug/kg	--	7.7 U
sec-Butylbenzene	ug/kg	--	7.7 U
Styrene	ug/kg	--	7.7 U
tert-Butylbenzene	ug/kg	--	7.7 U
Tetrachloroethene	ug/kg	--	7.7 U
Toluene	ug/kg	--	7.7 U
trans-1,2-Dichloroethene	ug/kg	--	7.7 U
trans-1,3-Dichloropropene	ug/kg	--	7.7 U
Trichloroethene	ug/kg	--	7.7 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	7.7 U

Table UA2-A1
Dataset for UA-2 HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	UA2-300B-5	UA2-300B-5
	SAMPLE	300B-5-10019	300B-5-10020
	DATE	10/3/2008	10/3/2008
SAMPLE TOP DEPTH (FT)		0.5	2
SAMPLE BOTTOM DEPTH (FT)		1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	3
SAMPLE TYPE			
ANALYTE	UNITS		
Vinyl chloride	ug/kg	--	7.7 U
Xylene, m,p-	ug/kg	--	7.7 U
Xylene, o-	ug/kg	--	7.7 U
Xylenes, total	ug/kg	--	7.7 U

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for
Human Health Receptors at UA-2 Using Depth-Weighted EPCs



Attachment UA2-B**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at UA-2
Using Depth-Weighted EPCs****Tables**

UA2-B.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
UA2-B.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
UA2-B.1c	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper
UA2-B.1d	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
UA2-B.1e	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
UA2-B.1f	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
UA2-B.1g	Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User
UA2-B.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
UA2-B.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
UA2-B.2c	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper
UA2-B.2d	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
UA2-B.2e	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
UA2-B.2f	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
UA2-B.2g	Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User
UA2-B.3a	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
UA2-B.3b	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
UA2-B.3c	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User- Camper
UA2-B.3d	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
UA2-B.3e	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
UA2-B.3f	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
UA2-B.3g	Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User
UA2-B.4a	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
UA2-B.4b	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
UA2-B.4c	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper
UA2-B.4d	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker
UA2-B.4e	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter
UA2-B.4f	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider
UA2-B.4g	Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User
UA2-B.5a	Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
UA2-B.5b	Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Attachment UA2-B**Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at UA-2
Using Depth-Weighted EPCs****Tables (cont.)**

UA2-B.5c	Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
UA2-B.5d	Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Camper)
UA2-B.5e	Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
UA2-B.5f	Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Hiker)
UA2-B.5g	Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)
UA2-B.5h	Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)
UA2-B.5i	Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Recreational User (Off-Highway Vehicle Rider)

Table UA2-B.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	7.3E-09	NV	4.0E-08	9.0E-08	1.1E-08	NV	5.9E-08	1.4E-07	9.5E-09	NV	5.2E-08	1.2E-07	8.2E-09	NV	4.4E-08	1.0E-07
Barium	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	1.8E-10	NV	3.3E-09	2.3E-09	3.8E-10	NV	6.9E-09	4.7E-09	2.6E-10	NV	4.8E-09	3.3E-09
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	5.5E-08	NV	5.9E-07	6.8E-07	8.2E-08	NV	8.9E-07	1.0E-06	7.1E-08	NV	7.7E-07	8.8E-07	6.1E-08	NV	6.7E-07	7.6E-07
Barium	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	1.4E-09	NV	5.0E-08	1.7E-08	2.9E-09	NV	1.0E-07	3.6E-08	2.0E-09	NV	7.2E-08	2.5E-08
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1c

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	8.4E-11	NV	4.4E-08	4.6E-07	1.3E-10	NV	6.7E-08	6.9E-07
Barium	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	2.1E-12	NV	3.7E-09	1.2E-08
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1d

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	1.7E-10	NV	8.9E-08	9.2E-07	2.5E-10	NV	1.3E-07	1.4E-06
Barium	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	4.2E-12	NV	7.5E-09	2.3E-08
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1e

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	8.4E-11	NV	1.8E-08	1.4E-07	1.3E-10	NV	2.7E-08	2.1E-07
Barium	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	2.1E-12	NV	1.5E-09	3.6E-09
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1f

Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	1.7E-08	NV	4.3E-07	1.2E-07	2.5E-08	NV	6.4E-07	1.8E-07
Barium	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds								
4-Methylphenol	ND	NC	ND	ND	NC	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	4.3E-10	NV	3.6E-08	3.0E-09
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	ND	NC	ND	ND	ND	NC	ND	ND
Phenanthrene	ND	NC	ND	ND	NC	NC	NC	NC
Total Petroleum Hydrocarbons								
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.1g

Baseline Scenario Exposure Concentration Calculations for Carcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Arsenic	2.4E-11	NV	3.6E-11	NV
Barium	NC	NC	NC	NC
Lead	na	na	na	na
Manganese	NC	NC	NC	NC
Zinc	NC	NC	NC	NC
Semi-Volatile Organic Compounds				
4-Methylphenol	ND	NC	NC	NC
bis (2-ethylhexyl) phthalate	ND	NV	6.1E-13	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	ND	NC	ND	NC
Phenanthrene	ND	NC	NC	NC
Total Petroleum Hydrocarbons				
TPH as diesel	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	5.1E-07	NV	2.8E-06	6.3E-06	7.7E-07	NV	4.2E-06	9.5E-06	6.6E-07	NV	3.6E-06	8.2E-06	5.7E-07	NV	3.1E-06	7.1E-06
Barium	1.1E-05	NV	1.9E-05	1.3E-04	1.5E-05	NV	2.6E-05	1.8E-04	1.3E-05	NV	2.4E-05	1.6E-04	2.0E-05	NV	3.6E-05	2.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	3.1E-05	NV	5.6E-05	3.8E-04	3.1E-05	NV	5.6E-05	3.8E-04	3.1E-05	NV	5.6E-05	3.8E-04	3.1E-05	NV	5.6E-05	3.8E-04
Zinc	2.3E-06	NV	4.1E-06	2.8E-05	2.3E-06	NV	4.2E-06	2.9E-05	2.3E-06	NV	4.2E-06	2.8E-05	2.3E-06	NV	4.1E-06	2.8E-05
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NV	ND	ND	7.8E-09	NV	1.4E-07	9.7E-08	1.1E-08	NV	2.1E-07	1.4E-07	9.3E-09	NV	1.7E-07	1.1E-07
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	1.3E-08	NV	2.3E-07	1.6E-07	2.7E-08	NV	4.8E-07	3.3E-07	1.8E-08	NV	3.3E-07	2.3E-07
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND	1.0E-10	NV	2.8E-09	1.3E-09	1.5E-10	NV	4.1E-09	1.9E-09
Phenanthrene	ND	NV	ND	ND	1.4E-10	NV	3.9E-09	1.8E-09	2.5E-10	NV	6.7E-09	3.1E-09	1.8E-10	NV	5.0E-09	2.3E-09
Total Petroleum Hydrocarbons																
TPH as diesel	3.8E-07	3.4E-03	6.9E-06	4.7E-06	1.0E-06	3.4E-03	1.8E-05	1.2E-05	2.6E-06	3.4E-03	4.8E-05	3.3E-05	1.7E-06	3.4E-03	3.0E-05	2.1E-05
TPH as motor oil	2.2E-06	NV	4.0E-05	2.7E-05	6.5E-06	NV	1.2E-04	8.0E-05	1.7E-05	NV	3.1E-04	2.1E-04	1.1E-05	NV	2.0E-04	1.4E-04

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	1.3E-07	NV	1.4E-06	1.6E-06	1.9E-07	NV	2.1E-06	2.4E-06	1.7E-07	NV	1.8E-06	2.1E-06	1.4E-07	NV	1.6E-06	1.8E-06
Barium	2.6E-06	NV	9.6E-06	3.3E-05	3.7E-06	NV	1.3E-05	4.5E-05	3.3E-06	NV	1.2E-05	4.1E-05	5.0E-06	NV	1.8E-05	6.2E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	7.7E-06	NV	2.8E-05	9.5E-05	7.7E-06	NV	2.8E-05	9.5E-05	7.7E-06	NV	2.8E-05	9.5E-05	7.7E-06	NV	2.8E-05	9.5E-05
Zinc	5.7E-07	NV	2.0E-06	7.0E-06	5.8E-07	NV	2.1E-06	7.2E-06	5.7E-07	NV	2.1E-06	7.1E-06	5.7E-07	NV	2.1E-06	7.1E-06
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NV	ND	ND	2.0E-09	NV	7.1E-08	2.4E-08	2.9E-09	NV	1.0E-07	3.5E-08	2.3E-09	NV	8.4E-08	2.9E-08
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	3.2E-09	NV	1.2E-07	4.0E-08	6.7E-09	NV	2.4E-07	8.3E-08	4.6E-09	NV	1.7E-07	5.7E-08
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND	2.6E-11	NV	1.4E-09	3.2E-10	3.8E-11	NV	2.1E-09	4.7E-10
Phenanthrene	ND	NV	ND	ND	3.6E-11	NV	2.0E-09	4.5E-10	6.2E-11	NV	3.4E-09	7.7E-10	4.6E-11	NV	2.5E-09	5.7E-10
Total Petroleum Hydrocarbons																
TPH as diesel	9.6E-08	1.6E-04	3.5E-06	1.2E-06	2.5E-07	1.6E-04	9.1E-06	3.1E-06	6.6E-07	1.6E-04	2.4E-05	8.2E-06	4.2E-07	1.6E-04	1.5E-05	5.1E-06
TPH as motor oil	5.5E-07	NV	2.0E-05	6.8E-06	1.6E-06	NV	5.9E-05	2.0E-05	4.3E-06	NV	1.6E-04	5.3E-05	2.8E-06	NV	1.0E-04	3.5E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2c
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a				Adult Camper (0 to 0.5 feet bgs) ^a				Child Camper (0 to 3 feet bgs) ^a				Adult Camper (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	2.3E-10	NV	3.6E-07	4.1E-06	2.3E-10	NV	4.9E-08	3.8E-07	3.4E-10	NV	5.3E-07	6.1E-06	3.4E-10	NV	7.3E-08	5.8E-07
Barium	4.7E-09	NV	2.5E-06	8.5E-05	4.7E-09	NV	3.4E-07	7.9E-06	6.4E-09	NV	3.4E-06	1.2E-04	6.4E-09	NV	4.6E-07	1.1E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	1.4E-08	NV	7.1E-06	2.5E-04	1.4E-08	NV	9.7E-07	2.3E-05	1.4E-08	NV	7.1E-06	2.5E-04	1.4E-08	NV	9.7E-07	2.3E-05
Zinc	1.0E-09	NV	5.3E-07	1.8E-05	1.0E-09	NV	7.2E-08	1.7E-06	1.0E-09	NV	5.4E-07	1.9E-05	1.0E-09	NV	7.3E-08	1.7E-06
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NV	ND	ND	ND	NV	ND	ND	3.4E-12	NV	1.8E-08	6.3E-08	3.4E-12	NV	2.5E-09	5.9E-09
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	ND	NV	ND	ND	5.7E-12	NV	3.0E-08	1.0E-07	5.7E-12	NV	4.1E-09	9.7E-09
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Phenanthrene	ND	NV	ND	ND	ND	NV	ND	ND	6.4E-14	NV	5.0E-10	1.2E-09	6.4E-14	NV	6.9E-11	1.1E-10
Total Petroleum Hydrocarbons																
TPH as diesel	1.7E-10	4.0E-04	8.9E-07	3.1E-06	1.7E-10	4.0E-04	1.2E-07	2.9E-07	4.4E-10	4.0E-04	2.3E-06	8.0E-06	4.4E-10	4.0E-04	3.2E-07	7.5E-07
TPH as motor oil	9.7E-10	NV	5.1E-06	1.8E-05	9.7E-10	NV	6.9E-07	1.6E-06	2.9E-09	NV	1.5E-05	5.2E-05	2.9E-09	NV	2.1E-06	4.9E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2d
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a				Adult Hiker (0 to 0.5 feet bgs) ^a				Child Hiker (0 to 3 feet bgs) ^a				Adult Hiker (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	4.5E-10	NV	7.1E-07	8.2E-06	4.5E-10	NV	9.7E-08	7.7E-07	6.8E-10	NV	1.1E-06	1.2E-05	6.8E-10	NV	1.5E-07	1.2E-06
Barium	9.3E-09	NV	4.9E-06	1.7E-04	9.3E-09	NV	6.7E-07	1.6E-05	1.3E-08	NV	6.8E-06	2.3E-04	1.3E-08	NV	9.3E-07	2.2E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	2.7E-08	NV	1.4E-05	4.9E-04	2.7E-08	NV	1.9E-06	4.6E-05	2.7E-08	NV	1.4E-05	4.9E-04	2.7E-08	NV	1.9E-06	4.6E-05
Zinc	2.0E-09	NV	1.1E-06	3.6E-05	2.0E-09	NV	1.4E-07	3.4E-06	2.0E-09	NV	1.1E-06	3.7E-05	2.0E-09	NV	1.5E-07	3.5E-06
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NV	ND	ND	ND	NV	ND	ND	6.9E-12	NV	3.6E-08	1.3E-07	6.9E-12	NV	5.0E-09	1.2E-08
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-11	NV	6.0E-08	2.1E-07	1.1E-11	NV	8.2E-09	1.9E-08
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Phenanthrene	ND	NV	ND	ND	ND	NV	ND	ND	1.3E-13	NV	1.0E-09	2.3E-09	1.3E-13	NV	1.4E-10	2.2E-10
Total Petroleum Hydrocarbons																
TPH as diesel	3.4E-10	8.1E-04	1.8E-06	6.1E-06	3.4E-10	8.1E-04	2.4E-07	5.8E-07	8.9E-10	8.1E-04	4.7E-06	1.6E-05	8.9E-10	8.1E-04	6.4E-07	1.5E-06
TPH as motor oil	1.9E-09	NV	1.0E-05	3.5E-05	1.9E-09	NV	1.4E-06	3.3E-06	5.7E-09	NV	3.0E-05	1.0E-04	5.7E-09	NV	4.1E-06	9.8E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2e

Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs:
Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a				Adult Hunter (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics								
Arsenic	2.3E-10	NV	4.9E-08	3.8E-07	3.4E-10	NV	7.3E-08	5.8E-07
Barium	4.7E-09	NV	3.4E-07	7.9E-06	6.4E-09	NV	4.6E-07	1.1E-05
Lead	na	na	na	na	na	na	na	na
Manganese	1.4E-08	NV	9.7E-07	2.3E-05	1.4E-08	NV	9.7E-07	2.3E-05
Zinc	1.0E-09	NV	7.2E-08	1.7E-06	1.0E-09	NV	7.3E-08	1.7E-06
Semi-Volatile Organic Compounds								
4-Methylphenol	ND	NV	ND	ND	3.4E-12	NV	2.5E-09	5.9E-09
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	5.7E-12	NV	4.1E-09	9.7E-09
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND
Phenanthrene	ND	NV	ND	ND	6.4E-14	NV	6.9E-11	1.1E-10
Total Petroleum Hydrocarbons								
TPH as diesel	1.7E-10	4.0E-04	1.2E-07	2.9E-07	4.4E-10	4.0E-04	3.2E-07	7.5E-07
TPH as motor oil	9.7E-10	NV	6.9E-07	1.6E-06	2.9E-09	NV	2.1E-06	4.9E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/kg-day = milligrams per kilogram per day.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2f
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a				Adult OHV Rider (0 to 0.5 feet bgs) ^a				Child OHV Rider (0 to 3 feet bgs) ^a				Adult OHV Rider (0 to 3 feet bgs) ^a			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Arsenic	4.5E-08	NV	1.3E-06	5.8E-07	4.5E-08	NV	1.1E-06	2.4E-07	6.8E-08	NV	1.9E-06	8.6E-07	6.8E-08	NV	1.7E-06	3.6E-07
Barium	9.4E-07	NV	8.9E-06	1.2E-05	9.4E-07	NV	7.7E-06	4.9E-06	1.3E-06	NV	1.2E-05	1.6E-05	1.3E-06	NV	1.1E-05	6.8E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	2.7E-06	NV	2.6E-05	3.5E-05	2.7E-06	NV	2.2E-05	1.4E-05	2.7E-06	NV	2.6E-05	3.5E-05	2.7E-06	NV	2.2E-05	1.4E-05
Zinc	2.0E-07	NV	1.9E-06	2.5E-06	2.0E-07	NV	1.6E-06	1.1E-06	2.1E-07	NV	2.0E-06	2.6E-06	2.1E-07	NV	1.7E-06	1.1E-06
Semi-Volatile Organic Compounds																
4-Methylphenol	ND	NV	ND	ND	ND	NV	ND	ND	6.9E-10	NV	6.6E-08	8.8E-09	6.9E-10	NV	5.7E-08	3.6E-09
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	ND	NV	ND	ND	1.1E-09	NV	1.1E-07	1.5E-08	1.1E-09	NV	9.4E-08	6.0E-09
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND	ND	NV	ND	ND
Phenanthrene	ND	NV	ND	ND	ND	NV	ND	ND	1.3E-11	NV	1.8E-09	1.6E-10	1.3E-11	NV	1.6E-09	6.7E-11
Total Petroleum Hydrocarbons																
TPH as diesel	3.4E-08	5.0E-05	3.2E-06	4.3E-07	3.4E-08	5.0E-05	2.8E-06	1.8E-07	8.9E-08	5.0E-05	8.5E-06	1.1E-06	8.9E-08	5.0E-05	7.3E-06	4.7E-07
TPH as motor oil	1.9E-07	NV	1.8E-05	2.5E-06	1.9E-07	NV	1.6E-05	1.0E-06	5.8E-07	NV	5.5E-05	7.3E-06	5.8E-07	NV	4.7E-05	3.0E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.2g

Baseline Scenario Exposure Concentration Calculations for Noncarcinogenic Effects for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a		Tribal User (0 to 3 feet bgs) ^a	
	Soil Pathway		Soil Pathway	
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)
Inorganics				
Arsenic	2.8E-11	NV	4.2E-11	NV
Barium	5.8E-10	NV	8.1E-10	NV
Lead	na	na	na	na
Manganese	1.7E-09	NV	1.7E-09	NV
Zinc	1.2E-10	NV	1.3E-10	NV
Semi-Volatile Organic Compounds				
4-Methylphenol	ND	NV	4.3E-13	NV
bis (2-ethylhexyl) phthalate	ND	NV	7.1E-13	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	ND	NV	ND	NV
Phenanthrene	ND	NV	8.0E-15	NV
Total Petroleum Hydrocarbons				
TPH as diesel	2.1E-11	3.3E-05	5.5E-11	3.3E-05
TPH as motor oil	1.2E-10	NV	3.6E-10	NV

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

EC = Exposure Concentration.

mg/m³ = milligrams per cubic meter.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3a
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Arsenic	2.4E-08	NV	3.8E-07	8.6E-07	1.3E-06	3.6E-08	NV	5.7E-07	1.3E-06	1.9E-06	3.1E-08	NV	4.9E-07	1.1E-06	1.6E-06	2.7E-08	NV	4.2E-07	9.6E-07	1.4E-06
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	4.4E-13	NV	4.7E-11	3.2E-11	7.9E-11	9.2E-13	NV	9.7E-11	6.6E-11	1.6E-10	6.3E-13	NV	6.7E-11	4.6E-11	1.1E-10
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	2E-08	--	4E-07	9E-07	1E-06	4E-08	--	6E-07	1E-06	2E-06	3E-08	--	5E-07	1E-06	2E-06	3E-08	--	4E-07	1E-06	1E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3b
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Arsenic	1.8E-07	NV	5.7E-06	6.4E-06	1.2E-05	2.7E-07	NV	8.5E-06	9.7E-06	1.8E-05	2.4E-07	NV	7.3E-06	8.4E-06	1.6E-05	2.0E-07	NV	6.3E-06	7.2E-06	1.4E-05
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	3.3E-12	NV	7.0E-10	2.4E-10	9.5E-10	6.9E-12	NV	1.5E-09	5.0E-10	2.0E-09	4.8E-12	NV	1.0E-09	3.4E-10	1.4E-09
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	2E-07	--	6E-06	6E-06	1E-05	3E-07	--	8E-06	1E-05	2E-05	2E-07	--	7E-06	8E-06	2E-05	2E-07	--	6E-06	7E-06	1E-05

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3c
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User- Camper

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Camper (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.8E-10	NV	4.2E-07	4.4E-06	4.8E-06	4.1E-10	NV	6.3E-07	6.6E-06	7.2E-06
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	5.1E-15	NV	5.2E-11	1.6E-10	2.2E-10
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	3E-10	--	4E-07	4E-06	5E-06	4E-10	--	6E-07	7E-06	7E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3d
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Hiker (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	5.5E-10	NV	8.4E-07	8.7E-06	9.6E-06	8.3E-10	NV	1.3E-06	1.3E-05	1.4E-05
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	1.0E-14	NV	1.0E-10	3.3E-10	4.3E-10
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	6E-10	--	8E-07	9E-06	1E-05	8E-10	--	1E-06	1E-05	1E-05

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3e
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	2.8E-10	NV	1.7E-07	1.4E-06	1.5E-06	4.1E-10	NV	2.6E-07	2.0E-06	2.3E-06
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	5.1E-15	NV	2.1E-11	5.0E-11	7.2E-11
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	3E-10	--	2E-07	1E-06	2E-06	4E-10	--	3E-07	2E-06	2E-06

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3f

Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessm

PG&E Topock Compressor Station

Needles, California

COPC	Age-Adjusted Adult OHV Rider (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics										
Arsenic	5.6E-08	NV	4.1E-06	1.1E-06	5.2E-06	8.3E-08	NV	6.1E-06	1.7E-06	7.9E-06
Barium	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na
Manganese	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	NC	ND	ND	--	NC	NC	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	1.0E-12	NV	5.1E-10	4.1E-11	5.5E-10
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	NC	ND	ND	--	ND	NC	ND	ND	--
Phenanthrene	ND	NC	ND	ND	--	NC	NC	NC	NC	--
Total Petroleum Hydrocarbons										
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cumulative ILCR	6E-08	--	4E-06	1E-06	5E-06	8E-08	--	6E-06	2E-06	8E-06

Notes:^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.**Abbreviations:**

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.3g
Baseline Scenario ILCRs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Total Cancer Risk
Inorganics						
Arsenic	8.0E-11	NV	8.0E-11	1.2E-10	NV	1.2E-10
Barium	NC	NC	--	NC	NC	--
Lead	na	na	na	na	na	na
Manganese	NC	NC	--	NC	NC	--
Zinc	NC	NC	--	NC	NC	--
Semi-Volatile Organic Compounds						
4-Methylphenol	ND	NC	--	NC	NC	--
bis (2-ethylhexyl) phthalate	ND	NV	--	1.5E-15	NV	1.5E-15
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	ND	NC	--	ND	NC	--
Phenanthrene	ND	NC	--	NC	NC	--
Total Petroleum Hydrocarbons						
TPH as diesel	NC	NC	--	NC	NC	--
TPH as motor oil	NC	NC	--	NC	NC	--
Cumulative ILCR	8E-11	--	8E-11	1E-10	--	1E-10

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

NC = Not considered a carcinogen.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4a
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	3.4E-02	NV	9.3E-03	2.1E-02	6.4E-02	5.1E-02	NV	1.4E-02	3.2E-02	9.7E-02	4.4E-02	NV	1.2E-02	2.7E-02	8.4E-02	3.8E-02	NV	1.0E-02	2.4E-02	7.2E-02
Barium	2.1E-03	NV	9.6E-05	6.6E-04	2.9E-03	2.9E-03	NV	1.3E-04	9.0E-04	4.0E-03	2.6E-03	NV	1.2E-04	8.2E-04	3.6E-03	4.0E-03	NV	1.8E-04	1.2E-03	5.4E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	3.4E-01	NV	2.3E-03	1.6E-02	3.6E-01	3.4E-01	NV	2.3E-03	1.6E-02	3.6E-01	3.4E-01	NV	2.3E-03	1.6E-02	3.6E-01	3.4E-01	NV	2.3E-03	1.6E-02	3.6E-01
Zinc	1.9E-06	NV	1.4E-05	9.3E-05	1.1E-04	1.9E-06	NV	1.4E-05	9.6E-05	1.1E-04	1.9E-06	NV	1.4E-05	9.5E-05	1.1E-04	1.9E-06	NV	1.4E-05	9.4E-05	1.1E-04
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NV	ND	ND	--	1.3E-08	NV	1.4E-06	9.7E-07	2.4E-06	1.9E-08	NV	2.1E-06	1.4E-06	3.5E-06	1.5E-08	NV	1.7E-06	1.1E-06	2.8E-06
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	1.6E-07	NV	2.3E-06	1.6E-06	4.1E-06	3.3E-07	NV	4.8E-06	3.3E-06	8.5E-06	2.3E-07	NV	3.3E-06	2.3E-06	5.9E-06
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	8.6E-10	NV	9.4E-08	4.3E-08	1.4E-07	1.3E-09	NV	1.4E-07	6.3E-08	2.0E-07
Phenanthrene	ND	NV	ND	ND	--	3.6E-12	NV	3.9E-10	1.8E-10	5.7E-10	6.2E-12	NV	6.7E-10	3.1E-10	9.8E-10	4.6E-12	NV	5.0E-10	2.3E-10	7.4E-10
Total Petroleum Hydrocarbons																				
TPH as diesel	3.0E-06	2.6E-02	3.5E-04	2.4E-04	2.7E-02	7.7E-06	2.6E-02	9.1E-04	6.2E-04	2.8E-02	2.0E-05	2.6E-02	2.4E-03	1.6E-03	3.0E-02	1.3E-05	2.6E-02	1.5E-03	1.0E-03	2.9E-02
TPH as motor oil	3.2E-06	NV	2.3E-04	1.6E-04	4.0E-04	9.6E-06	NV	6.9E-04	4.7E-04	1.2E-03	2.5E-05	NV	1.8E-03	1.2E-03	3.1E-03	1.6E-05	NV	1.2E-03	8.1E-04	2.0E-03
Total Hazard Index	4E-01	3E-02	1E-02	4E-02	5E-01	4E-01	3E-02	2E-02	5E-02	5E-01	4E-01	3E-02	2E-02	5E-02	5E-01	4E-01	3E-02	2E-02	4E-02	5E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4b
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	8.5E-03	NV	4.0E-01	4.5E-01	8.6E-01	1.3E-02	NV	5.9E-01	6.8E-01	1.3E+00	1.1E-02	NV	5.2E-01	5.9E-01	1.1E+00	9.6E-03	NV	4.4E-01	5.1E-01	9.6E-01
Barium	5.3E-03	NV	4.8E-05	1.6E-04	5.5E-03	7.3E-03	NV	6.6E-05	2.3E-04	7.6E-03	6.6E-03	NV	6.0E-05	2.0E-04	6.9E-03	1.0E-02	NV	9.0E-05	3.1E-04	1.0E-02
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	8.5E-02	NV	1.2E-03	4.0E-03	9.0E-02	8.5E-02	NV	1.2E-03	4.0E-03	9.0E-02	8.5E-02	NV	1.2E-03	4.0E-03	9.0E-02	8.5E-02	NV	1.2E-03	4.0E-03	9.0E-02
Zinc	4.7E-07	NV	6.8E-06	2.3E-05	3.1E-05	4.8E-07	NV	7.0E-06	2.4E-05	3.1E-05	4.8E-07	NV	6.9E-06	2.4E-05	3.1E-05	4.8E-07	NV	6.9E-06	2.4E-05	3.1E-05
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NV	ND	ND	--	3.3E-09	NV	7.1E-07	2.4E-07	9.5E-07	4.8E-09	NV	1.0E-06	3.5E-07	1.4E-06	3.9E-09	NV	8.4E-07	2.9E-07	1.1E-06
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	4.0E-08	NV	5.9E-06	2.0E-06	7.9E-06	8.4E-08	NV	1.2E-05	4.1E-06	1.6E-05	5.8E-08	NV	8.4E-06	2.9E-06	1.1E-05
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	2.2E-10	NV	4.7E-08	1.1E-08	5.8E-08	3.2E-10	NV	6.9E-08	1.6E-08	8.5E-08
Phenanthrene	ND	NV	ND	ND	--	3.0E-11	NV	6.5E-09	1.5E-09	8.0E-09	5.2E-11	NV	1.1E-08	2.6E-09	1.4E-08	3.9E-11	NV	8.4E-09	1.9E-09	1.0E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	7.4E-07	1.2E-03	1.7E-04	5.9E-05	1.4E-03	1.9E-06	1.2E-03	4.5E-04	1.6E-04	1.8E-03	5.1E-06	1.2E-03	1.2E-03	4.1E-04	2.8E-03	3.2E-06	1.2E-03	7.5E-04	2.6E-04	2.2E-03
TPH as motor oil	8.1E-07	NV	1.2E-04	4.0E-05	1.6E-04	2.4E-06	NV	3.5E-04	1.2E-04	4.7E-04	6.3E-06	NV	9.1E-04	3.1E-04	1.2E-03	4.1E-06	NV	5.9E-04	2.0E-04	8.0E-04
Total Hazard Index	1E-01	1E-03	4E-01	5E-01	1E+00	1E-01	1E-03	6E-01	7E-01	1E+00	1E-01	1E-03	5E-01	6E-01	1E+00	1E-01	1E-03	4E-01	5E-01	1E+00

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4c
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Camper

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Camper (0 to 0.5 feet bgs) ^a					Adult Camper (0 to 0.5 feet bgs) ^a					Child Camper (0 to 3 feet bgs) ^a					Adult Camper (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	1.5E-05	NV	1.0E-01	1.2E+00	1.3E+00	1.5E-05	NV	1.4E-02	1.1E-01	1.2E-01	2.3E-05	NV	1.5E-01	1.8E+00	1.9E+00	2.3E-05	NV	2.1E-02	1.6E-01	1.9E-01
Barium	9.3E-06	NV	1.2E-05	4.2E-04	4.5E-04	9.3E-06	NV	1.7E-06	4.0E-05	5.1E-05	1.3E-05	NV	1.7E-05	5.8E-04	6.1E-04	1.3E-05	NV	2.3E-06	5.5E-05	7.0E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	1.5E-04	NV	3.0E-04	1.0E-02	1.1E-02	1.5E-04	NV	4.0E-05	9.6E-04	1.1E-03	1.5E-04	NV	3.0E-04	1.0E-02	1.1E-02	1.5E-04	NV	4.0E-05	9.6E-04	1.1E-03
Zinc	8.3E-10	NV	1.8E-06	6.0E-05	6.2E-05	8.3E-10	NV	2.4E-07	5.7E-06	5.9E-06	8.5E-10	NV	1.8E-06	6.2E-05	6.4E-05	8.5E-10	NV	2.4E-07	5.8E-06	6.0E-06
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.7E-12	NV	1.8E-07	6.3E-07	8.1E-07	5.7E-12	NV	2.5E-08	5.9E-08	8.3E-08
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	7.1E-11	NV	1.5E-06	5.2E-06	6.7E-06	7.1E-11	NV	2.0E-07	4.8E-07	6.9E-07
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Phenanthrene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	5.3E-14	NV	1.7E-09	3.8E-09	5.5E-09	5.3E-14	NV	2.3E-10	3.6E-10	5.9E-10
Total Petroleum Hydrocarbons																				
TPH as diesel	1.3E-09	3.1E-03	4.4E-05	1.5E-04	3.3E-03	1.3E-09	3.1E-03	6.1E-06	1.4E-05	3.1E-03	3.4E-09	3.1E-03	1.2E-04	4.0E-04	3.6E-03	3.4E-09	3.1E-03	1.6E-05	3.8E-05	3.2E-03
TPH as motor oil	1.4E-09	NV	3.0E-05	1.0E-04	1.3E-04	1.4E-09	NV	4.1E-06	9.7E-06	1.4E-05	4.2E-09	NV	8.9E-05	3.1E-04	3.9E-04	4.2E-09	NV	1.2E-05	2.9E-05	4.1E-05
Total Hazard Index	2E-04	3E-03	1E-01	1E+00	1E+00	2E-04	3E-03	1E-02	1E-01	1E-01	2E-04	3E-03	2E-01	2E+00	2E+00	2E-04	3E-03	2E-02	2E-01	2E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4d
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hiker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Hiker (0 to 0.5 feet bgs) ^a					Adult Hiker (0 to 0.5 feet bgs) ^a					Child Hiker (0 to 3 feet bgs) ^a					Adult Hiker (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	3.0E-05	NV	2.0E-01	2.3E+00	2.5E+00	3.0E-05	NV	2.8E-02	2.2E-01	2.5E-01	4.5E-05	NV	3.1E-01	3.5E+00	3.8E+00	4.5E-05	NV	4.2E-02	3.3E-01	3.7E-01
Barium	1.9E-05	NV	2.5E-05	8.5E-04	8.9E-04	1.9E-05	NV	3.4E-06	7.9E-05	1.0E-04	2.6E-05	NV	3.4E-05	1.2E-03	1.2E-03	2.6E-05	NV	4.6E-06	1.1E-04	1.4E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	3.0E-04	NV	5.9E-04	2.0E-02	2.1E-02	3.0E-04	NV	8.1E-05	1.9E-03	2.3E-03	3.0E-04	NV	5.9E-04	2.0E-02	2.1E-02	3.0E-04	NV	8.1E-05	1.9E-03	2.3E-03
Zinc	1.7E-09	NV	3.5E-06	1.2E-04	1.2E-04	1.7E-09	NV	4.8E-07	1.1E-05	1.2E-05	1.7E-09	NV	3.6E-06	1.2E-04	1.3E-04	1.7E-09	NV	4.9E-07	1.2E-05	1.2E-05
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.1E-11	NV	3.6E-07	1.3E-06	1.6E-06	1.1E-11	NV	5.0E-08	1.2E-07	1.7E-07
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.4E-10	NV	3.0E-06	1.0E-05	1.3E-05	1.4E-10	NV	4.1E-07	9.7E-07	1.4E-06
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Phenanthrene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.1E-13	NV	3.3E-09	7.7E-09	1.1E-08	1.1E-13	NV	4.6E-10	7.2E-10	1.2E-09
Total Petroleum Hydrocarbons																				
TPH as diesel	2.6E-09	6.2E-03	8.9E-05	3.1E-04	6.6E-03	2.6E-09	6.2E-03	1.2E-05	2.9E-05	6.2E-03	6.8E-09	6.2E-03	2.3E-04	8.0E-04	7.2E-03	6.8E-09	6.2E-03	3.2E-05	7.5E-05	6.3E-03
TPH as motor oil	2.8E-09	NV	6.0E-05	2.1E-04	2.7E-04	2.8E-09	NV	8.2E-06	1.9E-05	2.8E-05	8.4E-09	NV	1.8E-04	6.1E-04	7.9E-04	8.4E-09	NV	2.4E-05	5.7E-05	8.2E-05
Total Hazard Index	3E-04	6E-03	2E-01	2E+00	3E+00	3E-04	6E-03	3E-02	2E-01	3E-01	4E-04	6E-03	3E-01	4E+00	4E+00	4E-04	6E-03	4E-02	3E-01	4E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4e
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Hunter

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Hunter (0 to 0.5 feet bgs) ^a					Adult Hunter (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics										
Arsenic	1.5E-05	NV	1.4E-02	1.1E-01	1.2E-01	2.3E-05	NV	2.1E-02	1.6E-01	1.9E-01
Barium	9.3E-06	NV	1.7E-06	4.0E-05	5.1E-05	1.3E-05	NV	2.3E-06	5.5E-05	7.0E-05
Lead	na	na	na	na	na	na	na	na	na	na
Manganese	1.5E-04	NV	4.0E-05	9.6E-04	1.1E-03	1.5E-04	NV	4.0E-05	9.6E-04	1.1E-03
Zinc	8.3E-10	NV	2.4E-07	5.7E-06	5.9E-06	8.5E-10	NV	2.4E-07	5.8E-06	6.0E-06
Semi-Volatile Organic Compounds										
4-Methylphenol	ND	NV	ND	ND	--	5.7E-12	NV	2.5E-08	5.9E-08	8.3E-08
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	7.1E-11	NV	2.0E-07	4.8E-07	6.9E-07
Polycyclic Aromatic Hydrocarbons										
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Phenanthrene	ND	NV	ND	ND	--	5.3E-14	NV	2.3E-10	3.6E-10	5.9E-10
Total Petroleum Hydrocarbons										
TPH as diesel	1.3E-09	3.1E-03	6.1E-06	1.4E-05	3.1E-03	3.4E-09	3.1E-03	1.6E-05	3.8E-05	3.2E-03
TPH as motor oil	1.4E-09	NV	4.1E-06	9.7E-06	1.4E-05	4.2E-09	NV	1.2E-05	2.9E-05	4.1E-05
Total Hazard Index	2E-04	3E-03	1E-02	1E-01	1E-01	2E-04	3E-03	2E-02	2E-01	2E-01

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4f
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Recreational User - Off-Highway Vehicle Rider

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child OHV Rider (0 to 0.5 feet bgs) ^a					Adult OHV Rider (0 to 0.5 feet bgs) ^a					Child OHV Rider (0 to 3 feet bgs) ^a					Adult OHV Rider (0 to 3 feet bgs) ^a				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Arsenic	3.0E-03	NV	3.7E-01	1.6E-01	5.4E-01	3.0E-03	NV	3.2E-01	6.8E-02	3.9E-01	4.5E-03	NV	5.5E-01	2.5E-01	8.1E-01	4.5E-03	NV	4.8E-01	1.0E-01	5.8E-01
Barium	1.9E-03	NV	4.5E-05	6.0E-05	2.0E-03	1.9E-03	NV	3.8E-05	2.5E-05	1.9E-03	2.6E-03	NV	6.2E-05	8.2E-05	2.7E-03	2.6E-03	NV	5.3E-05	3.4E-05	2.7E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Manganese	3.0E-02	NV	1.1E-03	1.4E-03	3.3E-02	3.0E-02	NV	9.3E-04	5.9E-04	3.2E-02	3.0E-02	NV	1.1E-03	1.4E-03	3.3E-02	3.0E-02	NV	9.3E-04	5.9E-04	3.2E-02
Zinc	1.7E-07	NV	6.4E-06	8.5E-06	1.5E-05	1.7E-07	NV	5.5E-06	3.5E-06	9.1E-06	1.7E-07	NV	6.5E-06	8.7E-06	1.5E-05	1.7E-07	NV	5.6E-06	3.6E-06	9.4E-06
Semi-Volatile Organic Compounds																				
4-Methylphenol	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.2E-09	NV	6.6E-07	8.8E-08	7.5E-07	1.2E-09	NV	5.7E-07	3.6E-08	6.0E-07
bis (2-ethylhexyl) phthalate	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.4E-08	NV	5.5E-06	7.3E-07	6.2E-06	1.4E-08	NV	4.7E-06	3.0E-07	5.0E-06
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--	ND	NV	ND	ND	--
Phenanthrene	ND	NV	ND	ND	--	ND	NV	ND	ND	--	1.1E-11	NV	6.1E-09	5.4E-10	6.6E-09	1.1E-11	NV	5.2E-09	2.2E-10	5.5E-09
Total Petroleum Hydrocarbons																				
TPH as diesel	2.6E-07	3.9E-04	1.6E-04	2.2E-05	5.7E-04	2.6E-07	3.9E-04	1.4E-04	8.9E-06	5.4E-04	6.8E-07	3.9E-04	4.2E-04	5.7E-05	8.7E-04	6.8E-07	3.9E-04	3.6E-04	2.3E-05	7.8E-04
TPH as motor oil	2.9E-07	NV	1.1E-04	1.5E-05	1.2E-04	2.9E-07	NV	9.3E-05	6.0E-06	1.0E-04	8.5E-07	NV	3.2E-04	4.3E-05	3.7E-04	8.5E-07	NV	2.8E-04	1.8E-05	3.0E-04
Total Hazard Index	4E-02	4E-04	4E-01	2E-01	6E-01	4E-02	4E-04	3E-01	7E-02	4E-01	4E-02	4E-04	6E-01	2E-01	8E-01	4E-02	4E-04	5E-01	1E-01	6E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
ND = Not detected.
NV = Not volatile.
TPH = Total Petroleum Hydrocarbons.

Table UA2-B.4g
Baseline Scenario HIs for COPCs in UA-2 Soil Using Depth-Weighted EPCs: Tribal User

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Tribal User (0 to 0.5 feet bgs) ^a			Tribal User (0 to 3 feet bgs) ^a		
	Soil Pathway			Soil Pathway		
	Particulate Inhalation	Vapor Inhalation	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Total Hazard Index
Inorganics						
Arsenic	1.9E-06	NV	1.9E-06	2.8E-06	NV	2.8E-06
Barium	1.2E-06	NV	1.2E-06	1.6E-06	NV	1.6E-06
Lead	na	na	na	na	na	na
Manganese	1.9E-05	NV	1.9E-05	1.9E-05	NV	1.9E-05
Zinc	1.0E-10	NV	1.0E-10	1.1E-10	NV	1.1E-10
Semi-Volatile Organic Compounds						
4-Methylphenol	ND	NV	--	7.2E-13	NV	7.2E-13
bis (2-ethylhexyl) phthalate	ND	NV	--	8.9E-12	NV	8.9E-12
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	ND	NV	--	ND	NV	--
Phenanthrene	ND	NV	--	6.6E-15	NV	6.6E-15
Total Petroleum Hydrocarbons						
TPH as diesel	1.6E-10	2.6E-04	2.6E-04	4.3E-10	2.6E-04	2.6E-04
TPH as motor oil	1.8E-10	NV	1.8E-10	5.3E-10	NV	5.3E-10
Total Hazard Index	2E-05	3E-04	3E-04	2E-05	3E-04	3E-04

Notes:

^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is not complete for the tribal user. Please see text for discussion.

ND = Not detected.

NV = Not volatile.

TPH = Total Petroleum Hydrocarbons.

Table UA2-B.5a

Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	13	6.1	5.7	4.7
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.007	0.003	0.003	0.002
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.01	0.01	0.00
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table UA2-B.5b

Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	13	6.1	5.7	4.7
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.002	0.001	0.001	0.001
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.00	0.00	0.00	0.00
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table UA2-B.5c

Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	13
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.003	0.006	0.01	0.01	0.01	2159
BLOOD Pb, PICA CHILD	0.007	0.01	0.01	0.02	0.02	1084

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	2.7E-05	1%		2.7E-05	0.4%
Soil Ingestion	2.5E-4	3.3E-03	99%	5.0E-4	6.5E-03	100%
Inhalation	7.0E-8	9.1E-07	0.03%		9.1E-07	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table UA2-B.5d

Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Camper)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	6.1
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.25
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.002	0.003	0.00	0.00	0.00	2159
BLOOD Pb, PICA CHILD	0.003	0.01	0.01	0.01	0.01	1084

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	2.1E-6	1.3E-05	1%		1.3E-05	0.4%
Soil Ingestion	2.5E-4	1.5E-03	99%	5.0E-4	3.1E-03	100%
Inhalation	7.0E-8	4.3E-07	0.03%		4.3E-07	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 1 day per month (1 day/4 weeks = 0.25 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table UA2-B.5e

Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	13
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.007	0.012	0.01	0.02	0.02	1079
BLOOD Pb, PICA CHILD	0.013	0.02	0.03	0.03	0.04	542

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	5.4E-05	1%		5.4E-05	0.4%
Soil Ingestion	5.0E-4	6.5E-03	99%	1.0E-3	1.3E-02	100%
Inhalation	1.4E-7	1.8E-06	0.03%		1.8E-06	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table UA2-B.5f

Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Hiker)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	6.1
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.003	0.006	0.01	0.01	0.01	1079
BLOOD Pb, PICA CHILD	0.006	0.01	0.01	0.02	0.02	542

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	4.1E-6	2.5E-05	1%		2.5E-05	0.4%
Soil Ingestion	5.0E-4	3.1E-03	99%	1.0E-3	6.2E-03	100%
Inhalation	1.4E-7	8.6E-07	0.03%		8.6E-07	0.01%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month (2 days/4 weeks = 0.5 days/week), 8 months per year. See Table 5.1 of the main report for details.

Table UA2-B.5g

Baseline Scenario Risk Evaluation for Lead in UA-2 Soil Using Depth-Weighted EPCs: Recreational User (Hunter)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	13	6.1
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4
GSD _i	Geometric standard deviation PbB	--	1.8	1.8
PbB ₀	Baseline PbB	ug/dL	0.0	0.0
IR _s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.05	0.05
AF _{s, d}	Absorption fraction (same for soil and dust)	--	0.12	0.12
EF _{s, d}	Exposure frequency (same for soil and dust)	days/yr	8	8
AT _{s, d}	Averaging time (same for soil and dust)	days/yr	365	365
PbB _{adult}	PbB of adult worker, geometric mean	ug/dL	0.001	0.0003
PbB _{fetal, 0.90}	90th percentile PbB among fetuses of adult workers	ug/dL	0.001	0.001
PbB _t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0
$P(\text{PbB}_{\text{fetal}} > \text{PbB}_t)$	Probability that fetal PbB > PbB _t , assuming lognormal distribution	%	0%	0%

PRG90

9942

Notes:

Highlighted values are site-specific: soil ingestion rate of 50 mg/day is the default incidental soil ingestion rate evaluation of exposure to lead in soil (USEPA 2003). Exposure frequency (8 days/year) based on the assumption of 8 days per month, 1 month per year as shown in Table 5.1 of the main report.

References:

USEPA. 2003. Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. EPA-540-R-03-001. January.

Table UA2-B.5h

Baseline Scenario Risk Evaluation for Lead in UA-2 Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	13
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.002	0.004	0.00	0.01	0.01	3180
BLOOD Pb, PICA CHILD	0.013	0.02	0.03	0.03	0.04	535

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	2.2E-04	10%		2.2E-04	1.6%
Soil Ingestion	1.6E-4	2.0E-03	90%	1.0E-3	1.3E-02	98%
Inhalation	8.7E-9	1.1E-07	0.01%		1.1E-07	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

Table UA2-B.5i

Baseline Scenario Risk Evaluation for Lead in UA-2 Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Recreational User (Off-Highway Vehicle Rider)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	6.1
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	0.5
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	800
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	31
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	0.425
Inhalation constant	(ug/dl)/(ug/day)	0.192

OUTPUT						
Percentile Estimate of Blood Pb (ug/dl)						PRG-90
	50th	90th	95th	98th	99th	(ug/g)
BLOOD Pb, CHILD	0.001	0.002	0.00	0.00	0.00	3180
BLOOD Pb, PICA CHILD	0.006	0.01	0.01	0.02	0.02	535

PATHWAYS						
CHILDREN Pathway	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	1.7E-5	1.0E-04	10%		1.0E-04	1.6%
Soil Ingestion	1.6E-4	9.5E-04	90%	1.0E-3	6.2E-03	98%
Inhalation	8.7E-9	5.4E-08	0.01%		5.4E-08	0.00%

Notes:

Highlighted values are Site-specific: days per week based on the assumption of 2 days per month, 8 months per year. Soil ingestion rate of 330 mg/day is modified by exposure time (1.5 hours riding at site per 16 awake hours, or 0.09). Default inhalation breathing rate of 6.8 m³/day is modified to account for exposure time (i.e., 1.5 hours riding at site per 24 hours, or 0.06) . See Table 5.1 of the main report for details.

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at UA-2 Using
Depth-Weighted EPCs



Attachment UA2-C**Dose and Risk Calculations for Ecological Receptors at UA-2 Using Depth-Weighted EPCs**

Table UA2-C.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for UA-2
Table UA2-C.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for UA-2
Table UA2-C.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for UA-2
Table UA2-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for UA-2
Table UA2-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for UA-2
Table UA2-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table UA2-C.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for UA-2

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Arsenic	2.10E+01	18	1E+00	1.40E+01	60	2E-01
Barium	4.00E+02	500	8E-01	2.90E+02	330	9E-01
Lead	1.30E+01	120	1E-01	1.30E+01	1700	8E-03
Manganese	8.40E+02	220	4E+00	8.40E+02	450	2E+00
Zinc	6.35E+01	160	4E-01	6.20E+01	120	5E-01
Semi-Volatile Organic Compounds						
4-Methylphenol	3.13E-01	10	3E-02	ND	0.08	ND
Bis (2-ethylhexyl) phthalate	7.33E-01	200	4E-03	ND	200	ND

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

COPEC = constituent of potential ecological concern
 EPC = exposure point concentration
 HQ = hazard quotient
 mg/kg = milligrams per kilogram
 ND = not detected in the applicable depth interval
 UA-2 = Undesignated Area-2

Table UA2-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario Using
Depth-Weighted Exposure Point Concentrations (SUF = 1,
Selected TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Arsenic	Gambel's Quail	1.4E+01	m	100% Plants	1.0E-01	7.9E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Barium	Gambel's Quail	2.9E+02	m	100% Plants	1.0E-01	6.2E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.3E+01	m	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	8.4E+02	m	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	4.8E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Arsenic	Cactus Wren	1.4E+01	m	100% Insects	9.3E-02	1.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Barium	Cactus Wren	2.9E+02	m	100% Insects	9.3E-02	2.6E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.3E+01	m	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	8.4E+02	m	100% Insects	9.3E-02	4.4E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Bis (2-ethylhexyl) phthalate	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Arsenic	Desert Shrew	1.4E+01	m	100% Insects	2.0E-02	1.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Barium	Desert Shrew	2.9E+02	m	100% Insects	2.0E-02	2.6E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+01	m	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	8.4E+02	m	100% Insects	2.0E-02	4.4E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Arsenic	Merriam's Kangaroo Rat	2.1E+01	m	100% Plants	2.4E-02	7.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Barium	Merriam's Kangaroo Rat	4.0E+02	m	100% Plants	2.4E-02	6.2E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+01	m	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	8.4E+02	m	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.4E+01	m	100% Plants	2.4E-02	4.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	3.1E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	7.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table UA2-C.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario Using
Depth-Weighted Exposure Point Concentrations (SUF = 1,
Selected TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	3.0E-02	--	--	5.6E-02	8.6E-02	2.2E+00	3.6E+00	4E-02	2E-02
Barium	Gambel's Quail	2.4E+00	--	--	1.2E+00	3.5E+00	--	--	--	--
Lead	Gambel's Quail	4.3E-02	--	--	5.2E-02	9.5E-02	1.6E+00	3.3E+00	6E-02	3E-02
Manganese	Gambel's Quail	2.5E+00	--	--	3.3E+00	5.9E+00	1.8E+02	3.8E+02	3E-02	2E-02
Zinc	Gambel's Quail	1.8E+00	--	--	2.5E-01	2.1E+00	6.6E+01	1.7E+02	3E-02	1E-02
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	1.1E+00	1.1E+01	--	--
Inorganics										
Arsenic	Cactus Wren	--	2.9E-01	--	2.4E-01	5.2E-01	2.2E+00	3.6E+00	2E-01	1E-01
Barium	Cactus Wren	--	4.8E+00	--	4.9E+00	9.8E+00	--	--	--	--
Lead	Cactus Wren	--	1.2E+00	--	2.2E-01	1.4E+00	1.6E+00	3.3E+00	9E-01	4E-01
Manganese	Cactus Wren	--	8.1E+00	--	1.4E+01	2.2E+01	1.8E+02	3.8E+02	1E-01	6E-02
Zinc	Cactus Wren	--	6.1E+01	--	1.1E+00	6.2E+01	6.6E+01	1.7E+02	9E-01	4E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	--	--	--	0.0E+00	1.1E+00	1.1E+01	--	--
Inorganics										
Arsenic	Desert Shrew	--	3.2E-01	--	5.7E-02	3.7E-01	1.5E+00	2.4E+00	2E-01	2E-01
Barium	Desert Shrew	--	5.4E+00	--	1.2E+00	6.5E+00	5.2E+01	8.3E+01	1E-01	8E-02
Lead	Desert Shrew	--	1.3E+00	--	5.3E-02	1.3E+00	4.7E+00	8.9E+00	3E-01	2E-01
Manganese	Desert Shrew	--	8.9E+00	--	3.4E+00	1.2E+01	5.2E+01	1.5E+02	2E-01	8E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	7.5E+01	3.0E+02	9E-01	2E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	--	--	--	0.0E+00	1.8E+01	1.8E+02	--	--
Inorganics										
Arsenic	Merriam's Kangaroo Rat	6.5E-02	--	--	4.1E-02	1.1E-01	1.5E+00	2.3E+00	7E-02	5E-02
Barium	Merriam's Kangaroo Rat	5.1E+00	--	--	7.9E-01	5.9E+00	5.2E+01	8.3E+01	1E-01	7E-02
Lead	Merriam's Kangaroo Rat	9.2E-02	--	--	2.6E-02	1.2E-01	4.7E+00	8.9E+00	3E-02	1E-02
Manganese	Merriam's Kangaroo Rat	5.5E+00	--	--	1.7E+00	7.1E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Merriam's Kangaroo Rat	4.0E+00	--	--	1.3E-01	4.1E+00	7.5E+01	3.0E+02	5E-02	1E-02
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	6.2E-04	6.2E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.4E-03	1.4E-03	1.8E+01	1.8E+02	8E-05	8E-06

Notes:
See Notes and Abbreviations following UA2-C.5

Table UA2-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario Using
Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG
TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Arsenic	Gambel's Quail	1.4E+01	m	100% Plants	1.0E-01	7.9E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.3E+01	m	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	8.4E+02	m	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	4.8E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics										
Arsenic	Cactus Wren	1.4E+01	m	100% Insects	9.3E-02	1.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.3E+01	m	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	8.4E+02	m	100% Insects	9.3E-02	4.4E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics										
Arsenic	Desert Shrew	1.4E+01	m	100% Insects	2.0E-02	1.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.3E+01	m	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	8.4E+02	m	100% Insects	2.0E-02	4.4E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics										
Arsenic	Merriam's Kangaroo Rat	2.1E+01	m	100% Plants	2.4E-02	7.9E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.3E+01	m	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	8.4E+02	m	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.4E+01	m	100% Plants	2.4E-02	4.8E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table UA2-C.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario Using
Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG
TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	3.0E-02	--	--	5.6E-02	8.6E-02	5.5E+00	2.2E+01	2E-02	4E-03
Lead	Gambel's Quail	4.3E-02	--	--	5.2E-02	9.5E-02	1.4E-02	8.8E+00	7E+00	1E-02
Manganese	Gambel's Quail	2.5E+00	--	--	3.3E+00	5.9E+00	7.8E+01	7.8E+02	8E-02	8E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.5E-01	2.1E+00	1.7E+01	1.7E+02	1E-01	1E-02
Inorganics									--	--
Arsenic	Cactus Wren	--	2.9E-01	--	2.4E-01	5.2E-01	5.5E+00	2.2E+01	1E-01	2E-02
Lead	Cactus Wren	--	1.2E+00	--	2.2E-01	1.4E+00	1.4E-02	8.8E+00	1E+02	2E-01
Manganese	Cactus Wren	--	8.1E+00	--	1.4E+01	2.2E+01	7.8E+01	7.8E+02	3E-01	3E-02
Zinc	Cactus Wren	--	6.1E+01	--	1.1E+00	6.2E+01	1.7E+01	1.7E+02	4E+00	4E-01
Inorganics									--	--
Arsenic	Desert Shrew	--	3.2E-01	--	5.7E-02	3.7E-01	3.2E-01	4.7E+00	1E+00	8E-02
Lead	Desert Shrew	--	1.3E+00	--	5.3E-02	1.3E+00	1.0E+00	2.4E+02	1E+00	6E-03
Manganese	Desert Shrew	--	8.9E+00	--	3.4E+00	1.2E+01	1.4E+01	1.6E+02	9E-01	8E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	9.6E+00	4.1E+02	7E+00	2E-01
Inorganics									--	--
Arsenic	Merriam's Kangaroo Rat	6.5E-02	--	--	4.1E-02	1.1E-01	3.2E-01	4.7E+00	3E-01	2E-02
Lead	Merriam's Kangaroo Rat	9.2E-02	--	--	2.6E-02	1.2E-01	1.0E+00	2.4E+02	1E-01	5E-04
Manganese	Merriam's Kangaroo Rat	5.5E+00	--	--	1.7E+00	7.1E+00	1.4E+01	1.6E+02	5E-01	4E-02
Zinc	Merriam's Kangaroo Rat	4.0E+00	--	--	1.3E-01	4.1E+00	9.6E+00	4.1E+02	4E-01	1E-02

Notes:
See Notes and Abbreviations following Table UA2-C.5

Table UA2-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Arsenic	Gambel's Quail	1.4E+01	m	100% Plants	1.0E-01	7.9E-01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Barium	Gambel's Quail	2.9E+02	m	100% Plants	1.0E-01	6.2E+01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Lead	Gambel's Quail	1.3E+01	m	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Manganese	Gambel's Quail	8.4E+02	m	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Zinc	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	4.8E+01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Semi-Volatile Organic Compounds										
4-Methylphenol	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Bis (2-ethylhexyl) phthalate	Gambel's Quail	ND	nd	100% Plants	1.0E-01	0.0E+00	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Inorganics										
Arsenic	Cactus Wren	1.4E+01	m	100% Insects	9.3E-02	1.6E+00	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Barium	Cactus Wren	2.9E+02	m	100% Insects	9.3E-02	2.6E+01	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Lead	Cactus Wren	1.3E+01	m	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Manganese	Cactus Wren	8.4E+02	m	100% Insects	9.3E-02	4.4E+01	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Zinc	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Semi-Volatile Organic Compounds										
4-Methylphenol	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Bis (2-ethylhexyl) phthalate	Cactus Wren	ND	nd	100% Insects	9.3E-02	--	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Inorganics										
Arsenic	Desert Shrew	1.4E+01	m	100% Insects	2.0E-02	1.6E+00	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Barium	Desert Shrew	2.9E+02	m	100% Insects	2.0E-02	2.6E+01	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Lead	Desert Shrew	1.3E+01	m	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Manganese	Desert Shrew	8.4E+02	m	100% Insects	2.0E-02	4.4E+01	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Zinc	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Bis (2-ethylhexyl) phthalate	Desert Shrew	ND	nd	100% Insects	2.0E-02	--	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	2.1E+01	m	100% Plants	2.4E-02	7.9E-01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Barium	Merriam's Kangaroo Rat	4.0E+02	m	100% Plants	2.4E-02	6.2E+01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Lead	Merriam's Kangaroo Rat	1.3E+01	m	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Manganese	Merriam's Kangaroo Rat	8.4E+02	m	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Zinc	Merriam's Kangaroo Rat	6.4E+01	m	100% Plants	2.4E-02	4.8E+01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Semi-Volatile Organic Compounds										
4-Methylphenol	Merriam's Kangaroo Rat	3.1E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	7.3E-01	m	100% Plants	2.4E-02	0.0E+00	3.4E-02	8.2E-02	2.0E-03	7.4E-01

Table UA2-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	3.0E-02	--	--	5.6E-02	2.3E-04	2.2E+00	3.6E+00	1E-04	6E-05
Barium	Gambel's Quail	2.4E+00	--	--	1.2E+00	9.5E-03	--	--	--	--
Lead	Gambel's Quail	4.3E-02	--	--	5.2E-02	2.5E-04	1.6E+00	3.3E+00	2E-04	8E-05
Manganese	Gambel's Quail	2.5E+00	--	--	3.3E+00	1.6E-02	1.8E+02	3.8E+02	9E-05	4E-05
Zinc	Gambel's Quail	1.8E+00	--	--	2.5E-01	5.6E-03	6.6E+01	1.7E+02	8E-05	3E-05
Semi-Volatile Organic Compounds									--	--
4-Methylphenol	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Gambel's Quail	0.0E+00	--	--	--	0.0E+00	1.1E+00	1.1E+01	--	--
Inorganics									--	--
Arsenic	Cactus Wren	--	2.9E-01	--	2.4E-01	1.0E-02	2.2E+00	3.6E+00	5E-03	3E-03
Barium	Cactus Wren	--	4.8E+00	--	4.9E+00	2.0E-01	--	--	--	--
Lead	Cactus Wren	--	1.2E+00	--	2.2E-01	2.8E-02	1.6E+00	3.3E+00	2E-02	8E-03
Manganese	Cactus Wren	--	8.1E+00	--	1.4E+01	4.5E-01	1.8E+02	3.8E+02	2E-03	1E-03
Zinc	Cactus Wren	--	6.1E+01	--	1.1E+00	1.2E+00	6.6E+01	1.7E+02	2E-02	7E-03
Semi-Volatile Organic Compounds									--	--
4-Methylphenol	Cactus Wren	--	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Cactus Wren	--	--	--	--	0.0E+00	1.1E+00	1.1E+01	--	--
Inorganics									--	--
Arsenic	Desert Shrew	--	3.2E-01	--	5.7E-02	3.6E-01	1.5E+00	2.4E+00	2E-01	1E-01
Barium	Desert Shrew	--	5.4E+00	--	1.2E+00	6.3E+00	5.2E+01	8.3E+01	1E-01	8E-02
Lead	Desert Shrew	--	1.3E+00	--	5.3E-02	1.3E+00	4.7E+00	8.9E+00	3E-01	1E-01
Manganese	Desert Shrew	--	8.9E+00	--	3.4E+00	1.2E+01	5.2E+01	1.5E+02	2E-01	8E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.5E+01	7.5E+01	3.0E+02	9E-01	2E-01
Semi-Volatile Organic Compounds									--	--
4-Methylphenol	Desert Shrew	--	--	--	--	0.0E+00	--	--	--	--
Bis (2-ethylhexyl) phthalate	Desert Shrew	--	--	--	--	0.0E+00	1.8E+01	1.8E+02	--	--
Inorganics									--	--
Arsenic	Merriam's Kangaroo Rat	6.5E-02	--	--	4.1E-02	7.8E-02	1.5E+00	2.3E+00	5E-02	3E-02
Barium	Merriam's Kangaroo Rat	5.1E+00	--	--	7.9E-01	4.4E+00	5.2E+01	8.3E+01	8E-02	5E-02
Lead	Merriam's Kangaroo Rat	9.2E-02	--	--	2.6E-02	8.7E-02	4.7E+00	8.9E+00	2E-02	1E-02
Manganese	Merriam's Kangaroo Rat	5.5E+00	--	--	1.7E+00	5.2E+00	5.2E+01	1.5E+02	1E-01	4E-02
Zinc	Merriam's Kangaroo Rat	4.0E+00	--	--	1.3E-01	3.0E+00	7.5E+01	3.0E+02	4E-02	1E-02
Semi-Volatile Organic Compounds									--	--
4-Methylphenol	Merriam's Kangaroo Rat	0.0E+00	--	--	6.2E-04	4.5E-04	--	--	--	--
Bis (2-ethylhexyl) phthalate	Merriam's Kangaroo Rat	0.0E+00	--	--	1.4E-03	1.1E-03	1.8E+01	1.8E+02	6E-05	6E-06

Notes:
See Notes and Abbreviations following Table UA2-C.5

Table UA2-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)		Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
				Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics										
Arsenic	Gambel's Quail	1.4E+01	m	100% Plants	1.0E-01	7.9E-01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Lead	Gambel's Quail	1.3E+01	m	100% Plants	1.0E-01	1.1E+00	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Manganese	Gambel's Quail	8.4E+02	m	100% Plants	1.0E-01	6.6E+01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Zinc	Gambel's Quail	6.2E+01	m	100% Plants	1.0E-01	4.8E+01	1.7E-01	3.8E-02	4.0E-03	2.7E-03
Inorganics										
Arsenic	Cactus Wren	1.4E+01	m	100% Insects	9.3E-02	1.6E+00	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Lead	Cactus Wren	1.3E+01	m	100% Insects	9.3E-02	6.4E+00	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Manganese	Cactus Wren	8.4E+02	m	100% Insects	9.3E-02	4.4E+01	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Zinc	Cactus Wren	6.2E+01	m	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	2.0E-02
Inorganics										
Arsenic	Desert Shrew	1.4E+01	m	100% Insects	2.0E-02	1.6E+00	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Lead	Desert Shrew	1.3E+01	m	100% Insects	2.0E-02	6.4E+00	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Manganese	Desert Shrew	8.4E+02	m	100% Insects	2.0E-02	4.4E+01	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Zinc	Desert Shrew	6.2E+01	m	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	9.6E-01
Inorganics										
Arsenic	Merriam's Kangaroo Rat	2.1E+01	m	100% Plants	2.4E-02	7.9E-01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Lead	Merriam's Kangaroo Rat	1.3E+01	m	100% Plants	2.4E-02	1.1E+00	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Manganese	Merriam's Kangaroo Rat	8.4E+02	m	100% Plants	2.4E-02	6.6E+01	3.4E-02	8.2E-02	2.0E-03	7.4E-01
Zinc	Merriam's Kangaroo Rat	6.4E+01	m	100% Plants	2.4E-02	4.8E+01	3.4E-02	8.2E-02	2.0E-03	7.4E-01

Table UA2-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for UA-2

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Arsenic	Gambel's Quail	3.0E-02	--	--	5.6E-02	2.3E-04	5.5E+00	2.2E+01	4E-05	1E-05
Lead	Gambel's Quail	4.3E-02	--	--	5.2E-02	2.5E-04	1.4E-02	8.8E+00	2E-02	3E-05
Manganese	Gambel's Quail	2.5E+00	--	--	3.3E+00	1.6E-02	7.8E+01	7.8E+02	2E-04	2E-05
Zinc	Gambel's Quail	1.8E+00	--	--	2.5E-01	5.6E-03	1.7E+01	1.7E+02	3E-04	3E-05
Inorganics									--	--
Arsenic	Cactus Wren	--	2.9E-01	--	2.4E-01	1.0E-02	5.5E+00	2.2E+01	2E-03	5E-04
Lead	Cactus Wren	--	1.2E+00	--	2.2E-01	2.8E-02	1.4E-02	8.8E+00	2E+00	3E-03
Manganese	Cactus Wren	--	8.1E+00	--	1.4E+01	4.5E-01	7.8E+01	7.8E+02	6E-03	6E-04
Zinc	Cactus Wren	--	6.1E+01	--	1.1E+00	1.2E+00	1.7E+01	1.7E+02	7E-02	7E-03
Inorganics									--	--
Arsenic	Desert Shrew	--	3.2E-01	--	5.7E-02	3.6E-01	3.2E-01	4.7E+00	1E+00	8E-02
Lead	Desert Shrew	--	1.3E+00	--	5.3E-02	1.3E+00	1.0E+00	2.4E+02	1E+00	5E-03
Manganese	Desert Shrew	--	8.9E+00	--	3.4E+00	1.2E+01	1.4E+01	1.6E+02	9E-01	7E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.5E+01	9.6E+00	4.1E+02	7E+00	2E-01
Inorganics									--	--
Arsenic	Merriam's Kangaroo Rat	6.5E-02	--	--	4.1E-02	7.8E-02	3.2E-01	4.7E+00	2E-01	2E-02
Lead	Merriam's Kangaroo Rat	9.2E-02	--	--	2.6E-02	8.7E-02	1.0E+00	2.4E+02	9E-02	4E-04
Manganese	Merriam's Kangaroo Rat	5.5E+00	--	--	1.7E+00	5.2E+00	1.4E+01	1.6E+02	4E-01	3E-02
Zinc	Merriam's Kangaroo Rat	4.0E+00	--	--	1.3E-01	3.0E+00	9.6E+00	4.1E+02	3E-01	7E-03

Notes:
See Notes and Abbreviations following Table UA2-C.5

Table UA2-C Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment PG&E Topock Compressor Station Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

UA-2 = Undesignated Area-2

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Appendix TT

Soil HHERA for Tamarisk Thicket Exposure Area



Pacific Gas and Electric Company

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Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangles, creating a complex, angular form. A thin white line runs diagonally through the shape, and a thin white horizontal line intersects it near the bottom.

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FIGURE

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ATTACHMENTS

- A Dataset and Exposure Point Concentration Calculations for the Tamarisk Thicket ERA
- B Dose and Risk Calculations for Ecological Receptors at Tamarisk Thicket Using Depth-Weighted EPCs and Area-Weighted EPCs
- C Dose and Risk Calculations for Ecological Receptors at Tamarisk Thicket Using Maximum Depth-Weighted EPCs

ACRONYMS AND ABBREVIATIONS

AOC	area of concern
BCW	Bat Cave Wash
bgs	below ground surface
BTAG	Biological Technical Assistance Group
BTEX	benzene, toluene, ethylbenzene, and xylene
BTV	background threshold value
CH2M	CH2M Hill
CDFW	California Department of Fish and Wildlife
COPEC	constituent of potential ecological concern
DTSC	Department of Toxic Substances Control (California)
EPC	exposure point concentration
ERA	ecological risk assessment
FOD	frequency of detection
ft	foot/feet
GANDA	Garcia and Associates
HHERA	human health and ecological risk assessment
HMW	high molecular weight
HQ	hazard quotient
LOAEL	lowest-observed adverse effects level
LOE	line of evidence
LMW	low molecular weight
mg/kg	milligram per kilogram
ng/kg	nanogram per kilogram
NOAEL	no-observed adverse effects level
OCS	outside the compressor station
NORR	North of Railroad
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
RAWP	Human Health and Ecological Risk Assessment Work Plan

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RFI/RI	Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation
SUF	site use factor
TCDD	tetrachlorodibenzo-p-dioxin
TCS	Topock Compressor Station
T&E	threatened and endangered
TEQ	toxicity equivalent
TPH	total petroleum hydrocarbon
TT	Tamarisk Thicket
TRV	toxicity reference value
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
WOE	weight-of-evidence

1 INTRODUCTION

This appendix presents the ecological risk assessment (ERA) for the Tamarisk Thicket potential soil exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The ERA for this potential exposure area was requested by the California Department of Toxic Substances Control (DTSC) in its November 17, 2018 directive letter to the Pacific Gas and Electric Company (DTSC 2017). The Tamarisk Thicket potential exposure area (TT), shown on Figure TT-1.1, is approximately 5.1 acres in total and includes sample locations shown in Table TT-1.1 of this appendix. Available soil data from the Tamarisk Thicket potential exposure area were used to conduct a quantitative ERA as presented herein. A human health risk assessment was not conducted for the Tamarisk Thicket potential exposure area; however, this area was evaluated for potential risk to human receptors as part of the North of Railroad (NORR) potential exposure area (see Appendix NORR). The Tamarisk Thicket potential exposure area is also part of the Bat Cave Wash (BCW) potential exposure area, for which a separate human health and ecological risk assessment (HHERA) has been conducted (see Appendix BCW).

Descriptions of the physical location and characteristics of the Tamarisk Thicket potential exposure area and the ERA methodologies are provided in the Soil Human Health and Ecological Risk Assessment Report (the “main report”), and the final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report as well.

This appendix summarizes site use, data evaluation, potential receptors, exposure pathways and the results of the ERA risk characterization for soil in the Tamarisk Thicket potential exposure area. Tables and figures specific to the Tamarisk Thicket ERA are also presented in this appendix.

1.1 Summary of Site Use

The Tamarisk Thicket potential exposure area is a subarea of BCW as shown on Figure TT-1.1. The thick vegetation, widening of the channel near the end of BCW, and blockage of flow by National Trails Highway greatly reduces the energy of flow during runoff events, resulting in deposition of entrained soil within the vegetated area at the lower end of BCW. This area is heavily vegetated, predominately with salt cedar (also known as tamarisk), which is an invasive, exotic plant species. This heavily vegetated portion of BCW is a long-term depositional area that existed before the compressor station was built. Depositional history and patterns within this area are not known with certainty. As requested by the United States Department of the Interior grid-based sampling was conducted near the mouth of BCW in the Tamarisk Thicket exposure area to assess the potential for historical deposition (i.e., a sediment sink) of potentially contaminated fine-grained materials that may have been transported down BCW during rain events and may have received historical releases from the TCS.

Per the RAWP (Arcadis 2008), the potential for surface soil entrained in runoff to reach the Tamarisk Thicket potential exposure area (and eventually the river) was evaluated using a gradient analysis approach. This is described in detail in Section 2.5 of the main report. The gradient analysis indicates deposition of constituents within the Tamarisk Thicket potential exposure area is not occurring (i.e., concentrations in soil in the Tamarisk Thicket potential exposure area are similar to or less than those observed in the background soil from upland locations). Therefore, evaluating the Tamarisk Thicket potential exposure area as part of the

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larger area of concern (AOC) 1 potential exposure area is considered appropriate. However, per DTSC's request (DTSC 2017), the Tamarisk Thicket potential exposure area was evaluated separately for small home-range potential receptors.

2 DATA EVALUATION AND COPEC SELECTION

This section summarizes the data considered for the Tamarisk Thicket ERA and presents the constituents of potential ecological concern (COPECs) selected for the Tamarisk Thicket potential exposure area.

All soil sampling locations in the Tamarisk Thicket potential exposure area are presented on Figure TT-1.1 and in Table TT-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and analysis will be presented in the forthcoming Draft Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation (RFI/RI) Volume 3 (currently being prepared by Jacobs). Only soil data from 0 to 6 feet (ft) below ground surface (bgs) were included in the baseline scenario evaluated in this ERA. Because potential soil contact does not extend below 6 ft bgs for potential ecological receptors, deeper soil data (i.e., deeper than 6 ft bgs) were excluded from the risk evaluation for this potential exposure area, as noted in Table TT-1.1.

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative ERA. For the Tamarisk Thicket potential exposure area, all available soil data are presented in Attachment TT-A1. In addition to the soil data from the Tamarisk Thicket potential exposure area, samples classified as soils transitioning to sediment from two locations (AOC1-BCW6 and SS-1) were included as part of the Tamarisk Thicket potential exposure area soil evaluation (Figure TT-1.1). Sediment sampling data collected at the mouth of BCW along the bank of Colorado River were not evaluated as part of this ERA.

For the Tamarisk Thicket potential exposure area, soil data and soil transitioning to sediment data are available from 116 samples (Table TT-1.1), of which data from 54 samples collected from 0 to 6 ft bgs were considered for use in the ERA (i.e., data from 62 samples collected at depths greater than 6 ft bgs were excluded from this evaluation). Within this dataset, some polycyclic aromatic hydrocarbon (PAH) samples did not meet data quality criteria, and non-detected results were qualified as rejected with an “R” data qualifier (will be discussed the forthcoming Draft RFI/RI Volume 3 being (currently being prepared by Jacobs). This occurred for all PAHs in two samples (AOC1-BCW24-245 and AOC1-BCW26-253) and a subset of PAHs in two additional samples (AOC1-BCW24-244 and AOC1-BCW26-252). These “R” qualified PAH data were not included in the ERA for the Tamarisk Thicket potential exposure area.

Data processed for the ERA (e.g., calculation of total concentrations for low molecular weight [LMW] and high molecular weight [HMW] PAHs, polychlorinated biphenyls [PCBs], and dioxin/furan toxicity equivalents [TEQ]) are described in detail in Section 3 of the main report.

The process for identifying COPECs included in the ERA is detailed in Section 3.4 of the main report. COPECs were selected for the Tamarisk Thicket potential exposure area using soil data encompassing all relevant exposure depths for the ERA (i.e., 0 to 6 ft bgs for Tamarisk Thicket) as presented in Attachment TT-A1. Inorganics, LMW PAHs, HMW PAHs, and dioxin TEQ were above background levels in the Tamarisk Thicket potential exposure area soil (0 to 6 ft bgs) and therefore, are included as COPECs in the baseline exposure depths evaluated in the ERA. All other detected organic constituents in the Tamarisk Thicket potential exposure area soils in the baseline exposure depths are included as COPECs in the ERA. COPECs selected for exposure depths and scenarios evaluated in the ERA for the Tamarisk Thicket potential exposure area are summarized in Tables TT-2.1a through TT-2.1c for the depth intervals evaluated in the baseline evaluation. The selected COPECs are discussed further in Section 5.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPECs in soil at the Tamarisk Thicket potential exposure area were calculated as described in Section 4.2 of the main report. For the Tamarisk Thicket potential exposure area, one scenario was evaluated: baseline (no scouring).

The following exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment TT-A2. The summary statistics for these Tamarisk Thicket potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP, area-weighted EPCs are calculated for the ERA only if depth-weighted EPCs suggest potential risk to ecological receptors (i.e., hazard quotient [HQ] > 1 for any COPEC). For the Tamarisk Thicket exposure area, area-weighted EPCs were deemed necessary for the ERA and therefore, calculated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment TT-A3.

Soil summary statistics for constituents measured at the Tamarisk Thicket potential exposure area¹ and depth- and area-weighted EPCs for COPECs calculated using depth-weighted data from the exposure depths listed above for Tamarisk Thicket for the baseline scenario are presented in Table TT-3.1.

¹ The list of constituents shown in the Section 3 tables is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) and measured at the Tamarisk Thicket.

4 HUMAN HEALTH RISK ASSESSMENT

For the Tamarisk Thicket potential exposure area, a human health risk assessment was not conducted. As noted above, the Tamarisk Thicket potential exposure area is evaluated for human exposures as part of the BCW and NORR exposure areas. Risk estimates for potential human receptors exposed to soils in the Tamarisk Thicket potential exposure area can be found in Appendix BCW and Appendix NORR.

5 ECOLOGICAL RISK ASSESSMENT

This section briefly summarizes the ERA approach; presents the COPECs, EPCs, and dose and risk tables for the Tamarisk Thicket ERA; and characterizes potential risk to ecological receptors exposed to COPECs in soil at the Tamarisk Thicket potential exposure area. This potential exposure area was evaluated at the request of DTSC (2017) to due to its distinct habitat, which is characterized by dense vegetation unlikely most of the upland areas of the site. Details of the overall ERA approach are presented in Section 6 of the main report. Supporting tables for the Tamarisk Thicket ERA based on risk calculations conducted using depth-weighted and area-weighted EPCs are presented in Attachment TT-B and described below.

Per the RAWP documents (Arcadis 2008, 2009, 2015) and DTSC guidance (DTSC 1996), ecological risks were also calculated using maximum depth-weighted concentrations and presented in Attachment TT-C. Risks estimated using maximum depth-weighted concentrations are considered overly conservative and generally used for screening level purposes. Use of maximum concentrations are not recommended for making risk management decisions for the Tamarisk Thicket potential exposure area, where the area has been adequately characterized and data are available to estimated upper confidence limits (UCLs). Therefore, the risk results based on maximum depth-weighted concentrations are presented (Attachment TT-C) but are not discussed in this section.

5.1 Ecological Conceptual Site Model

Following the steps outlined in Section 6.6 and Figures 2-7 and 6-1 of the main report, risks were estimated for potentially complete and significant exposure pathways identified for potential receptors exposed to COPECs in soil in the Tamarisk Thicket potential exposure area. These potential receptors included plants, invertebrates, and small home-range receptors:

- **Plants** may be exposed to COPECs via root uptake from surface, shallow, and/or subsurface I soil, depending on the root depth of plants of concern.
- **Soil Invertebrates** may be exposed to COPECs via direct contact/uptake from surface soils.
- **Mammals** may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil (for burrowing animals) and/or ingestion of biota tissue (i.e., food items). The small home-range mammalian indicator receptors evaluated in this ERA for the Tamarisk Thicket potential exposure area included:
 - Merriam's Kangaroo Rat – representative of granivorous small mammal populations, exposed to surface, shallow and/or subsurface I soil (incidental and through biota uptake)
 - Desert Shrew – representative of invertivorous small mammal populations exposed only to surface soil (incidental and through biota uptake).
- **Birds** may be exposed to COPECs via incidental ingestion of surface, shallow, or subsurface I soil and/or ingestion of biota tissue (i.e., food items). The small home-range bird indicator receptors evaluated in this ERA for Tamarisk Thicket included:

- Cactus Wren – representative of insectivorous bird populations, exposed only to surface soil (incidental and through biota uptake). The Tamarisk Thicket potential exposure area is considered a potential habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*), listed as federally and state endangered (CH2M Hill [CH2M] 2014). The cactus wren is considered representative of the southwestern willow flycatcher (Arcadis 2008).
- Gambel's Quail – representative of granivorous bird populations, exposed incidentally only to surface soil and exposed to surface, shallow, or subsurface I soil (incidental and through biota uptake).

Exposure pathways considered incomplete or insignificant were not quantitatively evaluated; these potential exposure pathways are identified and described in Section 6.3 of the main report.

Large home-range potential receptors (desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep) were evaluated for larger exposure areas (combined AOCs) and are discussed in those specific appendices. Potential risks to desert kit fox, red-tailed hawk, and Nelson's desert bighorn sheep associated with the Tamarisk Thicket potential exposure area were estimated and characterized as part of the evaluation of all AOCs outside the compressor station (OCS) and BCW and AOC 4 (BCW+AOC4) for all large home-range potential receptors.

5.1.1 Evaluation of Special-Status Species

The biological setting for the site and the adjacent areas are described in detail in various reports (see Section 2.4 of the main report). Potential habitat exists for special-status species at or near the site and some have been observed in BCW near the Tamarisk Thicket. Special-status species include both State and Federally listed fully protected threatened and endangered (T&E) species, state/federal species of concern, and traditional culturally significant plants; however, protection at the no-observed adverse effects level (NOAEL) level is warranted only for fully protected species.

Based on the discussions presented in the Final Programmatic Biological Assessment (CH2M 2014), the vegetation in the Tamarisk Thicket potential exposure area is characterized by open to dense stands of the nonnative and invasive tamarisk or salt cedar and/or athel tamarisk (*Tamarix aphylla*). In many locations tamarisk or athel tamarisk occur as monospecific stands; in other areas associated trees and shrubs include western honey mesquite (*Prosopis glandulosa* var. *torreyana*), screwbean mesquite (*Prosopis pubescens*), blue palo verde (*Parkinsonia florida*), and arrowweed (*Pluchea sericea*). Herbaceous vegetation is absent within dense thickets of tamarisk and athel tamarisk, but scattered herbaceous species such as fanleaf crinklemat (*Tiquilia plicata*), Spanish needle (*Palafoxia arida*), and *Cryptantha* spp. are often present in the openings between the trees in some areas. Many plant species have the potential to be present at the site and several species of plants have been incidentally observed during surveys and these are presented in Tables 2-1 and 2-3 of the main report.

No federal or state listed T&E plants or candidates for listing were found at the site, including the Tamarisk Thicket exposure area (CH2M 2014). Of the plants listed above, the western honey mesquite is a special-status species under the California Desert Native Plant Act.

The Tamarisk Thicket potential exposure area is considered a potential habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*), which is listed as a federal and state T&E species. Willow flycatcher nesting and foraging has been widely documented in tamarisk stands along the Colorado River so that tamarisk represents about 50% of the known breeding sites. Along the Colorado River, the southwestern

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willow flycatcher may typically nest in riparian habitat characterized by a dense stand of intermediate-sized shrubs or trees, such as willows (especially *Salix gooddingii*), *Baccharis*, or arrow weed, usually with an overstory of scattered larger trees, such as cottonwoods. Along the Lower Colorado River (downstream of the Hoover Dam), willow flycatcher nests have only been detected in tamarisk. Nesting habitat almost always contains or is adjacent to water or saturated soil. With the loss of habitats that are more dominated by native species throughout the Southwest, southwestern willow flycatchers have been observed using tamarisk thickets for nesting. Garcia and Associates (GANDA) has conducted protocol-level surveys of the suitable southwestern willow flycatcher habitats within and adjacent to the Topock Site from 2005 to 2017. In the Tamarisk Thicket potential exposure area, a southwestern willow flycatcher was last observed in 2009 but not observed in subsequent surveys (GANDA 2017).

While tamarisk occurs in and adjacent to the site, the quality of this vegetation for nesting flycatchers is not nearly as suitable compared to other locations along the Lower Colorado River. The vegetation density, habitat structure, and patch-size of thickets are sparser, smaller, and more fragmented in comparison to observed/known breeding habitat within the Topock Marsh. Additionally, southwestern willow flycatchers are very rarely nest in mesquite, palo verde, and acacia trees (Sogge et al. 1997), which are the associated tree species in this part of the Action Area including the Tamarisk Thicket potential exposure area. Furthermore, there is no known breeding habitat within the Action Area. Additionally, biological monitors have logged several hundred hours performing pre-activity surveys on the California floodplain as part of compliance with the mitigation measures associated with the Final Programmatic Biological Assessment (CH2M 2014) and with revised well sampling procedures (CH2M 2005), that require monitoring for any migratory bird nests by a qualified biologist within a 200-ft work area prior to construction-related activities that occur between March 15 and September 30. To date, no active nests of any migratory birds have been documented during these surveys or by protocol-level surveys conducted up to 2014. During the most recent survey in 2014, five southwestern willow flycatchers were observed, but none in the Tamarisk Thicket potential exposure area. Based on the single detections for each observation, it was concluded that they were most likely transient rather than nesting birds (GANDA 2014).

Several other species of mammals and birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). T&E species such as the ring-tailed cat (*Bassariscus astutus*) considered primarily a carnivorous mammal have been observed at the site (CH2M 2015a,b). This species is assumed to be observed in BCW and not specifically in the Tamarisk Thicket potential exposure area; however, it is likely that the ring-tailed cat forages near the river. Bat surveys indicated presence cave myotis and pallid bat, both state species of concern, at BCW, BCW culverts, and railroad culverts (Harvey 2015) but none in the Tamarisk Thicket exposure area, although bats tend to forage near water (i.e., the river) where insects are likely to be abundant. Yuma myotis (*Myotis yumanensis*), although not formally listed, was also observed at BCW. These potential receptors are all large home-range receptors and potential risk to these T&E species are discussed in Appendix BCW+AOC4. Resident T&E species with small home ranges were not observed at the Tamarisk Thicket potential exposure area or BCW.

The risk estimates presented in this ERA are considered to be protective of special-status species due to the conservative nature of the ERA where conservative parameters (e.g., small exposure areas, selected indicator species for each functional group considered on the high end of potential exposures for typical receptors at the site within that group, use of no-effects based toxicity values, etc.) were used to assess risks to a wide range of receptors at various trophic levels. Although a large home-range receptor representative of bats was not quantitatively evaluated, no unacceptable risk to bats are expected at the Tamarisk Thicket potential

exposure area. Presence of bats roosting were observed at the BCW potential exposure area; however, bats tend to forage near water (i.e., the river) where insects are likely to be abundant. Bats also have large home ranges (e.g., 42 acres for myotis [Henry et al. 2002]) and exposure to COPECs in the Tamarisk Thicket potential exposure area is unlikely to result in unacceptable risk. Therefore, further specific evaluation of small home-range special-status species was not considered necessary. Bats and ring-tailed cat are large home-range potential receptors and were evaluated qualitatively for exposure to the Tamarisk Thicket in combined exposure areas (see Appendix OCS and Appendix BCW+AOC4). Since these mammals likely forage along the river, a qualitative evaluation was also conservatively included for the Tamarisk Thicket potential exposure area, as presented below in Section 5.6.1.2. However, note that the Tamarisk Thicket area is not large enough to support individual or populations of bats or ring-tail cat.

5.2 Constituents of Potential Ecological Concern

COPECs for the Tamarisk Thicket potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 3.4 of the main report. Soil data encompassing all relevant exposure depths for the ERA (i.e., 0 to 6 ft bgs for the Tamarisk Thicket potential exposure area) and used in the COPEC selection process are presented in Attachment TT-A1.

Because an ecological receptor could be exposed to COPECs at various exposure depths either directly and/or through their diet for a given scenario, a single comprehensive COPEC list was selected based on the range of soil depths encountered by ecological receptors in the baseline exposure scenario. Additionally, essential nutrients (such as calcium and potassium) and analytes typically measured to evaluate geochemical conditions (such as chloride, nitrate, and sulfate), are not typically evaluated in ERAs and were not selected as COPECs. COPECs for the three exposure depths evaluated for the baseline scenario for this ERA are summarized in Table TT-5.1.

COPECs included six metals (hexavalent chromium, total chromium, copper, lead, manganese, and zinc), PCBs, dioxin TEQ (for wildlife receptors only), and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) (for ecological communities only). Total petroleum hydrocarbons (TPHs) were also identified as COPECs; however, due to lack of appropriate toxicity values to evaluate TPHs for ecological receptors, indicator chemicals (e.g., benzene, toluene, ethylbenzene, and xylene [BTEX] and PAHs) when detected, are used to characterize TPH risks. COPECs lacking toxicity values and their impact to the ERA are discussed in Section 6.7.5 of the main report.

5.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the ecological conceptual site model, soil EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix.

For the Tamarisk Thicket potential exposure area, risks to potential ecological receptors were estimated using depth-weighted EPCs and area-weighted EPCs. Depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment TT-A2. Area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment TT-A3.

Biota tissue EPCs were calculated from the soil EPCs using soil-to-biota uptake relationships for plants, invertebrates, and small mammals, as described in Section 6.4.3 of the main report. As described in

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Section 6.4 and shown in Figure 6-1 of the main report, the depth intervals selected to represent exposure to soil and biota tissue for the risk calculations for each receptor are presented in Table TT-5.2.

To summarize for the baseline scenario:

- Soil invertebrates, invertivorous small mammals, and insectivorous birds could potentially be exposed to COPECs in soil and/or biota only at the surface (0 to 0.5 ft bgs).
- Plants and granivorous small mammals could potentially be exposed to COPECs in soil and or/biota down to 6 ft bgs. Therefore, the maximum of the depth-weighted EPCs from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs was selected as the representative soil and/or biota EPC for a COPEC for estimating risks to these receptors.
- Granivorous birds could potentially be exposed to COPECs in soil (not biota) only at the surface (0 to 0.5 ft bgs) and biota down to 6 ft bgs. Therefore, exposures to granivorous birds included the depth-weighted soil EPC from 0 to 0.5 ft bgs (for incidental soil ingestion) and the maximum of the depth-weighted biota EPC from 0 to 0.5 ft bgs, 0 to 3 ft bgs, and 0 to 6 ft bgs for each COPEC.

Depth-weighted soil EPCs and biota tissue EPCs calculated from depth-weighted soil EPCs are presented in Table TT-5.3 for the baseline scenario and the representative soil and/or biota EPCs identified for the baseline risk calculations are bolded in this table.

Similarly, area-weighted soil EPCs and biota tissue EPCs calculated from area-weighted soil EPCs are presented in Table TT-5.4. The representative soil and/or biota EPCs identified for the risk calculations are bolded in this table.

Per the RAWP (Arcadis 2008) and DTSC guidance (DTSC 1996), risk calculations based on both the maximum depth-weighted concentration and the UCL for each COPEC are required. As mentioned earlier (Section 5.0), use of the maximum depth-weighted concentrations results in overly conservative risks and are not recommended for risk management decisions. The estimated risks based on maximum depth-weighted concentrations are presented in Attachment TT-C but results are not discussed in this report.

5.4 Estimation of Exposure Concentration or Dose

Exposures for ecological communities (plants and soil invertebrates) are quantified as exposure concentrations (e.g., in units of milligrams per kilogram [mg/kg]). Exposures for wildlife (mammals and birds) are quantified as doses (e.g., in units of mg/kg body weight per day). Exposure concentrations and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. The exposure parameters selected to evaluate wildlife in this ERA include upper bound values from literature (e.g., ingestion rates) or assumed (e.g., 100% of one type of diet), which may result in conservative estimates of exposure dose and potential overestimation of actual exposure at the site.

For ecological communities, exposure concentrations are equal to the depth-weighted soil EPCs for COPECs at the Tamarisk Thicket potential exposure area for the baseline scenario and are presented in Table TT-5.3. Area-weighted EPCs for the baseline scenario are presented in Table TT-5.4.

For wildlife, doses were calculated using the exposure parameters and equations presented in Section 6.4 of the main report and depth-weighted soil and biota tissue EPCs for COPECs at the Tamarisk Thicket, potential

exposure area as presented in Table TT-5.3 for the depth-weighted risk evaluations, and area-weighted soil and biota tissue EPCs as presented in Table TT-5.4 for the area-weighted risk evaluations. Dose calculations using depth-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment TT-B. Dose calculations using area-weighted EPCs for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are also presented in Attachment TT-B. Dose calculations using maximum depth-weighted concentrations for wildlife potentially exposed to COPECs via ingestion of soil and biota tissue for the baseline scenario are presented in Attachment TT-C.

5.5 Effects Assessment

Concentration-based screening values (i.e., toxicity values) for plants and soil invertebrates and dose-based toxicity reference values (TRVs) for wildlife for COPECs were used to estimate risks to ecological receptors potentially exposed to COPECs in soil and biota tissue at the Tamarisk Thicket potential exposure area.

For plants and soil invertebrates, screening values discussed in Section 6.5 and are presented in Table 6-6 of the main report.

A range of risks to wildlife were estimated using the NOAEL-based TRVs and lowest-observed adverse effects level (LOAEL)-based TRVs presented in the RAWP documents (Arcadis 2008, 2009, 2015). These selected TRVs were primarily based on the TRVs used to develop the United States Environmental Protection Agency (USEPA) ecological soil screening levels (USEPA 2008); other sources included the Toxicological Benchmarks for Wildlife from Oak Ridge National Laboratory (Sample et al. 1996) and USEPA Region 6 ERA Guidance (USEPA 1999). In addition, for estimating potential risk to wildlife, a second set of NOAEL- and LOAEL-TRVs² based on the Navy/Biological Technical Assistance Group (BTAG) TRVs (DTSC 2002, 2009) were also used for COPECs, where available. Wildlife TRVs based on selected TRVs and BTAG TRVs are presented in the main report Tables 6-7 through 6-10.

Plant screening values are not available for total chromium and 2,3,7,8-TCDD. Therefore, risks to this receptor from exposure to these specific COPECs could not be estimated. In addition, appropriate screening values and TRVs are not available for TPH and therefore, PAHs were used as indicator chemicals to characterize TPH risks at Tamarisk Thicket (BTEX were not detected). The lack of screening values and TRVs and the impact to the ERA are discussed in Section 6.7.5 of the main report.

5.6 Ecological Risk Characterization

The risk characterization integrates the results of the exposure assessment and effects assessment and is subject to uncertainties in both of those efforts. Risk characterization includes two major components: risk estimation and risk description. Risk estimates (HQs) are presented in tables and discussed below and involved integrating exposure profiles with the exposure-effects information. For each receptor and COPEC, risk descriptions including various lines of evidence (LOEs) and uncertainties, including HQs, supporting statistical and site use information, and the direction of uncertainty in the risk estimates, are discussed below for interpreting the risk results and identifying potential unacceptable risk to ecological receptors. Uncertainties

² Although these are referred to as LOAEL-based BTAG TRVs, they are based on a midpoint of a variety of adverse effects and are not necessarily lowest observed adverse effect levels. However, for simplicity, these BTAG TRVs are referred to as LOAEL-based TRVs.

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specific to the Tamarisk Thicket are discussed in context with the risk characterization results presented below. Generic uncertainties in the ERA are discussed in detail in Section 6.7 of the main report.

For plants and soil invertebrates, HQs were calculated by comparing the depth-weighted EPCs for each COPEC with respective screening values and these HQs were compared to the target HQ of 1. Following USEPA guidance (1998) guidance, in such cases, a semi-quantitative weight-of-evidence (WOE) approach using multiple LOEs was used in reducing uncertainty and drawing risk conclusions.

Risk conclusions for ecological communities used the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk (i.e., no unacceptable risk or negligible risk) to plants and invertebrates.
- COPECs with HQs greater than 1 indicate unacceptable risk to plants and invertebrates is possible. However, exceedances of the screening values (which are conservative and are generally uncertain) do not always clearly indicate that unacceptable risk to ecological communities is occurring. In such cases, a WOE approach, using HQs as a single LOE along with supporting information such as frequency of detection (FOD), site use history, and confidence in the screening values was used in reducing uncertainty for characterizing potential risk to ecological communities.

Ultimately, three risk outcomes are possible for plants and soil invertebrates based on HQs greater than 1 and the WOE: (1) unacceptable risk to ecological communities is possible (i.e., indicated by sufficient and strong supporting LOE); (2) unacceptable risk to ecological communities is unlikely (i.e., indicated by sufficient and strong LOE to support a conclusion of no unacceptable risk); or (3) unacceptable risk to ecological communities is uncertain (i.e., indicated by insufficient LOE).

For wildlife, a range of HQs was calculated using NOAEL- and LOAEL-based TRVs previously identified in RAWP documents (Arcadis 2008, 2009, 2015). HQs based on LOAEL-based TRVs selected in the RAWP are referred to as "LOAEL-based HQs." HQs based on NOAEL-based TRVs selected in the RAWP are referred to as "NOAEL-based HQs." Additionally, NOAEL- and LOAEL-based HQs were calculated using a second set of TRVs (i.e., NOAEL- and LOAEL-based BTAG TRVs), as described in Section 6.5 of the main report. The BTAG NOAEL-based TRVs are considered very conservative, resulting in a wide range of risks to wildlife. For this ERA, the selected TRVs are considered more robust than the BTAG TRVs, as discussed in Section 6.5 of the main report. Results associated with the selected TRVs are recommended for risk management decisions at Tamarisk Thicket.

Risk conclusions for wildlife used the following criteria:

- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk (i.e., negligible risk) to individual and populations of wildlife receptors.
- COPECs with a NOAEL-based HQ greater than 1 but LOAEL-based HQ less than or equal to 1 pose no unacceptable risk to wildlife populations. However, as described in the RAWP (Arcadis 2008), unacceptable risk to individuals is uncertain because the NOAEL-based TRVs are thresholds with an interval that is an artifact of the dosing study and the nature and magnitude of the effects, if any, that may occur at exposures between these values is unknown. In such cases, a WOE approach, including multiple LOEs, were used in reducing uncertainty for characterizing potential risk to individual wildlife receptors.

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- COPECs with LOAEL-based HQs greater than 1 indicate unacceptable risk is possible for populations of wildlife receptors. However, these LOAEL-based HQs are based on individual-level effects thresholds and only account for a single LOE. In such cases, a WOE approach, (including an alternate target HQ of 10 for dioxin TEQ)³, was used in reducing uncertainty for characterizing potential risk to wildlife populations at the Tamarisk Thicket, as described in the preceding bullet.
- NOAEL-based HQs greater than 1 is considered one LOE in assessing potential risk to sensitive species, if present in this exposure area. The potential presence of T&E species in the Tamarisk Thicket potential exposure area is discussed in Section 5.1.1.

Ultimately, three risk outcomes are possible for wildlife based on the HQs greater than 1 and WOE:

(1) unacceptable risk to individual wildlife is possible (i.e., indicated by sufficient and strong supporting LOE); (2) unacceptable risk to individual wildlife is unlikely (i.e., indicated by sufficient and strong LOE supporting a conclusion of no unacceptable risk); or (3) unacceptable risk to individual wildlife is uncertain (i.e., indicated by insufficient LOE).

For this ERA, the results of individual LOE evaluations were evaluated collectively to derive an overall WOE conclusion for each potential receptor. Key uncertainties were considered along with the strength, relevance, and other qualities of the LOE in reaching the WOE conclusions.

For the Tamarisk Thicket potential exposure area, evaluations were completed for the following scenarios and discussed in this section:

- Baseline scenario using depth-weighted EPCs
- Baseline scenario using area-weighted EPCs.

In these evaluations, risk calculations were completed for all COPECs, as presented in Tables TT-5.5a through TT-5.6b; however, risk results for only a subset of the COPECs were discussed in the evaluations using area-weighted EPCs. For plants and soil invertebrates, COPECs with HQs greater than 1 based on the depth-weighted EPC were discussed in the evaluations using area-weighted EPCs. For wildlife (i.e., birds and mammals), COPECs with NOAEL-based HQs greater than 1 based on the depth-weighted EPC and species- and site-specific site use factor (SUF) were discussed in the area-weighted EPC evaluations. At the conclusion of the baseline scenario evaluation, risk drivers were identified based on those COPECs for which unacceptable community/population-level risk was predicted using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs).

³ For dioxin TEQ, the selected BAFs and TRVs result in significant overestimation of risk for key wildlife receptors, primarily for invertivorous small mammals and insectivorous birds. Due to the compounded conservatism in the risk estimates for dioxin TEQ, HQs greater than 10 were considered to pose unacceptable risk. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are presented in Sections 6.4.3 and 6.5.2 of the main report, respectively. These alternate BAFs and TRVs are based on current understanding of uptake and toxicity of TEQ mixtures and represent an additional LOE considered for dioxin TEQ. As a result, a target LOAEL-based HQ of 10 for dioxin TEQ was used. Uncertainty in the risk estimates for dioxin TEQ is discussed in detail in Section 6.7.6.

5.6.1 Risk Characterization (Baseline Scenario and Depth-weighted EPCs)

Risk estimates for ecological communities (plants and soil invertebrates) and wildlife (mammals and birds) for the baseline scenario using depth-weighted EPCs are summarized in this section. As mentioned earlier in Section 5.4, exposure concentrations and doses for COPECs in soil and potentially complete pathways were calculated as described, including equations, in Section 6.4 of the main report. Detailed risk calculations for plants and soil invertebrates (Table TT-B.1) and detailed dose and risk calculations for wildlife (Tables TT-B.2 through TT-B.5) are presented in Attachment TT-B. COPECs identified at the Tamarisk Thicket potential exposure area for the baseline scenario include six metals, TPH, PCBs, dioxin TEQ in soil (for wildlife receptors only), and 2,3,7,8-TCDD (for ecological communities only) (Table TT-5.1). Potential risk to receptors exposed to these COPECs is described below.

5.6.1.1 Plants and Soil Invertebrates

Table TT-5.5a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) in the Tamarisk Thicket exposure area for the baseline scenario using depth-weighted EPCs. Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. Plant HQs are greater than 1 for manganese based on the highest EPC value from the shallow, surface, and subsurface I depth intervals. HQs for the remaining COPECs are less than 1 for plants, indicating *de minimis* risk to plants from exposure to these COPECs.

For manganese, the HQ for plants was greater than 1. Manganese was analyzed in two locations in surface soil (0 to 0.5 ft bgs). The maximum depth-weighted concentration (420 mg/kg) was used as the depth-weighted EPC to evaluate potential risk to plants from exposure to manganese in soil. For areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize risk. Only one of the locations has manganese concentrations slightly greater than the background threshold value (BTv = 402 mg/kg); the other location concentration (300 mg/kg) is below the BTv. In addition, the plant screening value for manganese (220 mg/kg) is less than the BTv and the 95UCL background concentration results in an HQ of 1, indicating low confidence in the plant screening level and its ability to predict risk to plant communities. Unacceptable risk to plant communities from exposure to manganese is considered unlikely based on the risk results and discussion above.

Soil invertebrates can potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs). For soil invertebrates, HQs for all COPECs are less than or equal to 1, indicating *de minimis* risk to invertebrates from exposure to these COPECs.

For TPH mixtures, individual constituents were used to characterize potential risks to plants and invertebrates. BTEX were not detected in any samples (Attachment TT-A1) and PAHs were within the range of background concentrations, indicating no unacceptable risk for plants and soil invertebrates from TPHs is expected in the Tamarisk Thicket potential exposure area.

To summarize, based on the risk results and WOE, unacceptable risk to plant communities from exposure to manganese in soil at the Tamarisk Thicket potential exposure area is unlikely and is not expected for TPH. For soil invertebrate communities, no unacceptable risk to invertebrate communities from exposure to TPH in soil is expected. No unacceptable risk (*de minimis* risk) to plant and invertebrate communities is expected from remaining inorganic COPECs (hexavalent chromium, total chromium, copper, lead, and zinc) and organic COPECs (PCBs and 2,3,7,8-TCDD). Based on the risk estimates and potential uncertainties associated with

the baseline risk using depth-weighted EPCs, manganese (plant communities only) was further evaluated using area-weighted EPCs as discussed in Section 5.6.2.

5.6.1.2 Small Mammals

For the Tamarisk Thicket potential exposure area, baseline risks were estimated for small mammals using depth-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species and site-specific SUF
- Using the BTAG TRVs and a species and site-specific SUF.

5.6.1.2.1 Risks Evaluated Using a SUF Equal to 1

Risks Evaluated Using Selected TRVs

Table TT-5.5a summarizes HQs estimated for small mammals at the Tamarisk Thicket potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below. TRVs are not available for TPHs; however, risks to these receptors are characterized below based on indicator chemicals as described previously.

- **Merriam's kangaroo rat (granivorous small mammal):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. NOAEL- and LOAEL-based HQs in soil are less than 1 for all individual COPECs, indicating *de minimis* risk to individual and populations of granivorous small mammals.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs are within the range of background (not COPECs), indicating that no unacceptable risk to granivorous small mammals from exposure to TPH is expected.
- **Desert shrew (invertivorous small mammal):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this receptor are less than or equal to 1 for COPECs except for dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For dioxin TEQ for mammals, the NOAEL- and LOAEL-based HQs are greater than 1, indicating unacceptable risk is possible for individual and populations of invertivorous small mammals exposed to dioxins in soil based on the HQ. Dioxin TEQ was detected at all 21 locations in surface soil (FOD = 100% in 0 to 0.5 ft bgs), with 19 of the 21 surface soil locations having depth-weighted concentrations above background (BTV = 5.58 nanograms per kilogram [ng/kg]). Concentrations are greater than 10 times the BTV are present at seven locations (64 ng/kg at AOC1-BCW6, 110 ng/kg at AOC1-BCW10, 58 ng/kg at AOC1-BCW25, 100 ng/kg at AOC1-BCW26, 180 ng/kg at AOC1-BCW28, 84 ng/kg at AOC1-BCW29, and 140 ng/kg at AOC1-BCW29). As described in Section 6.7.6 of the main report,

the mammalian TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. Conservative assumptions were used to estimate the HQs, including use of BAFs based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. Confidence in the ability of the mammalian dioxin TEQ TRV to predict risk is moderate. As noted in Section 5.1.1, T&E invertivorous small mammals have not been observed in the Tamarisk Thicket potential exposure area. Based on the high magnitude HQs and detections elevated concentrations (i.e., more than 10 times above BTV) potentially associated with unacceptable risk, unacceptable risk to individual and populations of shrew is considered possible in this scenario.

- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs are within the range of background (not COPECs), indicating that no unacceptable risk to invertivorous small mammals from exposure to TPHs is expected.
- NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1 for the remaining COPECs, indicating *de minimis* risk to individual and populations of invertivorous small mammals for the remaining COPECs.

Based on the risk estimates and potential uncertainties associated with the baseline risk from dioxin TEQ for insectivorous small mammals, this COPEC was further evaluated site-specific SUFs and using area-weighted EPCs as discussed below and in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table TT-5.5a also summarizes HQs estimated for small mammals at the Tamarisk Thicket potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal):** NOAEL- and LOAEL-based HQs in soil are less than 1 for all COPECs, indicating *de minimis* risk to individual receptors and populations of granivorous small mammals.
- **Desert shrew (invertivorous small mammal):** The NOAEL-based HQ for zinc is greater than 1 and the LOAEL-based HQs is less than 1 for this COPECs, indicating no unacceptable risk to populations of invertivorous mammals; however, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individual receptors and populations of invertivorous small mammals from the remaining COPECs.

Summarized below are all HQ estimates for mammals for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

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Hazard Quotient Summary for Small Mammals (SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	5E-02	1E-02	4E-01	1E-02	9E-01	2E-01	7E+00	2E-01
TEQ Mammals	2E-01	2E-02	--	--	1E+02	1E+01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.2.2 Risks Evaluated Using a Site-Specific SUF

Table TT-5.5b presents HQs calculated using the selected TRVs and BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Based on the Tamarisk Thicket potential exposure area and home ranges for Merriam's kangaroo rat and desert shrew, the site-specific SUF was estimated as 1 for these receptors (i.e., their home range is less than or equal to the size of the exposure area). Therefore, the risk results using selected TRVs and BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

5.6.1.2.3 Qualitative Risk Evaluation for Special-Status Mammals

For ring-tail cat and bats, potential risks were evaluated qualitatively, as described below.

- For the ring-tail cat (California fully protected species), the desert kit fox is the most representative surrogate receptor based on body sizes, similar dietary preferences, and large home ranges. Unlike the fox, which lives and forages primarily in the open desert, on creosote bush flats, and amongst the sand dunes (National Park Service 2015), the ring-tail cat prefers habitat associated with water (California Department of Fish and Wildlife [CDFW] 2005) and is unlikely to use upland areas in the OCS frequently. Risk estimates for the fox, presented in Appendices OCS and BCW+AOC4, are adequate to evaluate potential risk to the ring-tail cat. The NOAEL-based HQs greater than 1 estimated for the fox using a SUF of 1 are low in magnitude and would reduce to *de minimis* levels using a site-specific SUF for ring-tail cat based on a home range of 109 to 1,280 acres (CDFW 2005). Because the ring-tail cat is likely to forage in the riparian area, risk characterization for the Tamarisk Thicket was also considered for evaluating potential risk to the ring-tail cat. However, a carnivorous mammal, representative of the ring-tail cat was not evaluated for the Tamarisk Thicket potential exposure area. The desert shrew is considered an adequate surrogate because it is a sensitive receptor assumed to be more highly exposed to soils than the ring-tail cat based on foraging habits, body size, and home range. The NOAEL-based HQs for the shrew in the Tamarisk Thicket potential exposure area are less than 1 for all the COPECs except for dioxin TEQ. The NOAEL-based HQ for dioxin TEQ would be reduced to *de minimis* levels when using a site-specific SUF for ring-tail cat based on a home range of 109 to 1280 acres (CDFW 2005) in addition to accounting for the compounded uncertainties related to dioxin uptake and TRVs.

- For cave myotis and pallid bats (state species of concern), the desert shrew is the most representative surrogate receptor based on prey preferences (invertebrates); however, bats have significantly larger home ranges than shrews and are less exposed to soils, as they are aerial feeders. The NOAEL-based HQs for the shrew at the Tamarisk Thicket potential exposure area are less than 1 for all COPECs except for dioxin TEQ, as described above for ring-tail cat. The NOAEL-based HQs would be reduced to *de minimis* levels when using a site-specific SUF for bats (e.g., 42 acres for myotis [Henry et al. 2002] compared to the home range of 0.1 for the shrew) in addition to including compounded uncertainties related to dioxin uptake and TRVs.

Based on the results of the ERA, potential exposures to COPECs in soil in the Tamarisk Thicket potential exposure area are not expected to pose unacceptable risk to ecological receptors including special-status species.

5.6.1.2.4 Baseline Risk Summary for Small Mammals Using Depth-Weighted EPCs

To summarize, based on the risks characterized for small mammals exposed to COPECs in soil at the Tamarisk Thicket potential exposure area using selected TRVs⁴, depth-weighted EPCs, and a site and species-specific SUF (SUF equal to 1), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammals), the NOAEL-based and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individual and populations of granivorous small mammals for all COPECs.
- For desert shrew (invertivorous small mammals), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs except dioxin TEQ. For dioxin TEQ, potential unacceptable risk to invertivorous small mammal populations at the Tamarisk Thicket exposure area is possible because HQs are high in magnitude and dioxin TEQ was detected at a few locations at elevated concentrations that may be associated with risk. For the remaining COPECs at the Tamarisk Thicket exposure area, the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individual and populations of invertivorous small mammals.
- Qualitative evaluation of special-status species (ring-tail cat and bats), using HQs for indicator receptors and species-specific SUFs, indicates no unacceptable risk resulting from exposure to soil in the Tamarisk Thicket potential exposure area for these species.

Based on the risk estimates and potential uncertainties associated with the baseline risk to invertivorous small mammals from dioxin TEQ, this COPEC was further evaluated using area-weighted EPCs as discussed in Section 5.6.2.

5.6.1.3 Birds

For the Tamarisk Thicket potential exposure area, baseline risks were estimated for birds using depth-weighted EPCs for the following evaluations and are discussed in this section:

⁴ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

- Using the selected TRVs and a SUF equal to 1
- Using the BTAG TRVs and a SUF equal to 1
- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.1.3.1 Risks Evaluated Using a SUF equal to 1

Risks Evaluated Using Selected TRVs

Table TT-5.5a summarizes HQs estimated for birds at the Tamarisk Thicket potential exposure area using the selected TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below. TRVs are not available for TPH; however, risks to these potential receptors are characterized below based on indicator chemicals as described previously.

- **Gambel's quail (granivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and to deeper soils (0 to 6 ft bgs) through its diet. NOAEL- and LOAEL-based HQs in soil are less than 1 for all individual COPECs, indicating *de minimis* risk to individual and populations of granivorous birds.
 - For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs are within the range of background concentrations (not COPECs), indicating that no unacceptable risk to granivorous birds from exposure to TPHs is expected.
- **Cactus wren (insectivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. HQs for this receptor are less than 1 for most COPECs except for dioxin TEQ. The potential risks from COPECs with HQs greater than 1 are characterized below.
 - For dioxin TEQ for birds, the NOAEL-HQ is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual receptors is uncertain for dioxin TEQ in soil based on the HQ. Dioxin TEQ was frequently detected in surface soil (FOD = 100% in the 0- to 0.5-ft bgs interval) with 17 of the 21 locations having depth-weighted concentrations exceeding background (5.98 ng/kg). Concentrations are greater than 10 times the BTV are limited to two locations (110 ng/kg at AOC1-BCW28 and 100 ng/kg at AOC1-BCW30). As described in Section 6.7.6 of the main report, the avian TRVs and uptake factors selected for dioxins at this site likely overestimate exposure and risk for this COPEC. Uncertainties associated with the conservative assumptions include diet (dietary composition assumes 100% of a single-item diet), uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by about 10 times), and conservative TRVs (based on lowest available NOAEL and LOAEL). Additionally, the NOAEL-based HQ is low in magnitude and would likely reduce to less than one using alternate exposure and uptake assumptions (see Section 6.7.6 of the main report). Elevated concentrations are limited in spatial extent. Although, the Tamarisk Thicket potential exposure area is potential habitat for the southwestern willow flycatcher, based on the most recent survey in 2017, none have been observed in this area; the last and only detection with the Tamarisk

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Thicket potential exposure area was in 2009 (GANDA 2017; Section 5.1.1). Unacceptable risk to individual insectivorous birds is considered unlikely in this scenario.

- For TPH mixtures, concentrations of the individual constituents do not pose an unacceptable risk. BTEX were not detected in any samples and PAHs are within the range of background (not COPECs), indicating that no unacceptable risk to insectivorous birds from exposure to TPHs is expected.
- The NOAEL- and LOAEL-based HQs for all other COPECs in soil are less than 1, indicating *de minimis* risk to individual and populations of insectivorous birds.

Based on the risk estimates and potential uncertainties associated with the baseline risk from dioxin TEQ for insectivorous birds, this COPEC was further evaluated using species- and site-specific SUFs as discussed below.

Risks Evaluated Using the BTAG TRVs

Table TT-5.5a also summarizes HQs estimated for birds in the Tamarisk Thicket potential exposure area using the BTAG TRVs, depth-weighted EPCs, and a SUF equal to 1. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** NOAEL-based HQ for lead is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of granivorous birds; however, unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. The risks from lead are likely overestimated due to the conservative avian TRV. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds for the remaining COPECs.
- **Cactus wren (insectivorous bird):** NOAEL-based HQs for lead and zinc are greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual receptors is uncertain for these COPECs based on the HQs. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report. NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating *de minimis* risk to individual potential receptors and populations of insectivorous birds from these COPECs.

Summarized below are all HQ estimates for birds for COPECs where at least one NOAEL-based HQ value (using the selected TRV or BTAG TRV) is greater than 1:

Hazard Quotient Summary for Birds (SUF = 1)								
COPEC	Gambel's Quail				Cactus Wren			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	5E-02	3E-02	6E+00	1E-02	8E-01	4E-01	9E+01	1E-01
Zinc	3E-02	1E-02	1E-01	1E-02	9E-01	4E-01	4E+00	4E-01
TEQ Avian	1E-02	1E-03	--	--	4E+00	4E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.2 Risks Evaluated Using a Site-Specific SUF

Risks Evaluated Using Selected TRVs

Table TT-5.5b presents HQs calculated using the selected TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this receptor is 0.1, which further reduced the NOAEL- and LOAEL-based HQs to less than 1 for all COPECs. *De minimis* risk to populations and individual granivorous birds is expected when accounting for site use at the Tamarisk Thicket potential exposure area.
- **Cactus wren (insectivorous bird):** The site-specific SUF was estimated as 1 for cactus wren (i.e., the home range is less than or equal to the size of the exposure area). Therefore, the risk results using selected TRVs for this scenario are the same as discussed above for the generic SUF of 1.

Based on the risk estimates and potential uncertainties associated with the baseline risk from dioxin TEQ for insectivorous birds, this COPEC was further evaluated using area-weighted EPCs as discussed below in Section 5.6.2.

Risks Evaluated Using the BTAG TRVs

Table TT-5.5b also summarizes HQs estimated for birds in the Tamarisk Thicket exposure area using the BTAG TRVs, depth-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this receptor is 0.1, which reduced the NOAEL- and LOAEL-based HQs for lead to less than 1. NOAEL- and LOAEL-based HQs for all COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of granivorous birds at the Tamarisk Thicket.
- **Cactus wren (insectivorous bird):** The site-specific SUF was estimated as 1 for cactus wren (i.e., the home range is less than or equal to the size of the exposure area). Therefore, the risk results using BTAG TRVs for this scenario are the same as discussed above for the generic SUF of 1.

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For the COPECs with NOAEL-based HQs greater than 1 using a SUF of 1 (using the selected TRV or BTAG TRV), HQ estimates using the species- and site-specific SUF for birds are summarized below:

Hazard Quotient Summary for Birds (Site-Specific SUF)								
COPEC	Gambel's Quail (SUF = 0.1)				Cactus Wren (SUF = 1)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	7E-03	4E-03	9E-01	1E-03	8E-01	4E-01	9E+01	1E-01
Zinc	4E-03	2E-03	2E-02	2E-03	9E-01	4E-01	4E+00	4E-01
TEQ Avian	2E-03	2E-04	--	--	4E+00	4E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.1.3.3 Baseline Risk Summary for Birds Using Depth-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil at the Tamarisk Thicket potential exposure area using selected TRVs⁵, depth-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- For Gambel's quail (granivorous birds), the NOAEL- and LOAEL-based HQs for all COPECs are less than 1, indicating *de minimis* risk to individual and populations of granivorous birds for all COPECs.
- For the cactus wren (insectivorous birds), LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to populations of insectivorous birds. COPECs with HQs indicative of uncertain risks (i.e., where NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) include dioxin TEQ. For dioxin TEQ, unacceptable risk to individual receptors is considered unlikely because of the conservative assumptions included for this COPEC, low magnitude of the HQ, which would likely reduce to less than 1 when accounting for compounded conservative assumptions for this COPEC (see main report Section 6.7.6), and because T&E birds, are not resident in the Tamarisk Thicket potential exposure area. A single observation of the federally listed southwestern willow flycatcher was made in the Tamarisk Thicket exposure area in 2009 (CH2M 2014); however, this species is not expected to nest or reside in the Tamarisk Thicket potential exposure area (see Section 5.1.1). For the remaining COPECs at the Tamarisk Thicket potential exposure area, the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individual and populations of insectivorous birds.

Based on the baseline risk results for insectivorous birds and potential uncertainties associated with exposure to dioxin TEQ at the Tamarisk Thicket potential exposure area, this COPEC was further evaluated using area-weighted EPCs as discussed in Section 5.6.2.

⁵ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

5.6.2 Risk Characterization (Baseline Scenario and Area-weighted EPCs)

Based on the risk characterization of COPECs in the baseline scenario using depth-weighted EPCs (Section 5.6.1), risks were characterized for all COPECs using area-weighted EPCs. For those COPECs identified for further evaluation in the depth-weighted evaluation, the results of the area-weighted risk characterization are discussed below. The COPECs include:

- Manganese for plants
- Dioxin TEQ for invertivorous small mammals
- Dioxin TEQ for insectivorous birds.

Potential risks to receptors from COPECs listed above were characterized for the baseline scenario using area-weighted EPCs as discussed in this section. Detailed risk calculations for plants and soil invertebrates (Table TT-B.6) and detailed dose and risk calculations for wildlife for all COPECs (Tables TT-B.7 through TT-B.10) are presented in Attachment TT-B.

5.6.2.1 Plants and Soil Invertebrates

Table TT-5.6a summarizes HQs estimated for soil exposure for ecological communities (plants and soil invertebrates) at the Tamarisk Thicket potential exposure area for the baseline scenario using area-weighted EPCs for all COPECs; however, only the COPECs identified in Section 5.6.1 for further evaluation using area-weighted EPCs are discussed here.

Plants can potentially be exposed to COPECs in soil up to 6 ft bgs. HQs were based on the highest EPC from the shallow, surface, and subsurface I soil depth intervals. For plants, the magnitude of the HQ for manganese remained the same in this evaluation, because the area-weighted EPC (420 mg/kg) is based on the maximum depth-weighted concentration. Consistent with the evaluation using depth-weighted EPCs, unacceptable risk to plant communities from exposure to manganese is considered unlikely.

Soil invertebrates can potentially be exposed only to COPECs in surface soil (0 to 0.5 ft bgs). Consistent with the evaluation using depth-weighted EPCs, HQs are less than or equal to 1 for all COPECs, indicating *de minimis* risk to invertebrates from exposure to these COPECs.

Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). Over a hundred different vascular plant species have been observed within the survey area that includes Tamarisk Thicket potential exposure area; documented as Segment D in these survey reports (GANDA and CH2M 2013, CH2M 2017). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

Risk Summary and Risk Drivers for Ecological Communities

No risk drivers were identified for ecological communities based on HQs predicted using the most refined exposure and effects assumptions (i.e., area-weighted EPCs) and additional supporting WOE.

For plants, HQs exceeded 1 only for manganese. Unacceptable risk is considered unlikely for manganese based on supporting LOE. Although T&E species have not been observed at the Tamarisk Thicket, some special-status species have been observed. Based on the risk evaluation for plant communities, no unacceptable risk to special-status plants species is expected.

For soil invertebrates, HQs were less than or equal to 1 for all COPECs.

No unacceptable risk to plant and soil invertebrate communities is expected from COPECs in soil in the Tamarisk Thicket potential exposure area.

5.6.2.2 Small Mammals

For the Tamarisk Thicket potential exposure area, baseline risks were estimated for small mammals using area-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF
- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.2.1 Risks Evaluated Using a site-specific SUF

Risks Evaluated Using Selected TRVs

Table TT-5.6a summarizes HQs estimated for small mammals at the Tamarisk Thicket potential exposure area using the selected TRVs, area-weighted EPCs, and a SUF equal to 1. Table TT-5.6b summarizes HQs estimated for small mammals at the Tamarisk Thicket potential exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1 as the home range for small mammals is less than or equal to the size of the Tamarisk Thicket potential exposure area) for all COPECs. However, only the COPECs identified in Section 5.6.1.2 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. *De minimis* risk to individual and populations of granivorous small mammals was identified using depth-weighted EPCs. Using area-weighted EPCs, the NOAEL- and LOAEL-based HQs are also less than 1. Therefore, no *de minimis* risk to individual receptors and populations of granivorous small mammals is expected.
- **Desert shrew (invertivorous small mammal):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. Depth-weighted HQs discussed in Section 5.6.1.2 for this receptor were less than 1 except for dioxin TEQ.
 - For dioxin TEQ, the magnitude of area-weighted NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis but are still greater than 1. as discussed in Section 6.7.6 of the main report and above in Section 5.6.1.2, there is uncertainty associated with the dioxin TRVs and uptake factors for mammals, which likely overestimate HQs by at least 10 times. The LOAEL-based HQ would likely reduce to less than 1 when accounting for the compounded conservative assumptions included in the HQs for this COPEC. The spatial extent of elevated concentration more than 10 times the BTV is limited. Additionally, T&E invertivorous small mammals have not been observed in this

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area. Based on risk results and discussion, unacceptable risk to individual and populations of invertivorous small mammals is unlikely from exposure to dioxin TEQ at the Tamarisk Thicket potential exposure area.

- NOAEL- and LOAEL-based HQs for other COPECs in soil are less than 1, indicating *de minimis* risk to individuals and populations of invertivorous small mammals for the remaining COPECs.

Risks Evaluated Using the BTAG TRVs

Table TT-5.6b also summarizes HQs estimated for small mammals at the Tamarisk Thicket potential exposure area using the BTAG TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 1). Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Merriam's kangaroo rat (granivorous small mammal):** No unacceptable risk to granivorous small mammals was identified using depth-weighted EPCs, and the conclusions are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).
- **Desert shrew (invertivorous small mammal):** The area-weighted NOAEL-based HQ for zinc is greater than 1 and the LOAEL-based HQ is less than 1, indicating no unacceptable risk to invertivorous small mammal populations; however unacceptable risk to individual receptors is uncertain for this COPEC based on the HQ. The area-weighted NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to populations of invertivorous small mammals from the remaining COPECs.

Summarized below are NOAEL- and LOAEL-based HQs for mammals for COPECs identified in Section 5.6.1.2 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species and site-specific SUF (if applicable for a receptor):

Hazard Quotient Summary for Mammals (site-specific SUF = 1)								
COPEC	Merriam's Kangaroo Rat				Desert Shrew			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Zinc	5E-02	1E-02	4E-01	1E-02	9E-01	2E-01	7E+00	2E-01
TEQ Mammals	1E-01	1E-02	--	--	7E+01	7E+00	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.2.2 Qualitative Risk Evaluation for Special-Status Mammals

For ring-tail cat and bats, potential risks were evaluated qualitatively, as described above in Section 5.6.1.2.3 using depth-weighted EPCs. Using area-weighted EPCs, potential exposures are reduced for dioxin TEQ, and therefore, the risk conclusions are unchanged. Based on the results of the ERA, potential exposures to

COPECs in soil in the Tamarisk Thicket potential exposure area are not expected to pose unacceptable risk to potential ecological receptors including special-status species.

5.6.2.2.3 *Baseline Risk Summary for Small Mammals Using Area-Weighted EPCs*

To summarize, based on the risks characterized for small mammals exposed to COPECs in soil at the Tamarisk Thicket potential exposure area using selected TRVs⁶, area-weighted EPCs, and a site-specific SUF (SUF equal to 1 because the home ranges are less than or equal to the size of the exposure area), the risk conclusions are as follows:

- For Merriam's kangaroo rat (granivorous small mammal), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating *de minimis* risk to individual and populations of granivorous small mammals.
- For the desert shrew (invertivorous small mammals), the LOAEL-based HQ is greater than 1 for dioxin TEQ. For dioxin TEQ, unacceptable risk to individual and populations of invertivorous small mammals is unlikely because: (1) LOAEL-based HQ is less than 10 and likely to be reduced to 1 or less if adjusted for the compounding uncertainties associated with the conservative assumptions for this COPEC; (2) spatial extent of elevated concentrations is limited; and (3) T&E species with small home ranges have not been observed. For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating *de minimis* risk to individual and populations of invertivorous small mammals.
- Qualitative evaluation of special-status species (ring-tail cat and bats), using HQs for indicator receptors and species-specific SUFs, indicates no unacceptable risk resulting from exposure to soil in the Tamarisk Thicket potential exposure area for these species.

Potential Risk Drivers for Small Mammals in the Tamarisk Thicket Exposure Area

No risk-driving COPECs for small mammals were identified at the Tamarisk Thicket potential exposure area as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1 [or greater than 10 for dioxin TEQ]) was predicted using HQs calculated from the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional supporting WOE.

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for the Tamarisk Thicket exposure area (dioxin TEQ). However, additional LOE support the conclusions that unacceptable risk to individual receptors from exposure to this COPEC is unlikely.

5.6.2.3 **Birds**

For the Tamarisk Thicket potential exposure area, baseline risks were estimated using area-weighted EPCs for the following evaluations and discussed in this section:

- Using the selected TRVs and a species- and site-specific SUF

⁶ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

- Using the BTAG TRVs and a species- and site-specific SUF.

5.6.2.3.1 *Risks Evaluated Using a site-specific SUF*

Risks Evaluated Using the Selected TRVs

Table TT-5.6a summarizes HQs estimated for birds in the Tamarisk Thicket potential exposure area using the selected TRVs, area-weighted EPCs, and a SUF equal to 1 for all COPECs. Table TT-5.6b summarizes HQs estimated for birds in the Tamarisk Thicket exposure area using the selected TRVs, area-weighted EPCs, and a site-specific SUF (SUF = 0.1 for Gambel's quail and 1 for cactus wren) for all COPECs. However, only the COPECs identified in Section 5.6.1.3 for further evaluation using area-weighted EPCs are discussed here. Using these assumptions, the NOAEL- and LOAEL-based HQs for each receptor are summarized in the text and in-text table below.

- **Gambel's quail (granivorous bird):** This receptor could potentially be exposed to COPECs in subsurface I soil (0 to 6 ft bgs) directly and through its diet. No unacceptable risk to granivorous birds was identified using depth-weighted EPCs and the results are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are less than 1).
- **Cactus wren (insectivorous bird):** This receptor could potentially be exposed to COPECs in surface soil (0 to 0.5 ft bgs) directly and through its diet. Dioxin TEQ was identified in Section 5.6.1.3 for further evaluation using area-weighted EPCs.
 - For dioxin TEQ, the magnitude of area-weighted NOAEL- and LOAEL-based HQs were reduced from the depth-weighted EPC analysis. Using an area-weighted EPC, the LOAEL-based HQ is less than 1 but the NOAEL-based HQ is still greater than 1. The results indicate no unacceptable risk to populations of insectivorous birds; however, unacceptable risk to individual potential receptors is uncertain for this COPEC based on the HQ LOE. The magnitude of the NOAEL-based HQ is low. Conservative assumptions were used to estimate the HQs, including use of bioaccumulation factors based on uptake of a single congener (2,3,7,8-TCDD) to earthworms, and a diet assumed to consist entirely of earthworms. As a result, the HQs are considered to be overestimated. Additionally, T&E birds have not been observed at the Tamarisk Thicket potential exposure area since 2009 (CH2M 2014). The only observation of T&E birds in the Tamarisk Thicket potential exposure area was a single southwestern willow flycatcher, which is not expected to reside in the Tamarisk Thicket potential exposure area (Section 5.1.1).,Therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted. Unacceptable risk to individual insectivorous birds is considered to be unlikely.

Risks Evaluated Using the BTAG TRVs

Table TT-5.6b also summarizes HQs estimated for birds at the Tamarisk Thicket potential exposure area using the BTAG TRVs, area-weighted EPCs, and a species- and site-specific SUF. Using these assumptions, the NOAEL- and LOAEL-based HQs for each potential receptor are summarized in the text and table below.

- **Gambel's quail (granivorous bird):** The site-specific SUF for this receptor is 0.1. No unacceptable risk to granivorous birds was identified using depth-weighted EPCs and the results are the same using area-weighted EPCs (i.e., the NOAEL- and LOAEL-based HQs are also less than 1). Therefore, unacceptable risk to granivorous birds is not expected.

- **Cactus wren (insectivorous bird):** The site-specific SUF for this receptor is 1. The area-weighted NOAEL-based HQs are greater than 1 for lead and zinc, and are the same as the depth-weighted HQs because area-weighting had little effect on the EPCs. The LOAEL-based HQs for lead and zinc were less than 1, indicating no unacceptable risk to invertivorous bird populations; however, unacceptable risk to individual potential receptors is uncertain for these COPECs. The area-weighted NOAEL- and LOAEL-based HQs are less than 1 for all other COPECs, indicating no unacceptable risk to individual potential receptors and populations of invertivorous birds from the remaining COPECs. The uncertainties associated with the BTAG TRVs are discussed in Section 6.7.5 of the main report.

Summarized below are NOAEL- and LOAEL-based HQs for birds for COPECs identified in Section 5.6.1.3 that were further evaluated using area-weighted EPCs in this section. The HQs below are based on the area-weighted EPCs and species- and site-specific SUF:

Hazard Quotient Summary for Birds (site-specific SUF)								
COPEC	Gambel's Quail (SUF = 0.1)				Cactus Wren (SUF = 1)			
	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs	Selected NOAEL TRVs	Selected LOAEL TRVs	BTAG NOAEL TRVs	BTAG LOAEL TRVs
Lead	7E-03	4E-03	8E-01	1E-03	7E-01	4E-01	9E+01	1E-01
Zinc	4E-03	2E-03	2E-02	2E-03	9E-01	4E-01	4E+00	4E-01
TEQ Avian	2E-03	2E-04	--	--	3E+00	3E-01	--	--

Notes:

Bold indicates HQs > 1.

-- = HQ not estimated because TRVs are unavailable.

5.6.2.3.2 Baseline Risk Summary for Birds Using Area-Weighted EPCs

To summarize, based on the risks characterized for populations of birds exposed to COPECs in soil in the Tamarisk Thicket potential exposure area using selected TRVs⁷, area-weighted EPCs, and a site-specific SUF, the risk conclusions are as follows:

- For Gambel's quail (granivorous bird), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, indicating no unacceptable risk to individual and populations of granivorous birds. Potential risk is *de minimis* from all COPECs at the Tamarisk Thicket potential exposure area for these granivorous birds and no further evaluation is necessary.
- For the cactus wren (insectivorous birds), COPECs indicative of uncertain risks to individual potential receptors (i.e., where the NOAEL-based HQs are greater than 1 but LOAEL-based HQs are less than 1) included dioxin TEQ. For this COPEC, unacceptable risk to individual potential receptors is considered unlikely based on supporting LOE, including the low magnitude of the HQ (which would likely reduce to less than 1 if adjusted for the compounding uncertainties associated with conservative assumptions for

⁷ Results associated with BTAG TRVs are presented and discussed in the ERA; however, the selected TRVs are recommended for risk management decisions and only those results are summarized.

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this COPEC (see Section 6.7.6 of the main report), limited spatial extent of elevated concentrations, and resident T&E species). A single observation of the federally listed southwestern willow flycatcher was made in the Tamarisk Thicket potential exposure area in 2009 (CH2M 2014); however, this species is not expected to nest or reside in the Tamarisk Thicket potential exposure area (see Section 5.1.1). For the remaining COPECs, the NOAEL- and LOAEL-based HQs are less than 1, indicating no unacceptable risk to individual potential receptors and populations of insectivorous birds.

Potential Risk Drivers for Birds in the Tamarisk Thicket Exposure Area

No risk-driving COPECs for birds were identified at the Tamarisk Thicket potential exposure area as no potential for unacceptable population-level risk (i.e., LOAEL-based HQs greater than 1 [or greater than 10 for dioxin TEQ]) was predicted based on HQs calculated using the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and supporting WOE.

COPECs with NOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions were identified for Tamarisk Thicket potential exposure area (dioxin TEQ). However, the additional LOEs support the conclusion that unacceptable risk to individual potential receptors from exposure to this COPEC is unlikely.

6 SUMMARY AND CONCLUSIONS FOR THE ERA

Potential cumulative cancer risks and noncancer hazards for potential human receptors were not estimated for the Tamarisk Thicket potential exposure area, as this area is evaluated as part of the NORR potential exposure area (Appendix NORR). For potential ecological receptors, potential risks were estimated as presented above in Section 5. Uncertainties related to the ERAs at the site are discussed in detail in Section 6.7 of the main report, and uncertainties specific to the Tamarisk Thicket potential exposure area are discussed in this appendix. For the Tamarisk Thicket potential exposure area, an ERA was conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline, i.e., no scouring) was evaluated, and risks were estimated for various potential receptors using depth-weighted and area-weighted EPCs.

At the Tamarisk Thicket potential exposure area, the COPECs identified for the ERA include six metals, PCBs, TPHs, and dioxins/furans. A summary of these results and conclusions regarding potential risk associated with exposure to these COPECs in soil at the Tamarisk Thicket potential exposure area based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented in this section.

The conclusions reached after completing the ERA for the Tamarisk Thicket potential exposure area are presented below.

In the Tamarisk Thicket potential exposure area, six metals (hexavalent chromium, total chromium, copper, lead, manganese, and zinc), PCBs, dioxins TEQ (for wildlife), 2,3,7,8-TCDD (for ecological communities only), and TPHs were identified as COPECs. Potential risk to plants and soil invertebrates and small home-range wildlife receptors was estimated. Risks could not be estimated for potential receptors lacking available screening values and/or TRVs for COPECs; such cases are discussed in the uncertainty analysis of the main report. These COPECs are unlikely to be risk drivers and are assumed to have minimal impact to the conclusions of the ERA.

Risks were estimated using depth-weighted and area-weighted EPCs. Risk conclusions were based on the following criteria:

- COPECs with HQs less than or equal to 1 pose *de minimis* risk to ecological communities (plants and invertebrates).
- COPECs with HQs greater than 1 could indicate potential risk to ecological communities. A WOE approach was used to characterize potential risk to plants and invertebrates.
- COPECs with NOAEL-based HQs less than or equal to 1 pose *de minimis* risk to potential wildlife receptors.
- COPECs with NOAEL-based HQs greater than 1 but LOAEL-based HQs less than or equal to 1 pose no unacceptable risk to wildlife populations; however, potential for unacceptable risk to individuals is uncertain based on the HQ. A WOE approach was used to characterize potential risk to individual potential receptors.
- COPECs with LOAEL-based HQs greater than 1 pose possible unacceptable risk to populations of potential wildlife receptors.

The risk estimates i.e., (HQs) represent a single LOE in the risk characterization. A qualitative WOE approach, incorporating other LOEs and uncertainties (including an alternate target HQ of 10 for dioxin TEQ)⁸, was used to characterize risk to wildlife populations in the Tamarisk Thicket potential; exposure area. HQs for COPECs for the baseline scenario calculated using depth-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs are summarized in Table TT-6.1. The HQs/LOAEL-based HQs based on depth-weighted EPCs were greater than 1 for the following COPECs:

- Plant communities – manganese
- Soil invertebrate communities – none
- Small mammals – none for granivorous small mammals; dioxin TEQ for invertivorous small mammals
- Birds – none for granivorous bird; dioxin TEQ for insectivorous birds.

HQs were also calculated for all the COPECs using area-weighted EPCs, selected screening levels/selected TRVs, and site-specific SUFs and presented in Table TT-6.1. For COPECs with HQs/LOAEL-based HQs greater than 1 using the most refined exposure and effects assumptions (i.e., area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs), a WOE assessment was used to draw risk conclusions and identify potential risk drivers for the Tamarisk Thicket potential exposure area. The various LOE considered in the WOE assessment and risk conclusions are presented in Table TT-6.2.

Based on the ecological risk characterization for the Tamarisk Thicket potential exposure area, using area-weighted EPCs, selected screening levels/TRVs, and site-specific SUFs, the following conclusions were made, as described in the subsections below.

6.1.1 Plant Communities

Overall, no unacceptable risk was identified for plants, including special-status species. Conclusions are as follows:

- No federal- or state-listed T&E plants or candidates for listing were found at the site, including the Tamarisk Thicket potential exposure area.
- Potential risks to plants are *de minimis* from exposure to all the COPECs, same as the depth-weighted evaluation (i.e., HQs are less than 1) except for manganese.
- The HQ for manganese did not change from the depth-weighted evaluation and is still greater than 1. Unacceptable risk to plant communities from exposure to manganese is unlikely based on the following LOE: (1) low FOD; (2) EPCs based on the maximum depth-weighted EPCs; for areas where a constituent is largely not detected, use of a maximum concentration as the EPC may not appropriately characterize

⁸ For dioxin TEQ, the selected BAFs and TRVs result in significant overestimation of risk for key wildlife receptors, primarily for invertivorous small mammals and insectivorous birds. Due to the compounded conservatism in the risk estimates for dioxin TEQ, HQs greater than 10 were considered to pose unacceptable risk. Alternate congener-specific BAFs and alternate TRVs demonstrating the magnitude of the risk overestimation are presented in Sections 6.4.3 and 6.5.2 of the main report, respectively. These alternate BAFs and TRVs are based on current understanding of uptake and toxicity of TEQ mixtures and represent an additional LOE considered for dioxin TEQ. As a result, a target LOAEL-based HQ of 10 for dioxin TEQ was used. Uncertainty in the risk estimates for dioxin TEQ is discussed in detail in Section 6.7.6.

HQs; and (3) low confidence in the screening value to predict toxicity to plants (plant screening value less than the BTV).

- Vegetation communities observed at the site during the floristic surveys conducted in 2013 (GANDA and CH2M 2013) and in 2017 (CH2M 2017) is typical of Mojave Desert plant communities (summarized in Section 2.4.2). Over a hundred different vascular plant species have been observed within the survey area that includes Tamarisk Thicket potential exposure area; documented as Segment D in these survey reports (GANDA and CH2M 2013, CH2M 2017). The floristic surveys report a diverse assemblage of plants species found in typical abundance, density, cover, and vigor of plant communities in undisturbed desert habitat. These observations are not consistent with impairment of the plant community at the site. The floristic surveys provide site-specific observations that support the health of plant communities at the site and is considered a stronger LOE than the exceedances of low-confidence generic plant screening values, which are widely acknowledged to have low ability to predict toxicity in plants.

6.1.2 Soil Invertebrate Communities

Overall, no unacceptable risk to soil invertebrates is expected. Conclusions are as follows:

- Potential risks to soil invertebrates are *de minimis* from all the COPECs, same as the depth-weighted evaluation (i.e., HQs are less than 1).

6.1.3 Small Mammals

Overall, no unacceptable risk to populations of small mammals (granivorous and invertivorous) exposed to COPECs in soil is expected. Conclusions are as follows:

- Several species of mammals have been observed at or near the site (Tables 2-2 and 2-4 of the main report); however, T&E species with small home ranges were not observed in the Tamarisk Thicket exposure area. Based on the qualitative evaluation of special-status species and the results of the ERA, potential exposures to COPECs in soil at the Tamarisk Thicket potential exposure area are not expected to pose unacceptable risk to special-status species.
- For Merriam's kangaroo rat (granivorous small mammal):
 - NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individual and populations of granivorous small mammals.
- For the desert shrew (invertivorous small mammals):
 - NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to individual and populations of invertivorous small mammals, except for dioxin TEQ.
 - The NOAEL- and LOAEL-based HQs were reduced from the depth-weighted evaluation but are still greater than 1. Unacceptable risk to invertivorous small mammals from exposure to dioxin TEQ is unlikely based on the following LOE:
 - (1) low magnitude of the HQs (LOAEL-based HQ is less than 10 and likely reduced to 1 or less if adjusted for compounding uncertainties associated with the conservative assumptions; see Section 6.7.6 of the main report); these include diet (dietary composition assumes 100% of a

single-item diet; see Section 6.7.3 of the main report), uptake into dietary items (bioaccumulation based on a single congener likely overestimates HQs by 10 times; see Section 6.7.4 of the main report), and conservative TRVs (based on lowest available TRVs; see Section 6.7.5 of the main report);

- (2) spatial extent of elevated concentrations were limited to seven locations: AOC1-BCW6 (64 ng/kg), AOC1-BCW10 (110 ng/kg), AOC1-BCW25 (58 ng/kg), AOC1-BCW26 (100 ng/kg), AOC1-BCW28 (180 ng/kg), AOC1-BCW29 (84 ng/kg), and AOC1-BCW29 (140 ng/kg); and
- (3) T&E species with small home ranges have not been observed in this area.

6.1.4 Birds

Overall, no unacceptable risk to bird populations (granivorous and insectivorous) exposed to COPECs in soil is expected. Conclusions are as follows:

- Several species of birds have been observed at or near the site (Tables 2-2 and 2-4 of the main report). A single observation of the federally listed southwestern willow flycatcher was made in the Tamarisk Thicket potential exposure area in 2009 (CH2M 2014, GANDA 2017); however, this species was considered transient and is not expected to nest or reside in this area (GANDA 2017). Therefore, protection at the individual level (i.e., NOAEL-based HQ less than or equal to 1) is not warranted.
- For Gambel's quail (granivorous bird), the NOAEL- and LOAEL-based HQs are less than 1 for all COPECs, same as in the depth-weighted evaluation, indicating *de minimis* risk to individuals and populations of granivorous birds in the Tamarisk Thicket potential exposure area.
- For the cactus wren (insectivorous bird):
 - LOAEL-based HQs are less than 1 for all COPECs, same as the depth-weighted evaluation, indicating *de minimis* risk to populations of insectivorous birds.
 - COPECs with HQs indicative of uncertain risks to individual receptors included dioxin TEQ. The NOAEL- based HQ was reduced from the depth-weighted evaluation but is still greater than 1. Unacceptable risk to individual receptors is considered unlikely based on the following LOE: (1) low HQ; (2) conservative assumptions used to estimate risks (BAF and TRVs; see Section 6.7.6 of the main report); and (3) small home-range T&E wildlife are not resident in the Tamarisk Thicket potential exposure area.

6.1.5 Potential Risk Drivers for the Tamarisk Thicket Exposure Area

As presented in Table TT-6.1 and summarized in the table below, no risk drivers were identified for the Tamarisk Thicket potential exposure area based on unacceptable community/population-level risk (i.e., HQ greater than 1 for plants and soil invertebrates and LOAEL-based HQs greater than 1 for mammals and birds [or LOAEL-based HQs greater than 10 for dioxin TEQ]) predicted using HQs calculated from the most refined exposure and effects assumptions (i.e., site-specific SUF, area-weighted EPCs, and selected TRVs) and additional LOE supporting the conclusion of unacceptable risk.

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Scenario	Receptors and Risk Drivers at Tamarisk Thicket Exposure Area					
	Plants	Soil Invertebrates	Granivorous Mammals (Merriam's kangaroo rat)	Insectivorous Mammals (desert shrew)	Granivorous Birds (Gambel's quail)	Insectivorous Birds (cactus wren)
Baseline	None	None	None	None	None	None

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TABLES



Table TT-1.1
Samples and Sampling Locations Included in the TT Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW10-187	02/04/16	AOC1-BCW10	0	0.5	0.5	0-0.5	--
AOC1-BCW10-188	02/04/16	AOC1-BCW10	2	3	3	0-03	--
AOC1-BCW10-189	02/04/16	AOC1-BCW10	5	6	6	0-06	--
AOC1-BCW10-190	02/04/16	AOC1-BCW10	9	10	10	0-10	--
AOC1-BCW10-191	02/04/16	AOC1-BCW10	9	10	10	0-10	--
AOC1-BCW11-192	02/04/16	AOC1-BCW11	0	0.5	0.5	0-0.5	--
AOC1-BCW11-193	02/04/16	AOC1-BCW11	2	3	3	0-03	--
AOC1-BCW11-194	02/04/16	AOC1-BCW11	5	6	6	0-06	--
AOC1-BCW11-195	02/04/16	AOC1-BCW11	9	10	10	0-10	--
AOC1-BCW12-196	02/04/16	AOC1-BCW12	0	0.5	0.5	0-0.5	--
AOC1-BCW12-197	02/04/16	AOC1-BCW12	2	3	3	0-03	--
AOC1-BCW12-198	02/04/16	AOC1-BCW12	5	6	6	0-06	--
AOC1-BCW12-199	02/04/16	AOC1-BCW12	9	10	10	0-10	--
AOC1-BCW13-200	02/04/16	AOC1-BCW13	0	0.5	0.5	0-0.5	--
AOC1-BCW13-201	02/04/16	AOC1-BCW13	2	3	3	0-03	--
AOC1-BCW13-202	02/04/16	AOC1-BCW13	5	6	6	0-06	--
AOC1-BCW13-203	02/04/16	AOC1-BCW13	9	10	10	0-10	--
AOC1-BCW14-204	02/04/16	AOC1-BCW14	0	0.5	0.5	0-0.5	--
AOC1-BCW14-205	02/04/16	AOC1-BCW14	2	3	3	0-03	--
AOC1-BCW14-206	02/04/16	AOC1-BCW14	5	6	6	0-06	--
AOC1-BCW14-207	02/04/16	AOC1-BCW14	9	10	10	0-10	--
AOC1-BCW15-208	02/04/16	AOC1-BCW15	0	0.5	0.5	0-0.5	--
AOC1-BCW15-209	02/04/16	AOC1-BCW15	2	3	3	0-03	--
AOC1-BCW15-210	02/04/16	AOC1-BCW15	5	6	6	0-06	--
AOC1-BCW15-211	02/04/16	AOC1-BCW15	9	10	10	0-10	--
AOC1-BCW16-212	02/04/16	AOC1-BCW16	0	0.5	0.5	0-0.5	--
AOC1-BCW16-213	02/04/16	AOC1-BCW16	2	3	3	0-03	--
AOC1-BCW16-214	02/04/16	AOC1-BCW16	5	6	6	0-06	--
AOC1-BCW16-215	02/04/16	AOC1-BCW16	9	10	10	0-10	--
AOC1-BCW17-216	02/04/16	AOC1-BCW17	0	0.5	0.5	0-0.5	--
AOC1-BCW17-217	02/04/16	AOC1-BCW17	2	3	3	0-03	--
AOC1-BCW17-218	02/04/16	AOC1-BCW17	5	6	6	0-06	--
AOC1-BCW17-219	02/04/16	AOC1-BCW17	9	10	10	0-10	--
AOC1-BCW18-220	02/05/16	AOC1-BCW18	0	0.5	0.5	0-0.5	--
AOC1-BCW18-221	02/05/16	AOC1-BCW18	2	3	3	0-03	--
AOC1-BCW18-222	02/05/16	AOC1-BCW18	5	6	6	0-06	--
AOC1-BCW18-223	02/05/16	AOC1-BCW18	9	10	10	0-10	--
AOC1-BCW19-224	02/05/16	AOC1-BCW19	0	0.5	0.5	0-0.5	--
AOC1-BCW19-225	02/05/16	AOC1-BCW19	2	3	3	0-03	--
AOC1-BCW19-226	02/05/16	AOC1-BCW19	5	6	6	0-06	--

Table TT-1.1
Samples and Sampling Locations Included in the TT Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW19-227	02/05/16	AOC1-BCW19	9	10	10	0-10	--
AOC1-BCW20-228	02/05/16	AOC1-BCW20	0	0.5	0.5	0-0.5	--
AOC1-BCW20-229	02/05/16	AOC1-BCW20	2	3	3	0-03	--
AOC1-BCW20-230	02/05/16	AOC1-BCW20	5	6	6	0-06	--
AOC1-BCW20-231	02/05/16	AOC1-BCW20	9	10	10	0-10	--
AOC1-BCW2-104	10/04/08	AOC1-BCW2	0	0.5	0.5	0-0.5	--
AOC1-BCW2-105	10/04/08	AOC1-BCW2	2	3	3	0-03	--
AOC1-BCW2-106	10/04/08	AOC1-BCW2	5	6	6	0-06	--
AOC1-BCW2-107	10/04/08	AOC1-BCW2	9	10	10	0-10	--
AOC1-BCW21-232	02/05/16	AOC1-BCW21	0	0.5	0.5	0-0.5	--
AOC1-BCW21-233	02/05/16	AOC1-BCW21	2	3	3	0-03	--
AOC1-BCW21-234	02/05/16	AOC1-BCW21	5	6	6	0-06	--
AOC1-BCW21-235	02/05/16	AOC1-BCW21	9	10	10	0-10	--
AOC1-BCW22-236	02/05/16	AOC1-BCW22	0	0.5	0.5	0-0.5	--
AOC1-BCW22-237	02/05/16	AOC1-BCW22	2	3	3	0-03	--
AOC1-BCW22-238	02/05/16	AOC1-BCW22	5	6	6	0-06	--
AOC1-BCW22-239	02/05/16	AOC1-BCW22	9	10	10	0-10	--
AOC1-BCW23-240	02/05/16	AOC1-BCW23	0	0.5	0.5	0-0.5	--
AOC1-BCW23-241	02/05/16	AOC1-BCW23	2	3	3	0-03	--
AOC1-BCW23-242	02/05/16	AOC1-BCW23	5	6	6	0-06	--
AOC1-BCW23-243	02/05/16	AOC1-BCW23	9	10	10	0-10	--
AOC1-BCW24-244	02/05/16	AOC1-BCW24	0	0.5	0.5	0-0.5	--
AOC1-BCW24-245	02/05/16	AOC1-BCW24	2	3	3	0-03	--
AOC1-BCW24-246	02/05/16	AOC1-BCW24	5	6	6	0-06	--
AOC1-BCW24-247	02/05/16	AOC1-BCW24	9	10	10	0-10	--
AOC1-BCW25-248	02/05/16	AOC1-BCW25	0	0.5	0.5	0-0.5	--
AOC1-BCW25-249	02/05/16	AOC1-BCW25	2	3	3	0-03	--
AOC1-BCW25-250	02/05/16	AOC1-BCW25	5	6	6	0-06	--
AOC1-BCW25-251	02/05/16	AOC1-BCW25	9	10	10	0-10	--
AOC1-BCW26-252	02/04/16	AOC1-BCW26	0	0.5	0.5	0-0.5	--
AOC1-BCW26-253	02/04/16	AOC1-BCW26	2	3	3	0-03	--
AOC1-BCW26-254	02/04/16	AOC1-BCW26	5	6	6	0-06	--
AOC1-BCW26-255	02/04/16	AOC1-BCW26	9	10	10	0-10	--
AOC1-BCW27-256	02/05/16	AOC1-BCW27	0	0.5	0.5	0-0.5	--
AOC1-BCW27-257	02/05/16	AOC1-BCW27	2	3	3	0-03	--
AOC1-BCW27-258	02/05/16	AOC1-BCW27	5	6	6	0-06	--
AOC1-BCW27-259	02/05/16	AOC1-BCW27	9	10	10	0-10	--
AOC1-BCW28-260	02/05/16	AOC1-BCW28	0	0.5	0.5	0-0.5	--
AOC1-BCW28-261	02/05/16	AOC1-BCW28	2	3	3	0-03	--
AOC1-BCW28-262	02/05/16	AOC1-BCW28	5	6	6	0-06	--

Table TT-1.1
Samples and Sampling Locations Included in the TT Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW28-263	02/05/16	AOC1-BCW28	9	10	10	0-10	--
AOC1-BCW29-264	02/04/16	AOC1-BCW29	0	0.5	0.5	0-0.5	--
AOC1-BCW29-265	02/04/16	AOC1-BCW29	2	3	3	0-03	--
AOC1-BCW29-266	02/04/16	AOC1-BCW29	5	6	6	0-06	--
AOC1-BCW29-267	02/04/16	AOC1-BCW29	9	10	10	0-10	--
AOC1-BCW30-268	02/04/16	AOC1-BCW30	0	0.5	0.5	0-0.5	--
AOC1-BCW30-269	02/04/16	AOC1-BCW30	2	3	3	0-03	--
AOC1-BCW30-270	02/04/16	AOC1-BCW30	5	6	6	0-06	--
AOC1-BCW30-271	02/04/16	AOC1-BCW30	9	10	10	0-10	--
AOC1-BCW3-108	10/04/08	AOC1-BCW3	0	0.5	0.5	0-0.5	--
AOC1-BCW3-109	10/04/08	AOC1-BCW3	2	3	3	0-03	--
AOC1-BCW3-110	10/04/08	AOC1-BCW3	5	6	6	0-06	--
AOC1-BCW3-111	10/04/08	AOC1-BCW3	9	10	10	0-10	--
AOC1-BCW3-112	10/04/08	AOC1-BCW3	9	10	10	0-10	--
AOC1-BCW4-113	10/04/08	AOC1-BCW4	0	0.5	0.5	0-0.5	--
AOC1-BCW4-114	10/04/08	AOC1-BCW4	2	3	3	0-03	--
AOC1-BCW4-115	10/04/08	AOC1-BCW4	5	6	6	0-06	--
AOC1-BCW4-116	10/04/08	AOC1-BCW4	9	10	10	0-10	--
AOC1-BCW5-117	10/04/08	AOC1-BCW5	0	0.5	0.5	0-0.5	--
AOC1-BCW5-118	10/04/08	AOC1-BCW5	2	3	3	0-03	--
AOC1-BCW5-119	10/04/08	AOC1-BCW5	5	6	6	0-06	--
AOC1-BCW5-120	10/04/08	AOC1-BCW5	9	10	10	0-10	--
AOC1-BCW5-121	10/04/08	AOC1-BCW5	9	10	10	0-10	--
AOC1-BCW6-122	08/22/08	AOC1-BCW6	0	0.5	0.5	0-0.5	--
AOC1-BCW6-123	08/22/08	AOC1-BCW6	2	3	3	0-03	--
AOC1-BCW8-280	02/04/16	AOC1-BCW8	0	0.5	0.5	0-0.5	--
AOC1-BCW8-281	02/04/16	AOC1-BCW8	2	3	3	0-03	--
AOC1-BCW8-282	02/04/16	AOC1-BCW8	5	6	6	0-06	--
AOC1-BCW8-283	02/04/16	AOC1-BCW8	9	10	10	0-10	--
AOC1-BCW8-284	02/04/16	AOC1-BCW8	9	10	10	0-10	--
AOC1-BCW9-285	02/04/16	AOC1-BCW9	0	0.5	0.5	0-0.5	--
AOC1-BCW9-286	02/04/16	AOC1-BCW9	2	3	3	0-03	--
AOC1-BCW9-287	02/04/16	AOC1-BCW9	5	6	6	0-06	--
AOC1-BCW9-288	02/04/16	AOC1-BCW9	9	10	10	0-10	--
SS-1-0.5	06/29/97	SS-1	0.5	0.5	0.5	0-0.5	--
SS-1-1.5	06/29/97	SS-1	1.5	1.5	1.5	0-03	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	9,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 28	ND	mg/kg	No	Not Detected
Arsenic	27 / 28	2.4 - 13	mg/kg	No	Within Background
Barium	28 / 28	72 - 320	mg/kg	No	Within Background
Beryllium	0 / 28	ND	mg/kg	No	Not Detected
Cadmium	0 / 28	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	20,000 - 35,000	mg/kg	No	Within Background
Chromium, Hexavalent	6 / 29	0.30 - 2.6	mg/kg	Yes	Above Background
Chromium, total	29 / 29	12 - 71	mg/kg	Yes	Above Background
Cobalt	28 / 28	4.6 - 9.6	mg/kg	No	Within Background
Copper	29 / 29	7.0 - 22	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron	2 / 2	18,000 - 20,000	mg/kg	No	Within Background
Lead	28 / 28	2.2 - 23	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	2 / 2	300 - 420	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 28	ND	mg/kg	No	Not Detected
Molybdenum	0 / 28	ND	mg/kg	No	Not Detected
Nickel	29 / 29	6.8 - 18	mg/kg	No	Within Background
Potassium ^b	2 / 2	3,900 - 4,000	mg/kg	No	Within Background
Selenium	0 / 28	ND	mg/kg	No	Not Detected
Silver	0 / 28	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 2	660	mg/kg	No	Within Background
Thallium	0 / 28	ND	mg/kg	No	Not Detected
Vanadium	28 / 28	23 - 42	mg/kg	No	Within Background
Zinc	29 / 29	26 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,2,4-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
1,4-Dichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 5	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 5	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 5	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 5	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 5	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 5	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 5	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 5	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 5	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 5	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 5	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 5	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 5	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 5	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 5	ND	ug/kg	No	Not Detected

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
4-Chlorophenyl phenyl ether	0 / 5	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 5	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 5	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 5	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 5	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 5	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 5	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 5	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 5	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 5	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 5	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 5	ND	ug/kg	No	Not Detected
Phenol	0 / 5	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	9 / 9	0 - 223	ug/kg	No	Within Background
PAH Low molecular weight	9 / 9	0 - 14	ug/kg	No	Within Background

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Pesticides					
4,4-DDD	0 / 13	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 13	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 13	ND	ug/kg	No	Not Detected
Aldrin	0 / 13	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 13	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 13	ND	ug/kg	No	Not Detected
beta-BHC	0 / 13	ND	ug/kg	No	Not Detected
delta-BHC	0 / 13	ND	ug/kg	No	Not Detected
Dieldrin	0 / 13	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 13	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 13	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 13	ND	ug/kg	No	Not Detected
Endrin	0 / 13	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 13	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 13	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 13	ND	ug/kg	No	Not Detected
Heptachlor	0 / 13	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 13	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 13	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 5	ND	ug/kg	No	Not Detected
Toxaphene	0 / 13	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^c	1 / 15	59	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 5	16 - 29	mg/kg	Yes	Detected
TPH as motor oil	5 / 5	18 - 31	mg/kg	Yes	Detected

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Dioxins/Furans					
2,3,7,8-TCDD	2 / 21	0.27 - 0.50	ng/kg	Yes	Above Background
TEQ Avian ^d	21 / 21	0.37 - 110	ng/kg	Yes	Above Background
TEQ Mammals ^d	21 / 21	0.42 - 180	ng/kg	Yes	Above Background

Table TT-2.1a

Chemicals Included in the Risk Assessment: Tamarisk Thicket Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to ecological risk assessment (ERA).
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the ERA. Ecological toxicity values are available for manganese, thus this chemical is evaluated in the ERA, if above background levels.
- ^c Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^d Dioxins are evaluated in toxic equivalents.

Abbreviations:

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	9,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 56	ND	mg/kg	No	Not Detected
Arsenic	54 / 56	1.4 - 13	mg/kg	No	Within Background
Barium	56 / 56	60 - 320	mg/kg	No	Within Background
Beryllium	0 / 56	ND	mg/kg	No	Not Detected
Cadmium	0 / 56	ND	mg/kg	No	Not Detected
Calcium ^b	2 / 2	20,000 - 35,000	mg/kg	No	Within Background
Chromium, Hexavalent	17 / 58	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	58 / 58	10 - 71	mg/kg	Yes	Above Background
Cobalt	56 / 56	4.6 - 11	mg/kg	No	Within Background
Copper	58 / 58	6.9 - 22	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron	2 / 2	18,000 - 20,000	mg/kg	No	Within Background
Lead	56 / 56	1.4 - 23	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	2 / 2	300 - 420	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 56	ND	mg/kg	No	Not Detected
Molybdenum	0 / 56	ND	mg/kg	No	Not Detected
Nickel	58 / 58	6.8 - 18	mg/kg	No	Within Background
Potassium ^b	2 / 2	3,900 - 4,000	mg/kg	No	Within Background
Selenium	0 / 56	ND	mg/kg	No	Not Detected
Silver	0 / 56	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 2	660	mg/kg	No	Within Background
Thallium	0 / 56	ND	mg/kg	No	Not Detected
Vanadium	56 / 56	22 - 42	mg/kg	No	Within Background
Zinc	58 / 58	26 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 5	ND	ug/kg	No	Not Detected

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
1,1,2-Trichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 5	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 5	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 5	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 10	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 10	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 5	ND	ug/kg	No	Not Detected
Acetone	0 / 5	ND	ug/kg	No	Not Detected
Acrolein	0 / 5	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 5	ND	ug/kg	No	Not Detected
Benzene	0 / 5	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 10	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 10	ND	ug/kg	No	Not Detected

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Bromobenzene	0 / 5	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 5	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 5	ND	ug/kg	No	Not Detected
Bromoform	0 / 5	ND	ug/kg	No	Not Detected
Bromomethane	0 / 5	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 5	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 5	ND	ug/kg	No	Not Detected
Chloro methane	0 / 5	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 5	ND	ug/kg	No	Not Detected
Chloroethane	0 / 5	ND	ug/kg	No	Not Detected
Chloroform	0 / 5	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 5	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 5	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 5	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 5	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 10	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 10	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 5	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 5	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 5	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 10	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 5	ND	ug/kg	No	Not Detected

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
p-Chlorotoluene	0 / 5	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Styrene	0 / 5	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 5	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 5	ND	ug/kg	No	Not Detected
Toluene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 5	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 5	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 5	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 5	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 5	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 5	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 10	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 10	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 10	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 10	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 10	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 10	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 10	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 10	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 10	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 10	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 10	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 10	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 10	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 10	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 10	ND	ug/kg	No	Not Detected

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
4-Chloro-3-methylphenol	0 / 10	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 10	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 10	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 10	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 10	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 10	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 10	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 10	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 10	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 10	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 10	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 10	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 10	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 10	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 10	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 10	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 10	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 10	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 10	ND	ug/kg	No	Not Detected
Phenol	0 / 10	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	18 / 18	0 - 223	ug/kg	No	Within Background
PAH Low molecular weight	18 / 18	0 - 14	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 24	ND	ug/kg	No	Not Detected

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
4,4-DDE	0 / 24	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 24	ND	ug/kg	No	Not Detected
Aldrin	0 / 24	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 24	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 24	ND	ug/kg	No	Not Detected
beta-BHC	0 / 24	ND	ug/kg	No	Not Detected
delta-BHC	0 / 24	ND	ug/kg	No	Not Detected
Dieldrin	0 / 24	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 24	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 24	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 24	ND	ug/kg	No	Not Detected
Endrin	0 / 24	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 24	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 24	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 24	ND	ug/kg	No	Not Detected
Heptachlor	0 / 24	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 24	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 24	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 10	ND	ug/kg	No	Not Detected
Toxaphene	0 / 24	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^c	2 / 28	59 - 690	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 10	11 - 29	mg/kg	Yes	Detected
TPH as gasoline	0 / 5	ND	mg/kg	No	Not Detected
TPH as motor oil	9 / 10	11 - 31	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	3 / 42	0.27 - 0.50	ng/kg	Yes	Above Background
TEQ Avian ^d	42 / 42	0.18 - 110	ng/kg	Yes	Above Background
TEQ Mammals ^d	42 / 42	0.12 - 180	ng/kg	Yes	Above Background

Table TT-2.1b

Chemicals Included in the Risk Assessment: Tamarisk Thicket Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to ecological risk assessment (ERA).
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the ERA. Ecological toxicity values are available for manganese, thus this chemical is evaluated in the ERA, if above background levels.
- ^c Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^d Dioxins are evaluated in toxic equivalents.

Abbreviations:

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Inorganics					
Aluminum	2 / 2	9,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 83	ND	mg/kg	No	Not Detected
Arsenic	77 / 83	1.3 - 13	mg/kg	No	Within Background
Barium	83 / 83	53 - 420	mg/kg	No	Within Background
Beryllium	0 / 83	ND	mg/kg	No	Not Detected
Cadmium	1 / 83	1.1	mg/kg	No	Within Background
Calcium ^b	2 / 2	20,000 - 35,000	mg/kg	No	Within Background
Chromium, Hexavalent	19 / 85	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	85 / 85	9.6 - 71	mg/kg	Yes	Above Background
Cobalt	83 / 83	4.6 - 14	mg/kg	No	Within Background
Copper	85 / 85	5.7 - 23	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron	2 / 2	18,000 - 20,000	mg/kg	No	Within Background
Lead	82 / 83	1.0 - 23	mg/kg	Yes	Above Background
Magnesium ^b	2 / 2	7,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	2 / 2	300 - 420	mg/kg	Yes	Above Background
Mercury (inorganic)	0 / 83	ND	mg/kg	No	Not Detected
Molybdenum	1 / 83	1.5	mg/kg	No	Within Background
Nickel	85 / 85	6.8 - 19	mg/kg	No	Within Background
Potassium ^b	2 / 2	3,900 - 4,000	mg/kg	No	Within Background
Selenium	0 / 83	ND	mg/kg	No	Not Detected
Silver	0 / 83	ND	mg/kg	No	Not Detected
Sodium ^b	1 / 2	660	mg/kg	No	Within Background
Thallium	0 / 83	ND	mg/kg	No	Not Detected
Vanadium	83 / 83	22 - 46	mg/kg	No	Within Background
Zinc	85 / 85	24 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 9	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 9	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 9	ND	ug/kg	No	Not Detected

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
1,1,2-Trichloroethane	0 / 9	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 9	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 9	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 9	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 9	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 9	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 9	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 9	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 9	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 9	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 9	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 9	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 9	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 2	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 9	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 9	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 2	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 9	ND	ug/kg	No	Not Detected
Acetone	0 / 9	ND	ug/kg	No	Not Detected
Acrolein	0 / 9	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 9	ND	ug/kg	No	Not Detected
Benzene	0 / 9	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 14	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 14	ND	ug/kg	No	Not Detected

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
Bromobenzene	0 / 9	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 9	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 9	ND	ug/kg	No	Not Detected
Bromoform	0 / 9	ND	ug/kg	No	Not Detected
Bromomethane	0 / 9	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 9	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 9	ND	ug/kg	No	Not Detected
Chloro methane	0 / 9	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 9	ND	ug/kg	No	Not Detected
Chloroethane	0 / 9	ND	ug/kg	No	Not Detected
Chloroform	0 / 9	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 9	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 9	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 9	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 9	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 9	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 9	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 14	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 2	ND	ug/kg	No	Not Detected
Isophorone	0 / 14	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 9	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 2	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 9	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 9	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 9	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 2	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 9	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 9	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 14	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 9	ND	ug/kg	No	Not Detected

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
p-Chlorotoluene	0 / 9	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 9	ND	ug/kg	No	Not Detected
Styrene	0 / 9	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 9	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 9	ND	ug/kg	No	Not Detected
Toluene	0 / 9	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 9	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 9	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 9	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 9	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 9	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 9	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 2	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 2	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 2	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 14	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 14	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 14	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 14	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 14	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 14	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 14	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 14	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 14	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 14	ND	ug/kg	No	Not Detected

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
4-Chloro-3-methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 14	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 14	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 14	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 14	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 14	ND	ug/kg	No	Not Detected
Acetophenone	0 / 2	ND	ug/kg	No	Not Detected
Atrazine	0 / 2	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 2	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 14	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 14	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 14	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 14	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 14	ND	ug/kg	No	Not Detected
Caprolactam	0 / 2	ND	ug/kg	No	Not Detected
Carbazole	0 / 2	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 14	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 14	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 14	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 14	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 14	ND	ug/kg	No	Not Detected
Phenol	0 / 14	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
PAH High molecular weight	24 / 24	0 - 223	ug/kg	No	Within Background
PAH Low molecular weight	24 / 24	0 - 14	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 35	ND	ug/kg	No	Not Detected

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPEC in Risk Assessment
4,4-DDE	0 / 35	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 35	ND	ug/kg	No	Not Detected
Aldrin	0 / 35	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 35	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 35	ND	ug/kg	No	Not Detected
beta-BHC	0 / 35	ND	ug/kg	No	Not Detected
delta-BHC	0 / 35	ND	ug/kg	No	Not Detected
Dieldrin	0 / 35	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 35	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 35	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 35	ND	ug/kg	No	Not Detected
Endrin	0 / 35	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 35	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 2	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 35	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 35	ND	ug/kg	No	Not Detected
Heptachlor	0 / 35	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 35	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 35	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 14	ND	ug/kg	No	Not Detected
Toxaphene	0 / 35	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^c	2 / 35	59 - 690	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 14	11 - 29	mg/kg	Yes	Detected
TPH as gasoline	0 / 9	ND	mg/kg	No	Not Detected
TPH as motor oil	10 / 14	11 - 31	mg/kg	Yes	Detected
Dioxins/Furans					
2,3,7,8-TCDD	4 / 53	0.27 - 0.50	ng/kg	Yes	Above Background
TEQ Avian ^d	51 / 53	0.17 - 110	ng/kg	Yes	Above Background
TEQ Mammals ^d	51 / 53	0.12 - 180	ng/kg	Yes	Above Background

Table TT-2.1c

Chemicals Included in the Risk Assessment: Tamarisk Thicket Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

- ^a Applicable to ecological risk assessment (ERA).
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the ERA. Ecological toxicity values are available for manganese, thus this chemical is evaluated in the ERA, if above background levels.
- ^c Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^d Dioxins are evaluated in toxic equivalents.

Abbreviations:

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPEC = Constituent of Potential Ecological Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-0.5	2 / 2	100	9500	14000	NA	NA	11750	11750	11750	10125000	3182	--	--	--	--		
Antimony	mg/kg	0-0.5	0 / 28	0	NA	NA	1	2.85	NA	NA	NA	NA	NA	--	--	--	--		
Arsenic	mg/kg	0-0.5	27 / 28	96	2.4	13	0.5	0.5	4.433	4.293	4	3.895	1.974	--	--	--	--		
Barium	mg/kg	0-0.5	28 / 28	100	72	320	NA	NA	183.3	183.3	180	3049	55.22	--	--	--	--		
Beryllium	mg/kg	0-0.5	0 / 28	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Cadmium	mg/kg	0-0.5	0 / 28	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Chromium, hexavalent	mg/kg	0-0.5	6 / 29	21	0.3	2.6	0.025	0.2	1.078	0.243	0.875	0.78	0.883	X	0.438	95% KM (t) UCL	0.419	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-0.5	29 / 29	100	12	71	NA	NA	33.87	33.87	33	171.6	13.1	X	38	95% Student's-t UCL	36.1	Bootstrap BCA 95UCL	
Cobalt	mg/kg	0-0.5	28 / 28	100	4.6	9.6	NA	NA	8.046	8.046	8.4	1.51	1.229	--	--	--	--		
Copper	mg/kg	0-0.5	29 / 29	100	7	22	NA	NA	14.87	14.87	15	13.49	3.673	X	16	95% Student's-t UCL	15.9	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--		
Iron	mg/kg	0-0.5	2 / 2	100	18000	20000	NA	NA	19000	19000	19000	2000000	1414	--	--	--	--		
Lead	mg/kg	0-0.5	28 / 28	100	2.2	23	NA	NA	9.811	9.811	9.05	21	4.583	X	11.3	95% Student's-t UCL	11	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-0.5	2 / 2	100	300	420	NA	NA	360	360	360	7200	84.85	X	420	Max Detect	420	Max Detect	
Mercury	mg/kg	0-0.5	0 / 28	0	NA	NA	0.0495	0.07	NA	NA	NA	NA	NA	--	--	--	--		
Molybdenum	mg/kg	0-0.5	0 / 28	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Nickel	mg/kg	0-0.5	29 / 29	100	6.8	18	NA	NA	14.16	14.16	14	6.725	2.593	--	--	--	--		
Selenium	mg/kg	0-0.5	0 / 28	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Silver	mg/kg	0-0.5	0 / 28	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Thallium	mg/kg	0-0.5	0 / 28	0	NA	NA	1	2.85	NA	NA	NA	NA	NA	--	--	--	--		
Vanadium	mg/kg	0-0.5	28 / 28	100	23	42	NA	NA	33.39	33.39	34	29.14	5.398	--	--	--	--		
Zinc	mg/kg	0-0.5	29 / 29	100	26	84	NA	NA	57.21	57.21	59	170.2	13.05	X	61.3	95% Student's-t UCL	60.7	Bootstrap BCA 95UCL	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-0.5	0 / 5	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--		
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--		
Butylbenzylphthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--		
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 5	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--		
Isophorone	µg/kg	0-0.5	0 / 5	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--		
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-0.5	5 / 9	56	7.8	14	0	0	10.96	6.089	11	5.308	2.304	--	--	--	--		
PAH high molecular weight	µg/kg	0-0.5	7 / 9	78	7.1	223	0	0	102.6	79.8	87.8	6713	81.93	--	--	--	--		
1-Methyl naphthalene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--		
2-Methyl naphthalene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--		
Acenaphthene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--		
Acenaphthylene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--		
Anthracene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--		
Benzo (a) anthracene	µg/kg	0-0.5	4 / 9	44	7.2	22	2.5	3.55	12.75	7.056	10.9	41.88	6.471	X	11.6	95% KM (t) UCL	10.1	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-0.5	4 / 9	44	8	20	2.5	32.5	15	8.75	16	28	5.292	X	14.1	95% KM (t) UCL	15.2	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-0.5	5 / 9	56	11	31	2.5	32.5	22	14.69	24	64	8	X	22.8	95% KM (t) UCL	21.3	Bootstrap BCA 95UCL	

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPEC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Benzo (ghi) perylene	µg/kg	0-0.5	2 / 7	29	16	17	2.5	32.5	16.5	7.167	16.5	0.5	0.707	X	17	Max Detect	17	Max Detect
Benzo (k) fluoranthene	µg/kg	0-0.5	4 / 9	44	7.6	27	2.5	32.5	15.9	9.2	14.5	66.84	8.176	X	15.6	95% KM (t) UCL	15.8	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-0.5	7 / 9	78	7.1	29	2.5	2.5	14.63	11.93	11	67.96	8.244	X	17.6	95% KM (t) UCL	15.7	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-0.5	2 / 7	29	5.9	6.1	2.5	32.5	6	3.667	6	0.02	0.141	X	6.1	Max Detect	6.1	Max Detect
Fluoranthene	µg/kg	0-0.5	6 / 9	67	10	34	2.5	2.65	23	16.17	23.5	83.2	9.121	X	24.2	95% KM (t) UCL	21.1	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	2 / 7	29	14	14	2.5	32.5	14	6.333	14	0	0	X	14	Max Detect	14	Max Detect
Naphthalene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-0.5	5 / 9	56	7.8	14	2.5	3.55	10.96	7.2	11	5.308	2.304	X	10.3	95% KM (t) UCL	9.61	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-0.5	6 / 9	67	10	30	2.5	2.65	20	14.17	19.5	62	7.874	X	21	95% KM (t) UCL	17.7	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-0.5	7 / 9	78	6.1	72	5.8	5.8	26.3	21.74	21	503.6	22.44	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-0.5	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-0.5	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-0.5	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-0.5	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-0.5	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-0.5	1 / 15	7	59	59	17	23	59	19.8	59	NA	NA	X	59	Max Detect	59	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-0.5	21 / 21	100	0.42	180	NA	NA	49.28	49.28	29	2345	48.42	X	79.1	95% Adjusted Gamma UCL	59.6	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-0.5	21 / 21	100	0.37	110	NA	NA	29.91	29.91	18	918.1	30.3	X	47.6	95% Adjusted Gamma UCL	37.2	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-0.5	21 / 21	100	0.42	180	NA	NA	49.28	49.28	29	2345	48.42	X	79.1	95% Adjusted Gamma UCL	60.5	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-0.5	2 / 21	10	0.27	0.5	0.03	0.5	0.385	0.0644	0.385	0.0265	0.163	X	0.5	Max Detect	0.5	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	2 / 5	40	15.8	28.9	5	5	22.35	11.94	22.35	85.81	9.263	X	28.9	Max Detect	28.9	Max Detect
TPH as motor oil	mg/kg	0-0.5	5 / 5	100	17.5	31	NA	NA	23.6	23.6	21.6	42.97	6.555	X	31	Max Detect	31	Max Detect
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	2 / 2	100	9500	14000	NA	NA	11750	11750	11750	10125000	3182	--	--	--	--	--
Antimony	mg/kg	0-3	0 / 28	0	NA	NA	1	2.87	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-3	28 / 28	100	0.933	11.8	NA	NA	3.977	3.977	3.8	3.358	1.833	--	--	--	--	--
Barium	mg/kg	0-3	28 / 28	100	72.3	290	NA	NA	170.8	170.8	168.5	2166	46.54	--	--	--	--	--
Beryllium	mg/kg	0-3	0 / 28	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-3	0 / 28	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-3	17 / 29	59	0.143	1.84	0.025	0.202	0.424	0.261	0.238	0.195	0.442	X	0.58	KM H-UCL	0.364	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	29 / 29	100	14.7	56.7	NA	NA	31.44	31.44	31	92.67	9.627	X	34.5	95% Student's-t UCL	33	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-3	28 / 28	100	5.27	9.33	NA	NA	7.936	7.936	8.1	0.821	0.906	--	--	--	--	--
Copper	mg/kg	0-3	29 / 29	100	7.93	19.3	NA	NA	13.92	13.92	14.6	8.323	2.885	X	14.8	95% Student's-t UCL	14.8	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-3	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-3	2 / 2	100	18000	20000	NA	NA	19000	19000	19000	2000000	1414	--	--	--	--	--
Lead	mg/kg	0-3	28 / 28	100	2	18.2	NA	NA	8.681	8.681	8.535	9.691	3.113	X	9.68	95% Student's-t UCL	9.31	Bootstrap BCA 95UCL

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Manganese	mg/kg	0-3	2 / 2	100	300	420	NA	NA	360	360	360	7200	84.85	X	420	Max Detect	420	Max Detect	
Mercury	mg/kg	0-3	0 / 28	0	NA	NA	0.0497	0.07	NA	NA	NA	NA	NA	--	--	--	--	--	
Molybdenum	mg/kg	0-3	0 / 28	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--	
Nickel	mg/kg	0-3	29 / 29	100	8.53	16.3	NA	NA	13.33	13.33	13.7	2.629	1.621	--	--	--	--	--	
Selenium	mg/kg	0-3	0 / 28	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--	
Silver	mg/kg	0-3	0 / 28	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-3	0 / 28	0	NA	NA	1	2.87	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-3	28 / 28	100	25.3	40	NA	NA	32.75	32.75	33.35	15.63	3.953	--	--	--	--	--	
Zinc	mg/kg	0-3	29 / 29	100	31.7	71.7	NA	NA	52.35	52.35	51.7	94.82	9.737	X	55.4	95% Student's-t UCL	55	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-3	0 / 5	0	NA	NA	25.5	32	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-3	0 / 2	0	NA	NA	2.6	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-3	0 / 5	0	NA	NA	25.5	32	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-3	0 / 5	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-3	0 / 5	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 5	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-3	0 / 5	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-3	7 / 9	78	2.07	12	0	0	7.037	5.473	7.33	13.42	3.664	--	--	--	--	--	
PAH high molecular weight	µg/kg	0-3	9 / 9	100	4.73	149	NA	NA	68.88	68.88	42.8	3089	55.58	--	--	--	--	--	
1-Methyl naphthalene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--	
2-Methyl naphthalene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthylene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--	

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

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PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis
Anthracene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-3	6 / 9	67	3.57	15.5	2.7	3.57	8.203	6.369	8.025	18.78	4.334	X	9.18	95% KM (t) UCL	8.44	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-3	6 / 9	67	4.3	14.2	2.7	22.8	9.733	7.975	10.45	20.62	4.541	X	11.4	95% KM (t) UCL	11.9	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-3	6 / 9	67	4.9	31	2.52	22.8	16.55	12.76	16.9	76.91	8.77	X	19.1	95% KM (t) UCL	19.1	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-3	4 / 7	57	3.5	12.2	2.7	22.8	7.858	6.205	7.865	21.42	4.629	X	12.2	Max Detect	12.2	Max Detect
Benzo (k) fluoranthene	µg/kg	0-3	5 / 9	56	5.33	18.8	2.52	22.8	11.25	7.974	11.5	27.12	5.208	X	12.1	95% KM (t) UCL	12.2	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-3	9 / 9	100	4.37	20.2	NA	NA	10.32	10.32	7.75	32.18	5.673	X	13.8	95% Student's-t UCL	12.9	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-3	2 / 7	29	4.77	4.92	2.52	22.8	4.845	3.295	4.845	0.0113	0.106	X	4.92	Max Detect	4.92	Max Detect
Fluoranthene	µg/kg	0-3	8 / 9	89	4.77	26	2.7	2.7	16.2	14.7	17	61.13	7.819	X	20.1	95% KM (t) UCL	19	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	4 / 7	57	3.37	10.2	2.7	22.8	6.968	5.601	7.15	14.02	3.744	X	10.2	Max Detect	10.2	Max Detect
Naphthalene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.43	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-3	7 / 9	78	3.73	12	2.52	2.7	8.013	6.792	8.18	8.559	2.926	X	9.01	95% KM (t) UCL	9.01	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-3	8 / 9	89	4.77	23	2.7	2.7	14.07	12.81	13.85	43.95	6.63	X	17.4	95% KM (t) UCL	15.9	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-3	9 / 9	100	6.23	50.5	NA	NA	18.09	18.09	14	191.3	13.83	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-3	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-3	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-3	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-3	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-3	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-3	2 / 15	13	45.3	241	17	23	143.2	33.82	143.2	19149	138.4	X	241	Max Detect	241	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-3	21 / 21	100	0.327	120	NA	NA	36.66	36.66	26.7	1079	32.85	X	57.9	95% Adjusted Gamma UCL	43.5	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-3	21 / 21	100	0.307	73.6	NA	NA	22.51	22.51	15	439.8	20.97	X	35.2	95% Adjusted Gamma UCL	27.2	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-3	21 / 21	100	0.327	120	NA	NA	36.66	36.66	26.7	1079	32.85	X	57.9	95% Adjusted Gamma UCL	43.7	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-3	3 / 21	14	0.189	0.517	0.0285	0.343	0.326	0.0725	0.273	0.029	0.17	X	0.517	Max Detect	0.517	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-3	2 / 5	40	12.2	22.8	5	5	17.5	10	17.5	56.18	7.495	X	22.8	Max Detect	22.8	Max Detect
TPH as gasoline	mg/kg	0-3	0 / 5	0	NA	NA	0.46	0.65	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-3	5 / 5	100	13.5	27.6	NA	NA	20.12	20.12	18	32.93	5.738	X	27.6	Max Detect	27.6	Max Detect
Soil Depth Interval: 0-6 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-6	2 / 2	100	9500	14000	NA	NA	11750	11750	11750	10125000	3182	--	--	--	--	--
Antimony	mg/kg	0-6	0 / 28	0	NA	NA	1	2.88	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-6	28 / 28	100	1.27	10.5	NA	NA	3.536	3.536	3.27	2.747	1.657	--	--	--	--	--
Barium	mg/kg	0-6	28 / 28	100	70.3	260	NA	NA	154.8	154.8	163.5	1758	41.93	--	--	--	--	--
Beryllium	mg/kg	0-6	0 / 28	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-6	1 / 28	4	0.683	0.683	0.5	1.43	0.683	0.507	0.683	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-6	17 / 29	59	0.163	1.07	0.025	0.203	0.363	0.225	0.288	0.0555	0.235	X	0.335	95% KM Adjusted Gamma UCL	0.3	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-6	29 / 29	100	15.7	53.2	NA	NA	27.71	27.71	26.3	73.68	8.583	X	30.4	95% Student's-t UCL	29.4	Bootstrap BCA 95UCL

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Cobalt	mg/kg	0-6	28 / 28	100	6.1	9.58	NA	NA	7.872	7.872	7.75	0.808	0.899	--	--	--	--	--	
Copper	mg/kg	0-6	29 / 29	100	7.88	16.7	NA	NA	12.65	12.65	12.7	6.384	2.527	X	13.5	95% Student's-t UCL	13.5	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-6	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--	--	
Iron	mg/kg	0-6	2 / 2	100	18000	20000	NA	NA	19000	19000	19000	2000000	1414	--	--	--	--	--	
Lead	mg/kg	0-6	28 / 28	100	1.77	13.5	NA	NA	6.939	6.939	6.94	6.588	2.567	X	7.77	95% Student's-t UCL	7.34	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-6	2 / 2	100	300	420	NA	NA	360	360	360	7200	84.85	X	420	Max Detect	420	Max Detect	
Mercury	mg/kg	0-6	0 / 28	0	NA	NA	0.0498	0.07	NA	NA	NA	NA	NA	--	--	--	--	--	
Molybdenum	mg/kg	0-6	1 / 28	4	0.667	0.667	0.5	1.43	0.667	0.506	0.667	NA	NA	--	--	--	--	--	
Nickel	mg/kg	0-6	29 / 29	100	9.78	15.5	NA	NA	12.42	12.42	12.2	1.847	1.359	--	--	--	--	--	
Selenium	mg/kg	0-6	0 / 28	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--	
Silver	mg/kg	0-6	0 / 28	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-6	0 / 28	0	NA	NA	1	2.88	NA	NA	NA	NA	NA	--	--	--	--	--	
Vanadium	mg/kg	0-6	28 / 28	100	24.2	37.8	NA	NA	32.05	32.05	33	10.71	3.273	--	--	--	--	--	
Zinc	mg/kg	0-6	29 / 29	100	33	60.3	NA	NA	46.66	46.66	46.3	51.62	7.185	X	48.9	95% Student's-t UCL	48.3	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-6	0 / 5	0	NA	NA	25.3	32	NA	NA	NA	NA	NA	--	--	--	--	--	
Bromomethane	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-6	0 / 2	0	NA	NA	2.6	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl ethyl ketone	µg/kg	0-6	0 / 5	0	NA	NA	25.3	32	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, m,p-	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylene, o-	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-6	0 / 5	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-6	0 / 5	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 5	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-6	0 / 5	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-6	0 / 5	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-6	0 / 5	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--	

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets											COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-6	7 / 9	78	2.6	12	0	0	6.101	4.746	4.67	13.26	3.641	--	--	--	--	--
PAH high molecular weight	µg/kg	0-6	9 / 9	100	2.37	133	NA	NA	55.35	55.35	51.7	1631	40.38	--	--	--	--	--
1-Methyl naphthalene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-6	6 / 9	67	4.12	9.8	2.75	3.58	6.842	5.478	6.455	5.002	2.236	X	7.21	95% KM (t) UCL	7.08	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-6	6 / 9	67	5.22	14	2.75	12.9	8.255	6.766	7.855	9.321	3.053	X	9.07	95% KM (t) UCL	9.42	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-6	6 / 9	67	6.1	31	2.54	12.9	14.13	10.76	10.5	80.71	8.984	X	16.5	95% KM (t) UCL	18	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-6	4 / 7	57	4.02	7.35	2.75	12.9	5.878	4.835	6.07	2.525	1.589	X	7.35	Max Detect	7.35	Max Detect
Benzo (k) fluoranthene	µg/kg	0-6	5 / 9	56	6.75	13	2.54	12.9	9.018	6.487	7.6	7.438	2.727	X	9.1	95% KM (t) UCL	9.11	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-6	9 / 9	100	4.23	16	NA	NA	8.47	8.47	7.57	14.37	3.791	X	10.8	95% Student's-t UCL	11	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-6	2 / 7	29	3.65	3.74	2.53	12.9	3.695	2.918	3.695	0.00405	0.0636	X	3.74	Max Detect	3.74	Max Detect
Fluoranthene	µg/kg	0-6	8 / 9	89	5.92	26	2.75	2.75	14.13	12.87	12.5	45.11	6.716	X	17.5	95% KM (t) UCL	18.1	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	4 / 7	57	3.82	6.38	2.75	12.9	5.363	4.492	5.625	1.535	1.239	X	6.38	Max Detect	6.38	Max Detect
Naphthalene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.32	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-6	7 / 9	78	4.35	12	2.54	2.75	7.23	6.188	6.35	8.301	2.881	X	8.23	95% KM (t) UCL	8.76	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-6	8 / 9	89	5.92	23	2.75	2.75	12.16	11.11	11.2	29.89	5.467	X	14.9	95% KM (t) UCL	15	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-6	9 / 9	100	6.37	28.8	NA	NA	14.12	14.12	14	48.77	6.983	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-6	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-6	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-6	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-6	0 / 13	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-6	0 / 13	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-6	2 / 15	13	31.7	354	17	23	192.9	40.45	192.9	51939	227.9	X	354	Max Detect	354	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-6	21 / 21	100	0.233	84.7	NA	NA	24.06	24.06	20.4	466.6	21.6	X	32.2	95% Student's-t UCL	30.5	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-6	21 / 21	100	0.243	60.3	NA	NA	15.12	15.12	12.9	214.2	14.64	X	20.6	95% Student's-t UCL	19.7	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-6	21 / 21	100	0.233	84.7	NA	NA	24.06	24.06	20.4	466.6	21.6	X	32.2	95% Student's-t UCL	30.1	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-6	4 / 21	19	0.114	0.65	0.0266	0.227	0.372	0.0941	0.362	0.0675	0.26	X	0.167	95% KM (t) UCL	0.234	Bootstrap BCA 95UCL

Table TT-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Tamarisk Thicket (0-0.5 ft bgs, 0-3 ft bgs, and 0-6 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPEC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-6	2 / 5	40	8.6	15.7	5	5	12.15	7.86	12.15	25.21	5.02	X	15.7	Max Detect	15.7	Max Detect	
TPH as gasoline	mg/kg	0-6	0 / 5	0	NA	NA	0.459	0.65	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-6	5 / 5	100	9.27	22.2	NA	NA	16.07	16.07	16.7	24.7	4.97	X	22.2	Max Detect	22.2	Max Detect	

Notes:

^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.

^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.

^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

"--" = not applicable

B(a)P equivalent = benzo(a)pyrene equivalent

BCA = Bias-corrected accelerated bootstrap method

COPEC = constituent of potential ecological concern

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

EPC = exposure point concentration

FOD = frequency of detection

ft bgs = feet below ground surface

KM = Kaplan-Meier

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not applicable

ND = not detected

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PG&E = Pacific Gas and Electric Company

TCDD = Tetrachlorodibenzo-p-dioxin

TEQ = toxic equivalent

TPH = total petroleum hydrocarbons

UCL = upper confidence limit

X = COPEC in the exposure depth interval

Table TT-5.1

Summary of COPECs Evaluated in the ERA for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC ^a	Baseline (0-6 ft bgs)
Inorganics	
Chromium, hexavalent	X
Chromium, total	X
Copper	X
Lead	X
Manganese	X
Zinc	X
Polychlorinated Biphenyls	
Total PCBs	X
Dioxins	
TEQ Avian	X
TEQ Mammals	X
2,3,7,8-TCDD	X
Total Petroleum Hydrocarbons	
TPH as diesel	X
TPH as motor oil	X

Note:

^a COPECs selected over the entire soil depth interval (0-6 ft bgs) potentially contacted by ecological receptors. COPECs based on background screening for metals, polycyclic aromatic hydrocarbons, and dioxins. All detected organic compounds were selected as COPECs. See Section 2 of Appendix TT for details.

Abbreviations:

COPEC = constituent of potential ecological concern

ERA = ecological risk assessment

ft bgs = feet below ground surface

PCB = polychlorinated biphenyl

TPH = total petroleum hydrocarbon

X = COPEC in that exposure depth interval

Table TT-5.2
Soil Exposure Point Concentration Matrix for Terrestrial Ecological Receptors

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Ecological Receptor	Exposure Depth Intervals for Calculation of EPCs				
	Soil EPCs ^a		Biota Tissue EPCs		
	0-0.5 ft bgs	Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Plants - Maximum EPC (0-0.5, 0-3, 0-6 ft bgs)	Insects (0-0.5 ft bgs)	Insectivorous Mammals (0-0.5 ft bgs)
Terrestrial Receptors					
Plants		X			
Invertebrates	X				
Gambel's Quail	X		X		
Cactus Wren	X			X	
Desert Shrew	X			X	
Merriam's Kangaroo Rat		X	X		

Note:

^a EPCs for ecological receptors will be represented by the maximum detected concentration, depth-weighted 95% UCL, and spatially-weighted 95% UCL, as relevant for this exposure area. See Section 5 of Appendix TT for details.

Abbreviations:

95% UCL = 95% upper confidence limit

AOC = area of concern

EPC = exposure point concentration

ft bgs = feet below ground surface

X = representative EPC for the pathway/receptor

Table TT-5.3

Baseline Scenario Depth-Weighted Exposure Point Concentrations for Soil and Biota for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics									
Chromium, hexavalent	mg/kg	4.38E-01	5.80E-01	3.35E-01	1.80E-02	2.38E-02	1.37E-02	1.34E-01	1.27E-01
Chromium, total	mg/kg	3.80E+01	3.45E+01	3.04E+01	1.56E+00	1.41E+00	1.25E+00	1.16E+01	3.35E+00
Copper	mg/kg	1.60E+01	1.48E+01	1.35E+01	5.81E+00	5.64E+00	5.44E+00	8.24E+00	1.15E+01
Lead	mg/kg	1.13E+01	9.68E+00	7.77E+00	1.03E+00	9.47E-01	8.37E-01	5.69E+00	3.15E+00
Manganese	mg/kg	4.20E+02 m	4.20E+02 m	4.20E+02 m	3.32E+01	3.32E+01	3.32E+01	2.74E+01	8.61E+00
Zinc	mg/kg	6.13E+01	5.54E+01	4.89E+01	4.72E+01	4.47E+01	4.17E+01	3.30E+02	1.05E+02
Polychlorinated Biphenyls									
Total PCBs	mg/kg	5.90E-02 m	2.41E-01 m	3.54E-01 m	5.90E-04	2.41E-03	3.54E-03	8.70E-02	2.17E-03
Dioxins									
TEQ Avian	ng/kg	4.76E+01	3.52E+01	2.06E+01	2.67E-01	1.97E-01	1.15E-01	2.66E+02	3.99E+01
TEQ Mammals	ng/kg	7.91E+01	5.79E+01	3.22E+01	4.43E-01	3.24E-01	1.80E-01	4.85E+02	6.97E+01
2,3,7,8-TCDD	ng/kg	5.00E-01 m	5.17E-01 m	1.67E-01	--	--	--	--	--

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.^b Biota EPCs equal to 0.0 indicate no bioaccumulation from soil.**Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).**

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PCB = polychlorinated biphenyl

Table TT-5.4
Baseline Scenario Area-Weighted Exposure Point Concentrations for Soil and Biota for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}					
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals	
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs	
Inorganics										
Chromium, hexavalent	mg/kg	4.19E-01	3.64E-01	3.00E-01	1.72E-02	1.49E-02	1.23E-02	1.28E-01	1.23E-01	
Chromium, total	mg/kg	3.61E+01	3.30E+01	2.94E+01	1.48E+00	1.35E+00	1.21E+00	1.10E+01	3.23E+00	
Copper	mg/kg	1.59E+01	1.48E+01	1.35E+01	5.80E+00	5.64E+00	5.44E+00	8.19E+00	1.15E+01	
Lead	mg/kg	1.10E+01	9.31E+00	7.34E+00	1.02E+00	9.26E-01	8.11E-01	5.57E+00	3.12E+00	
Manganese	mg/kg	4.20E+02 m	4.20E+02 m	4.20E+02 m	3.32E+01	3.32E+01	3.32E+01	2.74E+01	8.61E+00	
Zinc	mg/kg	6.07E+01	5.50E+01	4.83E+01	4.70E+01	4.45E+01	4.14E+01	3.29E+02	1.05E+02	
Polychlorinated Biphenyls										
Total PCBs	mg/kg	5.90E-02 m	2.41E-01 m	3.54E-01 m	5.90E-04	2.41E-03	3.54E-03	8.70E-02	2.17E-03	
Dioxins										
TEQ Avian	ng/kg	3.72E+01	2.72E+01	1.97E+01	2.08E-01	1.52E-01	1.10E-01	1.99E+02	3.04E+01	
TEQ Mammals	ng/kg	6.05E+01	4.37E+01	3.01E+01	3.39E-01	2.45E-01	1.69E-01	3.54E+02	5.19E+01	
2,3,7,8-TCDD	ng/kg	5.00E-01 m	5.17E-01 m	2.34E-01	--	--	--	--	--	

Notes:

^a Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

^b Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).

Abbreviations:

-- = soil EPC or uptake model not available, biota EPCs could not be estimated.

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PCB = polychlorinated biphenyl

Table TT-5.5a

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Chromium, hexavalent	6E-01	1E+00	1E-03	1E-04	1E-02	1E-03	3E-03	8E-04	3E-04	8E-05	--	--	--	--	--	--	--	--
Chromium, total	No SL	7E-01	8E-02	1E-02	1E+00	2E-01	1E+00	3E-01	8E-02	2E-02	--	--	--	--	--	--	--	--
Copper	2E-01	2E-01	7E-02	2E-02	4E-01	1E-01	2E-01	1E-01	6E-02	3E-02	1E-01	5E-03	8E-01	3E-02	7E-01	3E-03	2E-01	8E-04
Lead	9E-02	7E-03	5E-02	3E-02	8E-01	4E-01	3E-01	1E-01	2E-02	1E-02	6E+00	1E-02	9E+01	1E-01	1E+00	5E-03	1E-01	4E-04
Manganese	2E+00	9E-01	2E-02	8E-03	7E-02	3E-02	1E-01	5E-02	7E-02	2E-02	4E-02	4E-03	2E-01	2E-02	5E-01	5E-02	3E-01	2E-02
Zinc	4E-01	5E-01	3E-02	1E-02	9E-01	4E-01	9E-01	2E-01	5E-02	1E-02	1E-01	1E-02	4E+00	4E-01	7E+00	2E-01	4E-01	1E-02
Polychlorinated Biphenyls																		
Total PCBs	9E-03	6E-02	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04
Dioxins																		
2,3,7,8-TCDD	No SL	6E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	1E-02	1E-03	4E+00	4E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	1E+02	1E+01	2E-01	2E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
 AOC = area of concern
 BTAG = Biological Technical Assistance Group
 COPEC = constituent of potential ecological concern
 HQ = hazard quotient
 LOAEL = lowest observed adverse effect level
 NOAEL = no-observed adverse effect level

PCB = polychlorinated biphenyl
 SUF = site use factor
 TRV = toxicity reference value

Table TT-5.5b

Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.1		SUF = 1		SUF = 1		SUF = 1		SUF = 0.1		SUF = 1		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Chromium, hexavalent	2E-04	2E-05	1E-02	1E-03	3E-03	8E-04	3E-04	8E-05	--	--	--	--	--	--	--	--
Chromium, total	1E-02	2E-03	1E+00	2E-01	1E+00	3E-01	8E-02	2E-02	--	--	--	--	--	--	--	--
Copper	1E-02	3E-03	4E-01	1E-01	2E-01	1E-01	6E-02	3E-02	2E-02	8E-04	8E-01	3E-02	7E-01	3E-03	2E-01	8E-04
Lead	7E-03	4E-03	8E-01	4E-01	3E-01	1E-01	2E-02	1E-02	9E-01	1E-03	9E+01	1E-01	1E+00	5E-03	1E-01	4E-04
Manganese	2E-03	1E-03	7E-02	3E-02	1E-01	5E-02	7E-02	2E-02	5E-03	5E-04	2E-01	2E-02	5E-01	5E-02	3E-01	2E-02
Zinc	4E-03	2E-03	9E-01	4E-01	9E-01	2E-01	5E-02	1E-02	2E-02	2E-03	4E+00	4E-01	7E+00	2E-01	4E-01	1E-02
Polychlorinated Biphenyls																
Total PCBs	6E-04	4E-05	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04	6E-04	4E-05	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	2E-03	2E-04	4E+00	4E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	1E+02	1E+01	2E-01	2E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated	PCB = polychlorinated biphenyl
AOC = area of concern	SUF = site use factor
COPEC = constituent of potential ecological concern	TRV = toxicity reference value
BTAG = Biological Technical Assistance Group	
HQ = hazard quotient	
LOAEL = lowest observed adverse effect level	
NOAEL = no-observed adverse effect level	

Table TT-5.6a

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Plants and Soil Invertebrates; SUF = 1, Selected TRVs and BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Chromium, hexavalent	4E-01	1E+00	9E-04	9E-05	1E-02	1E-03	3E-03	7E-04	2E-04	6E-05	--	--	--	--	--	--	--	--
Chromium, total	No SL	6E-01	8E-02	1E-02	1E+00	2E-01	1E+00	2E-01	8E-02	2E-02	--	--	--	--	--	--	--	--
Copper	2E-01	2E-01	7E-02	2E-02	4E-01	1E-01	2E-01	1E-01	6E-02	3E-02	1E-01	5E-03	8E-01	3E-02	6E-01	3E-03	2E-01	8E-04
Lead	9E-02	6E-03	5E-02	3E-02	7E-01	4E-01	3E-01	1E-01	2E-02	1E-02	6E+00	9E-03	9E+01	1E-01	1E+00	5E-03	1E-01	4E-04
Manganese	2E+00	9E-01	2E-02	8E-03	7E-02	3E-02	1E-01	5E-02	7E-02	2E-02	4E-02	4E-03	2E-01	2E-02	5E-01	5E-02	3E-01	2E-02
Zinc	4E-01	5E-01	3E-02	1E-02	9E-01	4E-01	9E-01	2E-01	5E-02	1E-02	1E-01	1E-02	4E+00	4E-01	7E+00	2E-01	4E-01	1E-02
Polychlorinated Biphenyls																		
Total PCBs	9E-03	6E-02	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04
Dioxins																		
2,3,7,8-TCDD	No SL	6E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	1E-02	1E-03	3E+00	3E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	7E+01	7E+00	1E-01	1E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table TT-5.6b

Ecological Risk Estimate Summary for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs and BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	HQs based on Selected TRVs								HQs based on BTAG TRVs							
	Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
	SUF = 0.1		SUF = 1		SUF = 1		SUF = 1		SUF = 0.1		SUF = 1		SUF = 1		SUF = 1	
	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																
Chromium, hexavalent	1E-04	1E-05	1E-02	1E-03	3E-03	7E-04	2E-04	6E-05	--	--	--	--	--	--	--	--
Chromium, total	1E-02	2E-03	1E+00	2E-01	1E+00	2E-01	8E-02	2E-02	--	--	--	--	--	--	--	--
Copper	1E-02	3E-03	4E-01	1E-01	2E-01	1E-01	6E-02	3E-02	2E-02	8E-04	8E-01	3E-02	6E-01	3E-03	2E-01	8E-04
Lead	7E-03	4E-03	7E-01	4E-01	3E-01	1E-01	2E-02	1E-02	8E-01	1E-03	9E+01	1E-01	1E+00	5E-03	1E-01	4E-04
Manganese	2E-03	1E-03	7E-02	3E-02	1E-01	5E-02	7E-02	2E-02	5E-03	5E-04	2E-01	2E-02	5E-01	5E-02	3E-01	2E-02
Zinc	4E-03	2E-03	9E-01	4E-01	9E-01	2E-01	5E-02	1E-02	2E-02	2E-03	4E+00	4E-01	7E+00	2E-01	4E-01	1E-02
Polychlorinated Biphenyls																
Total PCBs	6E-04	4E-05	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04	6E-04	4E-05	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04
Dioxins																
2,3,7,8-TCDD	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	2E-03	2E-04	3E+00	3E-01	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	7E+01	7E+00	1E-01	1E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level

PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table TT-6.1
Ecological Risk Estimate Summary for Baseline Scenario Using Depth-Weighted and Area-Weighted Exposure Point Concentrations (Wildlife Species-Specific SUF, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Baseline HQs						Baseline HQs based on Selected TRVs																			
	Plants			Soil Invertebrates			Gambel's Quail					Cactus Wren					Desert Shrew					Merriam's Kangaroo Rat				
	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted HQ	Area-Weighted HQ	WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a	Depth-Weighted		Area-Weighted		WOE Result ^a
							SUF = 0.1		SUF = 0.1			SUF = 1		SUF = 1			SUF = 1		SUF = 1							
							NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL	NOAEL	LOAEL		NOAEL	LOAEL			
Inorganics																										
Chromium, hexavalent	6E-01	4E-01	HQ ≤ 1	1E+00	1E+00	HQ ≤ 1	2E-04	2E-05	1E-04	1E-05	HQ ≤ 1	1E-02	1E-03	1E-02	1E-03	HQ ≤ 1	3E-03	8E-04	3E-03	7E-04	HQ ≤ 1	3E-04	8E-05	2E-04	6E-05	HQ ≤ 1
Chromium, total	No SL	No SL	--	7E-01	6E-01	HQ ≤ 1	1E-02	2E-03	1E-02	2E-03	HQ ≤ 1	1E+00	2E-01	1E+00	2E-01	HQ ≤ 1	1E+00	3E-01	1E+00	2E-01	HQ ≤ 1	8E-02	2E-02	8E-02	2E-02	HQ ≤ 1
Copper	2E-01	2E-01	HQ ≤ 1	2E-01	2E-01	HQ ≤ 1	1E-02	3E-03	1E-02	3E-03	HQ ≤ 1	4E-01	1E-01	4E-01	1E-01	HQ ≤ 1	2E-01	1E-01	2E-01	1E-01	HQ ≤ 1	6E-02	3E-02	6E-02	3E-02	HQ ≤ 1
Lead	9E-02	9E-02	HQ ≤ 1	7E-03	6E-03	HQ ≤ 1	7E-03	4E-03	7E-03	4E-03	HQ ≤ 1	8E-01	4E-01	7E-01	4E-01	HQ ≤ 1	3E-01	1E-01	3E-01	1E-01	HQ ≤ 1	2E-02	1E-02	2E-02	1E-02	HQ ≤ 1
Manganese	2E+00	2E+00	Unlikely	9E-01	9E-01	HQ ≤ 1	2E-03	1E-03	2E-03	1E-03	HQ ≤ 1	7E-02	3E-02	7E-02	3E-02	HQ ≤ 1	1E-01	5E-02	1E-01	5E-02	HQ ≤ 1	7E-02	2E-02	7E-02	2E-02	HQ ≤ 1
Zinc	4E-01	4E-01	HQ ≤ 1	5E-01	5E-01	HQ ≤ 1	4E-03	2E-03	4E-03	2E-03	HQ ≤ 1	9E-01	4E-01	9E-01	4E-01	HQ ≤ 1	9E-01	2E-01	9E-01	2E-01	HQ ≤ 1	5E-02	1E-02	5E-02	1E-02	HQ ≤ 1
Polychlorinated Biphenyls																										
Total PCBs	9E-03	9E-03	HQ ≤ 1	6E-02	6E-02	HQ ≤ 1	6E-04	4E-05	6E-04	4E-05	HQ ≤ 1	2E-01	1E-02	2E-01	1E-02	HQ ≤ 1	5E-02	1E-02	5E-02	1E-02	HQ ≤ 1	3E-03	8E-04	3E-03	8E-04	HQ ≤ 1
Dioxins																										
2,3,7,8-TCDD	No SL	No SL	--	6E-05	6E-05	HQ ≤ 1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	--	--	--	--	2E-03	2E-04	2E-03	2E-04	HQ ≤ 1	4E+00	4E-01	3E+00	3E-01	Unlikely	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1E+02	1E+01	7E+01	7E+00	Unlikely	2E-01	2E-02	1E-01	1E-02	HQ ≤ 1

Notes:
^a WOE Result is risk conclusion based on 1.) HQ/LOAEL HQ using area-weighted EPCs, and 2.) supporting LOE

	NOAEL HQ greater than 1
	LOAEL HQ greater than 1
	LOAEL HQ greater than 10
	LOAEL HQ greater than 100

Abbreviations:
-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
HQ = hazard quotient
LOE = line of evidence
LOAEL = lowest observed adverse effect level
ND = not detected
NOAEL = no-observed adverse effect level
no SL = no screening level available
TEQ = toxic equivalent
WOE = weight of evidence, considering multiple LOE. If HQs/LOAEL HQs > 1, WOE Result is either 1) not expected, 2) unlikely, or 3) possible.

Table TT-6.2
Risk Conclusions and Lines of Evidence Summary for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

AOC	Receptor	COPEC ^a	Area-Weighted HQs			Additional Lines of Evidence ^c								Risk Conclusions		Risk Driver (LOAEL HQ > 1 and Supporting LOE) ^g	
			Plant and Soil Invertebrates	Mammal/ Bird		Low FOD (Max = EPC) ^b	Locations > BTV	Locations > 10xBTV	Background HQs ^d		BAFs	Quality of SL or TRV	Exposure Assumptions ^e	Observation of T&E species ^f	Individuals		Populations
				NOAEL	LOAEL				NOAEL	LOAEL							
Small Home Range Receptors																	
Tamarisk Thicket)	Plants	Manganese	2E+00	--	--	Yes	1/2	0	2E+00		--	Low	--	No	Unlikely		No
	Soil Invertebrates	None	HQs ≤ 1	--	--	--	--	--	--		--	--	--	--	Not expected		No
	Merriam's Kangaroo Rat	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
	Desert Shrew	TEQ Mammals	--	7E+01	7E+00	No	19 / 21	7	5E-01	5E-02	High	Moderate	High	Yes	Unlikely	Unlikely	No
	Gambel's Quail	None	--	HQs < 1	HQs < 1	--	--	--	--	--	--	--	--	Not expected	Not expected	No	
	Cactus Wren	TEQ Avian	--	3E+00	3E-01	No	17 / 21	2	3E-02	3E-03	High	Moderate	High	No	Unlikely	Not expected	No

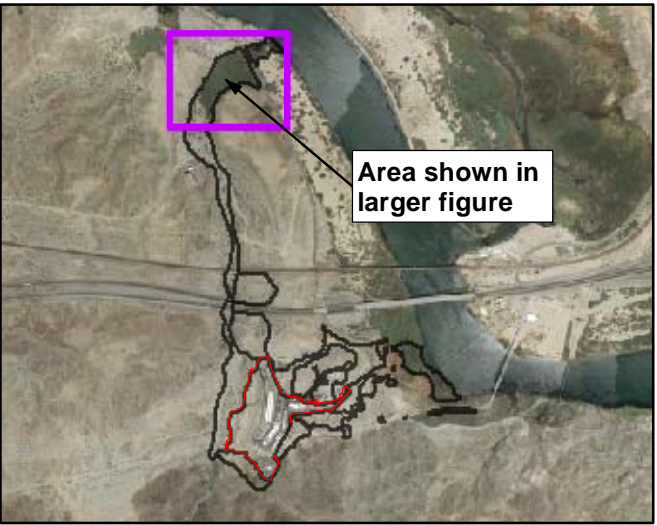
Notes:
a COPECs are presented for HQs greater than 1 based on the depth-weighted EPC and/or area-weighted EPC and species and site-specific SUF.
b The EPC is based on the maximum depth-weighted concentration due to the small dataset size.
c The additional lines of evidence for COPECs with NOAEL and LOAEL HQs less than or equal to 1 (based on the area-weighted EPC and species and site-specific SUF) are not included in the table.
d For plants and soil invertebrates, the background HQ is based on the BTV. For mammals and birds, the NOAEL and LOAEL background HQs are based on the 95 percent upper confidence limit.
e Applicable to wildlife, unless noted.
f In areas where observations were noted, the T&E species observed have large home ranges and unlikely to forage in upland habitat. See text for details.
g For dioxin TEQ, LOAEL HQs less than 10 with supporting LOE were considered unlikely to pose an unacceptable risk to populations of wildlife receptors due to the compounded conservative assumptions included in the ecological risk assessment. See Section 6.7.6 of the main report.

--	LOAEL and NOAEL HQs ≤ 1 for the receptor
	NOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 1
	HQ/LOAEL HQ greater than 10
	HQ/LOAEL HQ greater than 100

Abbreviations:
"--" = not applicable
AOC = area of concern
BAF = bioaccumulation factor
BCW = Bat Cave Wash
BG NA = background value not available
BTV = background threshold value
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect limit
LOE = line of evidence
MDC = maximum depth-weighted concentration
NC = not calculated
NE = line of evidence not evaluated
NOAEL = no observed adverse effect limit
SL = screening level
SWMU 1 = solid waste management unit 1
T&E = threatened and endangered
TCS-4= Topock Compressor Station Well #4
TEQ = toxic equivalent
TRV = toxicity reference value

FIGURE

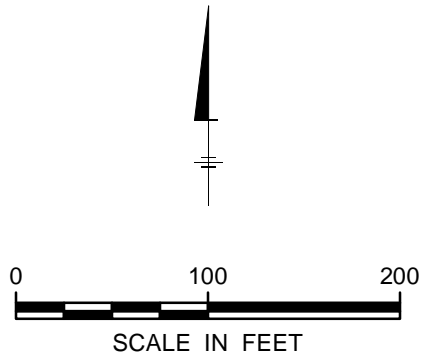




Legend:

- Soil Sampling Location
- Sediment Sampling Location
- Area of Concern
- Tamarisk Thicket Exposure Area
- Exposure Area
- Property Boundaries
- xxx Fencing
- Inside the Topock Compressor Station boundary, as defined by current fenceline
- BCW Label for Exposure Area
- AOC 1 Label for Area of Concern

Notes:
1. All sample locations with a labeled location ID are included in Tamarisk Thicket exposure area.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**SOIL SAMPLING LOCATIONS
TAMARISK THICKET EXPOSURE AREA**

Design & Consultancy
for natural and
built assets

FIGURE
TT-1.1

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the
Tamarisk Thicket ERA



Attachment TT-A

Dataset and Exposure Point Concentration Calculations for the Tamarisk Thicket HHERA

Attachment TT-A1

Table TT-A1 Dataset for Tamarisk Thicket HHERA

Attachment TT-A2 (Tables provided separately as excel files)

Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-005
Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-005_PAHupdate
Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-03
Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-03_PAHupdate
Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-06
Table TT-A2 Depth-Weighting Files: InputSamplesFor_TamariskThicket_Baseline_0-06_PAHupdate

Table TT-A2 ProUCL Input:TamariskThicket_0-005_ForProUCL
Table TT-A2 ProUCL Input:TamariskThicket_0-005_ForProUCL_PAHupdate
Table TT-A2 ProUCL Input:TamariskThicket_0-03_ForProUCL
Table TT-A2 ProUCL Input:TamariskThicket_0-03_ForProUCL_PAHupdate
Table TT-A2 ProUCL Input:TamariskThicket_0-06_ForProUCL
Table TT-A2 ProUCL Input:TamariskThicket_0-06_ForProUCL_PAHupdate

Table TT-A2 ProUCL Output:TamariskThicket_0-005_UCLs
Table TT-A2 ProUCL Output:TamariskThicket_0-03_UCLs
Table TT-A2 ProUCL Output:TamariskThicket_0-06_UCLs
Table TT-A2 ProUCL Output: LMWHMWP AHupdate_TT_UCLs

Attachment TT-A3 (Tables provided separately as excel files)

Table TT-A3 Tamarisk Thicket_Input Samples Area-Weighted
Table TT-A3 Tamarisk Thicket_Output Area-Weighted UCL-BCA

TT-A3 Figures Figures List Provided at Start of: TamariskThicket Figures_ThiessenAreaWeighting

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
SAMPLE TYPE						Field Duplicate												
ANALYTE	UNITS																	
Dioxins																		
1,2,3,4,6,7,8-HpCDD	ng/kg	5100	670	17	--	0.88 U	380	830	1800	2.2 U	1400	2900	--	--	550	8.3 J	1.8 U	
1,2,3,4,6,7,8-HpCDF	ng/kg	240 U	0.21 U	0.091 U	0.38 J	--	1.3 U	1.9 U	110	0.055 U	160	410	--	--	36	0.39 U	0.21 J	
1,2,3,4,7,8-HxCDD	ng/kg	7.1 U	3.5 J	0.2 U	--	0.046 U	1.9 J	4 J	7.8 J	0.13 U	13	3.3 U	--	--	2.6 J	0.29 U	0.14 J	
1,2,3,4,7,8-HxCDF	ng/kg	1.1 U	0.21 U	0.16 U	--	0.052 U	2.8 U	2.3 U	2.1 U	0.15 U	7.7 U	45 U	--	--	5 J	0.21 U	0.066 U	
1,2,3,4,7,8,9-HpCDF	ng/kg	27	4 U	0.12 U	--	0.067 U	1.6 U	8 U	12 J	0.07 U	11 U	41 U	--	--	5.4 J	0.19 U	0.079 U	
1,2,3,6,7,8-HxCDD	ng/kg	88	17	0.78 J	--	0.036 U	8.6 J	25	50	0.13 U	41	70	--	--	16	0.088 U	0.1 U	
1,2,3,6,7,8-HxCDF	ng/kg	45 U	7.7 U	1.5 U	--	0.048 U	4.9 U	19 U	4.6 J	0.14 U	6.8 U	40 U	--	--	10 U	0.22 U	0.084 U	
1,2,3,7,8-PeCDD	ng/kg	4.2 U	1 U	0.16 U	--	0.052 U	0.35 U	2.4 U	3.8 U	0.1 U	4.4 J	2.9 U	--	--	0.3 U	0.13 U	0.072 U	
1,2,3,7,8-PeCDF	ng/kg	0.58 U	1.1 U	1.5 U	--	0.062 U	0.19 U	0.53 U	1.4 U	0.06 U	7.5 U	23 U	--	--	0.26 U	0.07 U	0.1 U	
1,2,3,7,8,9-HxCDD	ng/kg	23	7 J	0.19 U	--	0.034 U	3.7 J	9.3 J	18	0.15 U	15	15	--	--	5.4 U	0.23 U	0.055 U	
1,2,3,7,8,9-HxCDF	ng/kg	1.3 U	1.6 J	0.24 U	--	0.061 U	1.1 U	2.7 U	2.4 U	0.18 U	8.7 U	51 U	--	--	0.78 U	0.25 U	0.35 U	
2,3,4,6,7,8-HxCDF	ng/kg	570 U	110 U	0.27 U	--	0.21 U	58 U	2.4 U	340 U	0.76 U	380 U	670 U	--	--	140 U	1.9 U	0.072 U	
2,3,4,7,8-PeCDF	ng/kg	5.1 J	1.2 U	1.6 U	--	0.067 U	0.21 U	2.7 J	1.6 U	0.065 U	5.8 J	23 U	--	--	2.1 J	0.075 U	0.11 U	
2,3,7,8-TCDD	ng/kg	0.4 U	0.08 U	0.045 U	--	0.025 U	0.36 U	0.19 U	0.5 J	0.061 U	0.32 U	0.52 U	--	--	0.27 J	0.051 U	0.13 U	
2,3,7,8-TCDF	ng/kg	2.3 J	0.077 U	0.069 U	--	0.1 J	0.36 U	0.96 U	1 J	0.16 U	2.5 J	0.84 U	--	--	0.9 J	0.047 U	0.26 J	
OCDD	ng/kg	42000	6700	130	14 U	--	4700	9700	16000	13 U	15000	50000	--	--	5200	70	12 U	
OCDF	ng/kg	1700	120	2.2 J	--	0.047 U	52	320 J	440	0.56 U	590	2300	--	--	260	0.96 U	0.4 U	
TEQ Avian	ng/kg	55	9.7	1.2	0.22	--	5.4	9.1	29	0.27 U	41	70	--	--	14	0.32	0.46	
TEQ Human	ng/kg	110	18	0.79	0.15	--	10	19	52	0.19 U	54	100	--	--	19	0.37	0.21	
TEQ Mammals	ng/kg	110	18	0.79	0.15	--	10	19	52	0.19 U	54	100	--	--	19	0.37	0.21	
General																		
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Metals																		
Antimony	mg/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2 U	2.1 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	
Arsenic	mg/kg	3.6	3.4	1.7	2.6	--	4.4	2.5	3.3	2.1	4.3	4	2.5	2.1	3.7	2.4	3.4	
Barium	mg/kg	190	190	100	--	160	180	180	210	91	200	190	110	92	190	190	73	
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Chromium, Hexavalent	mg/kg	0.21 U	0.42	0.2 U	0.21 U	--	0.21 U	0.36	0.5	0.22 U	0.23 U	0.8	0.21 U	0.21 U	0.21 U	0.22	0.22 U	
Chromium, total	mg/kg	52	66	17	25 J	--	19	38	54	11	29	48	12	13	29	22	17	
Cobalt	mg/kg	8.5	8.8	7.8	11	--	6.6	11	10	6.5	7.5	7.7	6.2	7.3	8	10	9.3	
Copper	mg/kg	16	15	9.5	--	8.2	14	15	16	6	15	17	6.9	6.5	16	17	11	
Lead	mg/kg	11	11	1.1	--	1.9	8.5	6.3	7.3	1.1 U	9.8	10	2	1.3	8.7	1.5	2	
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.11 U	--	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Nickel	mg/kg	14	14	11	16	--	12	17	18	7.3	13	13	8.3	8.2	14	14	14	
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Silver	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Thallium	mg/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2 U	2.1 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	
Vanadium	mg/kg	33	32	30	--	41	25	41	38	22	30	31	24	26	31	39	34	
Zinc	mg/kg	65	63	35	49	--	54	54	62	27	74	58	30	29	62	44	39	
Metals CLP																		
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pesticides																		

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
4,4-DDD	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
4,4-DDE	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
4,4-DDT	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Aldrin	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-Chlordane	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
beta-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
delta-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Dieldrin	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endo sulfan I	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Endo sulfan II	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endosulfan sulfate	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin aldehyde	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
gamma-Chlordane	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor Epoxide	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 UJ	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Methoxy chlor	ug/kg	5.2 U	5.1 U	5.1 U	5.3 U	--	5.3 U	5.1 U	5.2 U	5.4 U	--	--	--	--	5.3 U	5.3 U	5.6 U
Toxaphene	ug/kg	52 U	51 U	51 U	53 U	--	53 U	51 U	52 U	54 U	--	--	--	--	53 U	53 U	56 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1221	ug/kg	34 U	34 U	34 U	35 U	--	35 U	34 U	34 U	36 U	37 UJ	37 UJ	--	--	35 U	35 U	37 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1254	ug/kg	17 U	530	17 U	17 U	--	18 U	17 U	17 U	18 U	33 J	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1260	ug/kg	17 U	160	17 U	17 U	--	18 U	17 U	17 U	18 U	26 J	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	17 U	690	17 U	17 U	--	18 U	17 U	17 U	18 U	59	18 U	--	--	17 U	18 U	19 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1	6.5 U	6.5 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1 J	5.6 U	5.6 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1	0	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)	0	9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
	SAMPLE TYPE																	
ANALYTE	UNITS																	
Dioxins																		
1,2,3,4,6,7,8-HpCDD	ng/kg	2.3 U	530	47	--	--	--	--	--	--	580	300	26	1.9 U	15	2 J	--	
1,2,3,4,6,7,8-HpCDF	ng/kg	0.2 U	51	6.2 J	--	--	--	--	--	--	53 J	43	2.3 J	0.18 U	1.7 J	0.49 U	--	
1,2,3,4,7,8-HxCDD	ng/kg	0.074 U	3.8 J	0.39 U	--	--	--	--	--	--	4.5 J	22	0.33 U	0.15 U	0.24 U	0.1 U	--	
1,2,3,4,7,8-HxCDF	ng/kg	0.098 U	3.1 J	0.24 U	--	--	--	--	--	--	7.1 U	0.16 U	0.63 J	0.084 U	0.26 U	0.1 U	--	
1,2,3,4,7,8,9-HpCDF	ng/kg	0.093 U	2.8 U	0.46 U	--	--	--	--	--	--	4.8 J	4.7 J	0.47 U	0.11 U	0.59 U	0.052 U	--	
1,2,3,6,7,8-HxCDD	ng/kg	0.22 U	0.4 U	1.5 J	--	--	--	--	--	--	24 J	1.1 U	1.1 U	0.11 U	0.21 U	0.086 U	--	
1,2,3,6,7,8-HxCDF	ng/kg	0.091 U	1.5 J	0.21 U	--	--	--	--	--	--	2 U	2 J	0.77 U	0.082 U	0.23 U	0.089 U	--	
1,2,3,7,8-PeCDD	ng/kg	0.18 U	1 U	0.075 U	--	--	--	--	--	--	3.8 J	3.8 J	0.11 U	0.1 U	0.13 U	0.061 U	--	
1,2,3,7,8-PeCDF	ng/kg	0.069 U	1.6 U	0.11 U	--	--	--	--	--	--	1.1 U	0.7 U	0.38 U	0.16 U	0.28 U	0.069 U	--	
1,2,3,7,8,9-HxCDD	ng/kg	0.069 U	7.4 J	0.78 J	--	--	--	--	--	--	9.4 J	5 J	0.67 U	0.22 J	0.21 U	0.12 U	--	
1,2,3,7,8,9-HxCDF	ng/kg	0.12 U	3.7 U	2.3 U	--	--	--	--	--	--	2.4 U	1.5 J	0.26 U	0.098 U	0.3 U	0.11 U	--	
2,3,4,6,7,8-HxCDF	ng/kg	0.6 U	1.1 J	8.9 U	--	--	--	--	--	--	190 U	130 U	8.5 U	0.29 U	0.26 U	0.2 U	--	
2,3,4,7,8-PeCDF	ng/kg	0.074 U	1.6 U	0.12 U	--	--	--	--	--	--	1.2 U	0.73 U	0.3 U	0.17 U	0.12 U	0.069 U	--	
2,3,7,8-TCDD	ng/kg	0.075 U	0.52 U	0.062 U	--	--	--	--	--	--	0.48 U	0.34 J	4.8 U	0.1 U	0.06 U	0.051 U	--	
2,3,7,8-TCDF	ng/kg	0.25 J	0.9 J	0.3 U	--	--	--	--	--	--	0.3 U	0.46 U	0.39 J	0.15 U	0.17 U	0.091 U	--	
OCDD	ng/kg	7.6 U	6600	680	--	--	--	--	--	--	5400	3100	200	6.4 U	120 B	24 U	--	
OCDF	ng/kg	0.26 U	120	14 J	--	--	--	--	--	--	190 J	120	4.7 J	0.41 U	3 J	0.37 U	--	
TEQ Avian	ng/kg	0.47	6	1.1	--	--	--	--	--	--	18	14	3.7	0.32	0.37	0.18	--	
TEQ Human	ng/kg	0.24	11	1.7	--	--	--	--	--	--	26	18	3.5	0.21	0.42	0.14	--	
TEQ Mammals	ng/kg	0.24	11	1.7	--	--	--	--	--	--	26	18	3.5	0.21	0.42	0.14	--	
General																		
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Metals																		
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	2.1 UJ	2.1 U	2.3 U	2.5 U	2.2 U	2.2 U	2.2 U	2.4 U	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	
Arsenic	mg/kg	2.5	2.5	2.5	1 U	4.5	4.7	2.5	1.1 U	1.1 U	2.4	4.2	2.2	1.8	2.7	1.1 U	1.1 U	
Barium	mg/kg	140	150	110	88 J	280	180	140	95	140	150	200	78	40	140	110	120	
Beryllium	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Cadmium	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Chromium, Hexavalent	mg/kg	0.22 U	0.21 U	0.23	0.21 U	0.21 U	0.23 U	0.54	0.22 U	0.22 U	0.23 U	0.36	0.21 U	0.22 U	0.23 U	0.21 U	0.21 U	
Chromium, total	mg/kg	16	28	15	14	19	21	43	14	16	30	50	15	10	15	23	18	
Cobalt	mg/kg	8.6	9.5	7.7	8	11	6.6	7	8.5	7.5	8.9	7.4	6.3	5.5	6.9	9.1	8.5	
Copper	mg/kg	6.5	12	10	8.8	22	15	17	6.6	6.9	13	18	8.1	6.2	13	18	18	
Lead	mg/kg	1.5	4.7	3.6	1.3	1.2	9.2	9.9	1.4	1.1 U	5.8	12	1.3	1.1 U	5.1	1.4	2	
Mercury	mg/kg	0.11 U	0.11 U	0.1 U	0.1 U	0.11 U	0.12 U	0.13 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	
Molybdenum	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Nickel	mg/kg	11	14	11	9.6	18	12	12	9.9	12	14	12	8.8	7.7	10	12	11	
Selenium	mg/kg	1.1 U	1.1 U	1 U	1 UJ	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Silver	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Thallium	mg/kg	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.5 U	2.2 U	2.2 U	2.2 U	2.4 U	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U	
Vanadium	mg/kg	30	39	32	29	37	27	29	32	29	38	31	27	24	28	36	34	
Zinc	mg/kg	35	49	34	34	29	52	49	39	37	46	51	28	22	36	41	38	
Metals CLP																		
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pesticides																		

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
SAMPLE TYPE																		
ANALYTE	UNITS																	
4,4-DDD	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
4,4-DDE	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
4,4-DDT	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Aldrin	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
alpha-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
alpha-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
beta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
delta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
Dieldrin	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Endo sulfan I	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
Endo sulfan II	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Endosulfan sulfate	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Endrin	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Endrin aldehyde	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--	
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
gamma-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
gamma-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
Heptachlor	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
Heptachlor Epoxide	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--	
Methoxy chlor	ug/kg	5.5 U	--	--	--	--	--	--	--	--	5.5 U	6.1 U	5.3 U	5.4 U	--	--	--	
Toxaphene	ug/kg	55 U	--	--	--	--	--	--	--	--	55 U	61 U	53 U	54 U	--	--	--	
Polychlorinated Biphenyls																		
Aroclor 1016	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1221	ug/kg	37 U	--	--	--	--	--	--	--	--	36 U	40 U	35 U	35 U	--	--	--	
Aroclor 1232	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1242	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1248	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1254	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1260	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Total PCBs	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--	
Polycyclic Aromatic Hydrocarbons																		
1-Methyl naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Methyl naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acenaphthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acenaphthylene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
B(a)P Equivalent	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzo (a) anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzo (a) pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzo (b) fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzo (ghi) perylene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzo (k) fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chrysene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dibenzo (a,h) anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Fluorene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Indeno (1,2,3-cd) pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
PAH High molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
PAH Low molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
SAMPLE TYPE																		
ANALYTE	UNITS																	
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
	SAMPLE TYPE																
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	1300	4.1 J	0.29 U	0.19 U	--	--	--	--	--	--	--	--	160	4.4 J	3.1 U
1,2,3,4,6,7,8-HpCDF	ng/kg	--	57 J	0.13 U	0.05 U	0.028 U	--	--	--	--	--	--	--	--	0.2 U	0.13 U	0.088 U
1,2,3,4,7,8-HxCDD	ng/kg	--	2.8 U	0.4 U	0.056 U	0.06 U	--	--	--	--	--	--	--	--	1.3 J	0.17 U	0.17 U
1,2,3,4,7,8-HxCDF	ng/kg	--	6.8 J	0.17 U	0.032 U	0.034 U	--	--	--	--	--	--	--	--	0.24 U	0.056 U	0.075 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	6.7 U	0.1 U	0.036 U	0.036 U	--	--	--	--	--	--	--	--	1.2 J	0.16 U	0.068 U
1,2,3,6,7,8-HxCDD	ng/kg	--	21	0.39 U	0.055 U	0.049 U	--	--	--	--	--	--	--	--	6.1 J	0.039 U	0.069 U
1,2,3,6,7,8-HxCDF	ng/kg	--	0.46 U	0.15 U	0.03 U	0.031 U	--	--	--	--	--	--	--	--	3.1 U	0.052 U	0.069 U
1,2,3,7,8-PeCDD	ng/kg	--	1.7 U	0.087 U	0.073 U	0.058 U	--	--	--	--	--	--	--	--	0.26 U	0.074 U	0.054 U
1,2,3,7,8-PeCDF	ng/kg	--	1.1 J	0.2 U	0.09 U	0.062 U	--	--	--	--	--	--	--	--	0.32 U	0.086 U	0.1 U
1,2,3,7,8,9-HxCDD	ng/kg	--	7.4 J	0.37 U	0.072 U	0.1 U	--	--	--	--	--	--	--	--	2.7 J	0.037 U	0.14 U
1,2,3,7,8,9-HxCDF	ng/kg	--	1.2 U	0.19 U	0.084 U	0.04 U	--	--	--	--	--	--	--	--	0.28 U	0.065 U	0.087 U
2,3,4,6,7,8-HxCDF	ng/kg	--	110 U	1.4 U	0.1 U	0.035 U	--	--	--	--	--	--	--	--	42 U	1.5 U	1.1 U
2,3,4,7,8-PeCDF	ng/kg	--	0.8 U	0.22 U	0.097 U	0.067 U	--	--	--	--	--	--	--	--	0.34 U	0.1 U	0.11 U
2,3,7,8-TCDD	ng/kg	--	0.21 U	0.053 U	0.076 U	0.069 U	--	--	--	--	--	--	--	--	0.068 U	0.041 U	0.06 U
2,3,7,8-TCDF	ng/kg	--	0.49 U	0.22 U	0.3 U	0.2 U	--	--	--	--	--	--	--	--	0.064 U	0.11 U	0.15 J
OCDD	ng/kg	--	15000	9.5 U	0.66 U	0.9 U	--	--	--	--	--	--	--	--	1600	21 U	13 U
OCDF	ng/kg	--	230 J	0.39 J	0.068 U	0.052 U	--	--	--	--	--	--	--	--	35	0.41 U	0.31 J
TEQ Avian	ng/kg	--	12	0.43	0.3 U	0.21 U	--	--	--	--	--	--	--	--	3.4	0.26	0.35
TEQ Human	ng/kg	--	29	0.31	0.13 U	0.1 U	--	--	--	--	--	--	--	--	5.6	0.22	0.19
TEQ Mammals	ng/kg	--	29	0.31	0.13 U	0.1 U	--	--	--	--	--	--	--	--	5.6	0.22	0.19
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	8.85	8.35	8.72	8.68	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.6 U	2.5 U	2.2 U	2.2 U	2.3 UJ	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.3 U
Arsenic	mg/kg	1.1 U	3.7	2.9	1.7	2.4	3.3	1.4	1 U	1.9	3.4	3.1	3.1	3.8	1 U	1.8	1.6
Barium	mg/kg	250	250	180	110	180	190	60	62	59	96	110	100	120	75	67	71
Beryllium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.26 U	0.25 U	0.22 U	0.22 U	1.4	0.21 U	0.21 U	0.22 U	0.4 U	0.41 U	0.4 U	0.43 U	0.21 U	0.21 U	0.22 U
Chromium, total	mg/kg	19	46	10	9.6	17	58	12	15	12	21	34	35	20	20	14	12
Cobalt	mg/kg	8.3	9.4	5.5	5.8	8.4	8.5	7.1	8.2	7.1	6	7.1	7.1	8.7	8.7	7.3	7.1
Copper	mg/kg	15	19	7	6.9	6	15	6.9	6.9	7.7	7.6	9.2	8.8	8.1	8.2	7.4	8.7
Lead	mg/kg	1.7	13	3.5	1.1 U	1.5	11	1.4	1	1.1 U	3.7	18	4.4	3.8	2.2	1.6	1.4
Mercury	mg/kg	0.11 U	0.13 U	0.12 U	0.11 U	0.11 U	0.12 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1.5	1.1 U	1 U	1.1 U	1.1 U
Nickel	mg/kg	11	18	7.6	7.6	11	15	8.2	11	8.6	10	12	12	14	12	9.9	8.9
Selenium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 UJ	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Silver	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.6 U	2.5 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.3 U
Vanadium	mg/kg	34	39	23	22	33	34	26	32	31	23	30	28	38	35	34	29
Zinc	mg/kg	39	68	30	28	35	60	27	34	31	40	39	41	39	38	31	29
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	

Table TT-A1
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Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
4,4-DDD	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
4,4-DDE	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
4,4-DDT	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Aldrin	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-Chlordane	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
beta-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
delta-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Dieldrin	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endo sulfan I	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Endo sulfan II	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endosulfan sulfate	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin aldehyde	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
gamma-Chlordane	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor Epoxide	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Methoxy chlor	ug/kg	--	6.6 U	6.2 U	5.5 U	5.6 U	--	--	--	--	--	--	--	--	5.3 U	5.3 U	5.6 U
Toxaphene	ug/kg	--	66 U	62 U	55 U	56 U	--	--	--	--	--	--	--	--	53 U	53 U	56 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1221	ug/kg	--	43 U	41 U	36 U	37 U	--	--	--	--	--	--	--	--	35 U	35 U	37 U
Aroclor 1232	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1242	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1248	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1254	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1260	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	5.8 U	15	5.8	6.1 U	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.9 J	5 U	5.3 U	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	10 J	5 U	5.3 U	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	9.7 J	5 U	5.3 U	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.7 J	5 U	5.3 U	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	11 J	5 U	5.3 U	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	10 J	5 U	5.3 U	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	19 J	8	5.3 U	--	--	--
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.3 J	5 U	5.3 U	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	4.9 U	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	0	98.6	14.4	0	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	0	6.2	0	0	--	--	--

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PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	6.2 J	5 U	5.3 U	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	16 J	6.4	5.3 U	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	660 U	670 U	670 U	700 U	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1800 U	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1800 UJ	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	660 U	670 U	670 U	700 U	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	0.92 U	0.91 U	1 U	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	31 J	11.1 J	17.6 J	10 U	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	110 U	110 U	97 U	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--

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Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246	
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	
SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5		
SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6		
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6		
SAMPLE TYPE																		
ANALYTE	UNITS																	
Dioxins																		
1,2,3,4,6,7,8-HpCDD	ng/kg	0.61 U	2000	12 J	1 U	0.73 U	--	--	--	--	540	16	--	--	830	510	--	
1,2,3,4,6,7,8-HpCDF	ng/kg	0.084 U	9.8 U	0.086 U	0.04 U	0.069 U	--	--	--	--	63	1.9 J	--	--	58	110	--	
1,2,3,4,7,8-HxCDD	ng/kg	0.04 U	5.2 J	0.13 U	0.047 U	0.03 U	--	--	--	--	4 U	0.22 U	--	--	4.9 J	1.5 U	--	
1,2,3,4,7,8-HxCDF	ng/kg	0.064 U	14	0.12 U	0.067 U	0.05 U	--	--	--	--	3.4 U	0.13 U	--	--	4.7 U	8.3 U	--	
1,2,3,4,7,8,9-HpCDF	ng/kg	0.038 U	12 U	0.11 U	0.05 U	0.087 U	--	--	--	--	5.2 J	0.57 U	--	--	15 U	28 U	--	
1,2,3,6,7,8-HxCDD	ng/kg	0.05 U	44	0.13 U	0.046 U	0.062 U	--	--	--	--	16	0.5 U	--	--	20	23	--	
1,2,3,6,7,8-HxCDF	ng/kg	0.059 U	23 U	0.11 U	0.057 U	0.12 U	--	--	--	--	4.5 U	0.11 U	--	--	4.1 U	5.4 J	--	
1,2,3,7,8-PeCDD	ng/kg	0.097 U	4.6 J	0.12 U	0.073 U	0.074 U	--	--	--	--	2.3 U	0.16 U	--	--	1.7 J	1.5 J	--	
1,2,3,7,8-PeCDF	ng/kg	0.085 U	0.2 U	0.075 U	0.08 U	0.052 U	--	--	--	--	5.7 J	0.23 U	--	--	2 U	3.5 U	--	
1,2,3,7,8,9-HxCDD	ng/kg	0.047 U	16	0.12 U	0.044 U	0.034 U	--	--	--	--	4.9 U	0.5 U	--	--	12 J	5.7 U	--	
1,2,3,7,8,9-HxCDF	ng/kg	0.075 U	3.8 J	0.14 U	0.078 U	0.058 U	--	--	--	--	1.5 U	0.67 J	--	--	5.3 U	1.7 U	--	
2,3,4,6,7,8-HxCDF	ng/kg	0.2 U	5.5 J	0.12 U	0.43 U	0.39 U	--	--	--	--	170 U	1.7 U	--	--	160 U	250 U	--	
2,3,4,7,8-PeCDF	ng/kg	0.091 U	3.5 J	0.081 U	0.086 U	0.056 U	--	--	--	--	2.3 U	0.23 U	--	--	2 U	3.5 U	--	
2,3,7,8-TCDD	ng/kg	0.041 U	0.29 U	0.053 U	0.047 U	0.055 U	--	--	--	--	0.34 U	0.16 U	--	--	0.15 U	0.068 U	--	
2,3,7,8-TCDF	ng/kg	0.14 U	0.48 U	0.14 U	0.1 U	0.04 U	--	--	--	--	3.1 J	0.17 U	--	--	0.93 U	0.2 U	--	
OCDD	ng/kg	2 U	20000	110	5.6 U	3.4 U	--	--	--	--	5900	120 B	--	--	10000	5500	--	
OCDF	ng/kg	0.031 U	440	3.1 J	0.17 U	0.19 U	--	--	--	--	180	2.3 J	--	--	150	310	--	
TEQ Avian	ng/kg	0.21 U	18	0.26	0.19 U	0.15 U	--	--	--	--	17	0.62	--	--	16	20	--	
TEQ Human	ng/kg	0.12 U	42	0.31	0.12 U	0.12 U	--	--	--	--	21	0.65	--	--	27	26	--	
TEQ Mammals	ng/kg	0.12 U	42	0.31	0.12 U	0.12 U	--	--	--	--	21	0.65	--	--	27	26	--	
General																		
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Metals																		
Antimony	mg/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.6 U	2.4 U	2.2 U	2.2 U	2.4 UJ	2.4 U	2.2 U	
Arsenic	mg/kg	2.4	3.3	2.9	2	2	3.9	3.9	2.9	2.2	6.9	3.3	2.3	2	3.4	2.7	1.9	
Barium	mg/kg	70	190	110	420	140	72	120	90	66	270	180	55	120	170	170	55	
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	
Cadmium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	
Chromium, Hexavalent	mg/kg	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	0.21 U	0.21 U	0.22 U	0.22 U	0.26 U	0.24 U	0.22 U	0.22 U	0.24 U	0.28	0.22 U	
Chromium, total	mg/kg	22	42	22	15	19	12	20	16	15	38	17	11	13	30	29	11	
Cobalt	mg/kg	11	8.6	10	7.2	9.1	4.6	6.6	7.6	7.2	9.6	7.6	5.9	7.3	9.2	6.7	7.3	
Copper	mg/kg	17	17	9.7	13	14	7	10	7.7	8.8	22	12	5.7	7.6	14	15	7.7	
Lead	mg/kg	2.9	13	3.2	1.6	2	6.1	16	4.2	1.1 U	16	6.9	1.7	1.5	7.4	8.8	1.1	
Mercury	mg/kg	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.13 U	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.11 U	
Molybdenum	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	
Nickel	mg/kg	15	15	12	11	11	6.8	12	9.1	9.6	18	12	6.9	8.7	15	11	8	
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 UJ	1.2 U	1.1 U	
Silver	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	
Thallium	mg/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.6 U	2.4 U	2.2 U	2.2 U	2.4 U	2.4 U	2.2 U	
Vanadium	mg/kg	43	36	38	29	41	23	30	36	29	42	33	28	29	40	29	28	
Zinc	mg/kg	48	64	40	33	40	26	43	36	33	84	47	24	33	56	49	27	
Metals CLP																		
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pesticides																		

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
4,4-DDD	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.7 U	5.7 U	5.5 U	5.5 U	5.5 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	57 U	57 U	55 U	55 U	55 U	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	37 U	38 U	36 U	36 U	36 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	14 JH	6.1 R	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 J	5.3 R	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	8 J	5.3 R	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 J	5.3 R	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.6 J	5.3 R	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	11 J	5.3 R	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	21 J	5.3 R	--
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	87.8	0 R	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	10	0 R	--

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Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	10 J	5.3 R	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	16 J	5.3 R	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	1700	38	7.2 J	0.36 U	4100	19 U	--	--	91	0.2 U	0.6 J	0.27 J	5700	16	8 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	110 J	3.4 J	0.69 U	0.032 U	250	3 J	--	--	0.57 U	0.095 U	0.068 U	0.028 U	28 U	0.16 U	0.71 U
1,2,3,4,7,8-HxCDD	ng/kg	--	7.8 J	1.4 J	0.13 U	0.03 U	16	0.76 U	--	--	0.68 U	0.055 U	0.055 U	0.08 U	23	0.19 U	0.2 U
1,2,3,4,7,8-HxCDF	ng/kg	--	1.7 U	0.16 U	0.18 U	0.057 U	18	0.21 U	--	--	0.14 U	0.041 U	0.058 U	0.022 U	74 U	0.21 U	0.19 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	12 J	0.32 U	0.33 U	0.04 U	18 U	1.7 U	--	--	0.73 U	0.035 U	0.086 U	0.035 U	35 U	0.2 U	0.14 U
1,2,3,6,7,8-HxCDD	ng/kg	--	50 J	0.3 U	0.13 U	0.03 U	95	1.2 U	--	--	3.5 J	0.054 U	0.055 U	0.029 U	180	0.19 U	0.19 U
1,2,3,6,7,8-HxCDF	ng/kg	--	29 U	1.6 U	0.17 U	0.053 U	15	0.4 U	--	--	2.9 U	0.038 U	0.15 U	0.02 U	68 U	1.2 U	0.33 U
1,2,3,7,8-PeCDD	ng/kg	--	4.7 J	0.2 U	0.084 U	0.042 U	1.7 U	0.37 U	--	--	0.82 U	0.071 U	0.089 U	0.037 U	14	0.094 U	0.097 U
1,2,3,7,8-PeCDF	ng/kg	--	1 U	0.15 U	0.78 U	0.036 U	3.1 U	0.15 U	0.26 J	--	0.18 U	0.084 U	0.058 U	0.032 U	8.9 J	0.13 U	0.12 U
1,2,3,7,8,9-HxCDD	ng/kg	--	16	0.56 U	0.12 U	0.055 U	30	1.7 U	--	--	1.3 J	0.052 U	0.052 U	0.027 U	53	0.27 U	0.18 U
1,2,3,7,8,9-HxCDF	ng/kg	--	2 U	0.18 U	0.21 U	0.066 U	13 U	0.76 U	--	--	0.25 U	0.048 U	0.068 U	0.026 U	86 U	0.24 U	0.22 U
2,3,4,6,7,8-HxCDF	ng/kg	--	400 U	17 U	4.5 U	0.15 U	540 U	1.4 U	--	--	25 U	0.066 U	0.34 U	0.29 U	1000 U	8.2 U	4.8 U
2,3,4,7,8-PeCDF	ng/kg	--	1.1 U	0.16 U	0.84 U	0.039 U	7.8 J	0.24 U	--	--	2 U	0.091 U	0.063 U	0.035 U	15	0.14 U	0.13 U
2,3,7,8-TCDD	ng/kg	--	0.16 U	0.056 U	0.03 U	0.023 U	0.5 U	0.083 U	--	--	0.19 U	0.052 U	0.04 U	0.053 U	1 U	0.056 U	0.19 U
2,3,7,8-TCDF	ng/kg	--	1.4 J	0.12 U	0.26 U	0.076 U	2.6 J	0.2 U	--	--	0.7 J	0.24 J	0.069 U	0.19 U	2.7 J	0.11 U	0.23 J
OCDD	ng/kg	--	17000	510	73	1.8 U	39000	120 U	--	--	660	1.2 U	4.4 J	1.5 U	47000	130	82
OCDF	ng/kg	--	620 J	17 J	6.6 J	0.037 U	710	3.4 U	--	--	21 J	0.095 U	0.56 U	0.076 U	1500	4.7 J	4 J
TEQ Avian	ng/kg	--	36	1.4	0.93	0.11 U	58	0.78	--	--	4	0.37	0.17	0.18	110	0.75	0.76
TEQ Human	ng/kg	--	58	1.9	0.58	0.067 U	100	0.75	--	--	3.9	0.12	0.13	0.088	180	0.83	0.6
TEQ Mammals	ng/kg	--	58	1.9	0.58	0.067 U	100	0.75	--	--	3.9	0.12	0.13	0.088	180	0.83	0.6
General																	
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.2 U	2.6 U	2.6 U	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Arsenic	mg/kg	1.9	5.1	3.6	2.2	2	5	7.1	3.3	3.3	5.2	1.7	1.4	1.9	5.1	4.6	1.3
Barium	mg/kg	43	230	180	110	120	170	190	74	42	210	65	53	78	270	150	96
Beryllium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.3	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1
Chromium, Hexavalent	mg/kg	0.22 U	0.26 U	0.26 U	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.24 U	0.24 U	0.23 U	0.21 U	0.23 U	0.3	0.23 U	0.22 U
Chromium, total	mg/kg	7.9	39	21	13	16	39	12	13	19	33	12	9.7	15	49	18	18
Cobalt	mg/kg	4.5	9.4	9.2	7.5	9.1	9	6.3	6.8	9	8.1	8	6.3	7.4	9.2	6.8	7.8
Copper	mg/kg	4.9	18	14	7.9	14	15	10	11	25	17	8.6	9	7.4	19	10	8.3
Lead	mg/kg	1.3	11	3.8	2.6	2	8.9	8.2	3.6	3.1	17	2	1.3	2.2	14	4.2	1.4
Mercury	mg/kg	0.11 U	0.13 U	0.13 U	0.11 U	0.11 U	0.11 U	0.13 U	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Nickel	mg/kg	5.6	16	12	8.8	11	15	9.8	9.2	14	15	9.2	7	12	17	9.9	12
Selenium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Silver	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Thallium	mg/kg	2.2 U	2.6 U	2.6 U	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Vanadium	mg/kg	19	41	38	31	38	35	23	24	35	35	36	26	30	39	32	29
Zinc	mg/kg	21	69	42	37	42	59	43	33	40	59	33	29	31	73	38	33
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
4,4-DDD	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
4,4-DDE	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
4,4-DDT	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Aldrin	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
alpha-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
alpha-Chlordane	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
beta-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
delta-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Dieldrin	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endo sulfan I	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Endo sulfan II	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endosulfan sulfate	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin aldehyde	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
gamma-Chlordane	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Heptachlor	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Heptachlor Epoxide	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Methoxy chlor	ug/kg	--	6.5 U	6.5 U	5.5 U	5.6 U	--	--	--	--	6 U	5.6 U	5.3 U	5.7 U	6 U	5.8 U	5.4 U
Toxaphene	ug/kg	--	65 U	65 U	55 U	56 U	--	--	--	--	60 U	56 U	53 U	57 U	60 U	58 U	54 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1221	ug/kg	--	43 U	43 U	--	--	--	--	--	--	40 U	37 U	--	--	39 U	38 U	--
Aroclor 1232	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1242	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1248	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1254	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1260	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	72	7.5 U	6.4 U	6.4 U	21 JH	7.2 R	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	9.8 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	14 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	31 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	13 J	6.2 R	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	--	10	6.5 U	5.5 U	5.5 U	16 J	6.2 R	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	--	16	6.5 U	5.5 U	5.5 U	26 J	6.2 R	--	--	--	--	--	--	--	--	--
Fluorene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	--	40	0	0	0	133	0 R	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	7.8	0	0	0	12	0 R	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	7.8	6.5 U	5.5 U	5.5 U	12 J	6.2 R	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	14	6.5 U	5.5 U	5.5 U	23 J	6.2 R	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	0.65 U	2900	2.8 J	2.7 J	17	--	--	--	--	--	5200	0.77 U	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.076 U	280	0.12 U	0.69 J	0.75 U	--	--	--	--	--	460	2.4 J	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.034 U	13 U	0.74 J	0.2 U	0.15 U	--	--	--	--	--	22	0.46 U	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.044 U	12 U	0.13 U	0.3 J	0.072 U	--	--	--	--	--	34	0.63 U	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.097 U	5 U	0.14 U	0.29 U	0.11 U	--	--	--	--	--	24	0.22 U	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.033 U	68	0.14 U	0.072 U	0.23 U	--	--	--	--	--	5.8 U	0.32 U	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.041 U	12 U	0.13 U	0.36 U	0.14 U	--	--	--	--	--	32	0.49 U	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.072 U	2.4 U	0.095 U	0.2 U	0.09 U	--	--	--	--	--	12 J	0.87 J	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.064 U	10 J	0.15 U	0.14 U	0.092 U	--	--	--	--	--	8.8 U	0.23 U	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.032 U	12 U	0.13 U	0.18 U	0.15 U	--	--	--	--	--	49	0.64 U	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.051 U	14 U	0.27 U	0.26 U	0.084 U	--	--	--	--	--	9.1 U	0.93 U	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	0.15 U	600 U	2.5 U	1 U	1.3 U	--	--	--	--	--	890 U	7.8 U	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.069 U	4.1 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	13	0.46 U	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.066 U	0.39 U	0.084 U	0.27 U	0.12 U	--	--	--	--	--	0.5 J	1.1 U	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.15 U	1.2 U	1.1 U	1.2 J	0.61 U	--	--	--	--	--	7	0.65 J	--	--	--	--
OCDD	ng/kg	1.8 U	30000	24 J	29	370	--	--	--	--	--	14000	98 B	--	--	--	--
OCDF	ng/kg	0.23 U	1300	0.8 U	1.1 U	2.4 J	--	--	--	--	--	980	3.6 J	--	--	--	--
TEQ Avian	ng/kg	0.2 U	47	0.93	1.7	0.65	--	--	--	--	--	100	2.9	--	--	--	--
TEQ Human	ng/kg	0.11 U	84	0.45	0.56	0.55	--	--	--	--	--	140	2.2	--	--	--	--
TEQ Mammals	ng/kg	0.11 U	84	0.45	0.56	0.55	--	--	--	--	--	140	2.2	--	--	--	--
General																	
pH	PHUNITS	--	--	--	--	--	8.76	8.68	8.58	--	9.54	--	--	--	--	8.06	8.28
Metals																	
Antimony	mg/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	2 U	2 U	2.1 U	2.1 U	--	2.4 UJ	2.4 U	2.3 U	2.3 U	2 U	2 U
Arsenic	mg/kg	1.8	4.3	4.2	5.4	2.7	4.4	3.2	4.2	--	4.2	5.5	3.4	3.7	2.7	4.4	2.9
Barium	mg/kg	110	160	210	350	74	140	99	170	--	130	220	140	210	49	180	76
Beryllium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	2.1 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	1 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.26 U	0.27 U	0.31 U	0.24 UJ	0.42	0.4 U	0.42 U	0.42 U	--	0.24 U	0.26	0.23 U	0.23 U	1.3	0.41 U
Chromium, total	mg/kg	18	33	17	27	11	25	25	23	--	22	42	14	12	8.8	36	24
Cobalt	mg/kg	8.9	8.7	8.7	14	7.3	6.4	7.5	11	--	9.3	7.3	6	6	5.8	8.3	5.8
Copper	mg/kg	11	15	13	23	7.1	11	9.8	9.6	--	8.8	18	8.7	8.4	7.8	13	8.3
Lead	mg/kg	2.1	8.3	5.2	7.6	1.2 U	7.3	4	2.2	--	2.3	17 J	2.7	2.9	1.2 U	9.4	3.6
Mercury	mg/kg	0.11 U	0.13 U	0.14 U	0.15 U	0.12 U	0.1 U	0.1 U	0.1 U	0.11 U	--	0.12 U	0.12 U	0.12 U	0.12 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	2.1 U	1.1 U	--	1.2 UJ	1.2 U	1.2 U	1.2 U	1 U	1 U
Nickel	mg/kg	11	14	13	19	9.6	12	13	14	--	14	14	11	9.6	6.3	16	9.5
Selenium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	1 U	1.1 U	--	1.2 UJ	1.2 U	1.2 U	1.2 U	1 U	1 U
Silver	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	2.1 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Thallium	mg/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	2 U	2 U	4.1 U	2.1 U	--	2.4 UJ	2.4 U	2.3 U	2.3 U	2 U	2 U
Vanadium	mg/kg	36	38	31	46	32	27	30	36	--	37	28	22	23	19	33	23
Zinc	mg/kg	39	56	49	66	29	51	38	43	--	41	61	28	29	27	61	33
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
4,4-DDD	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.6 U	6.6 U	6.8 U	7.7 U	6.1 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	56 U	66 U	68 U	77 U	61 U	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	43 U	45 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Acenaphthene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Acenaphthylene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Anthracene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	32	5.8 U	6 U	6.1 U	--	--	--	--	--	30	5.9 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	22	5 U	5.2 U	5.3 U	--	--	--	--	--	12	5.1 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	20	5 U	5.2 U	5.3 U	--	--	--	--	--	18	5.1 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	24	5 U	5.2 U	5.3 U	--	--	--	--	--	27	5.1 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	17	5 U	5.2 U	5.3 U	--	--	--	--	--	16	5.1 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	27	5 U	5.2 U	5.3 U	--	--	--	--	--	16	5.1 U
Chrysene	ug/kg	--	--	--	--	--	29	5 U	5.2 U	5.3 U	--	--	--	--	--	22	5.1 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	5.9	5 U	5.2 U	5.3 U	--	--	--	--	--	6.1	5.1 U
Fluoranthene	ug/kg	--	--	--	--	--	34	5 U	5.2 U	5.3 U	--	--	--	--	--	31	5.1 U
Fluorene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	14	5 U	5.2 U	5.3 U	--	--	--	--	--	14	5.1 U
Naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.1 U	4.7 U	--	--	--	--	--	5.1 U	5.1 U
PAH High molecular weight	ug/kg	--	--	--	--	--	223	0	0	0	--	--	--	--	--	189	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	14	0	0	0	--	--	--	--	--	11	0

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Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Phenanthrene	ug/kg	--	--	--	--	--	14	5 U	5.2 U	5.3 U	--	--	--	--	--	11	5.1 U
Pyrene	ug/kg	--	--	--	--	--	30	5 U	5.2 U	5.3 U	--	--	--	--	--	27	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Chlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Methylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2-Nitrophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
3-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	670 U	660 U	680 U	690 U	--	--	--	--	--	670 U	670 U
4-Chloroaniline	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Methylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
4-Nitrophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U
Benzyl alcohol	ug/kg	--	--	--	--	--	670 U	660 U	680 U	690 U	--	--	--	--	--	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Butylbenzylphthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Dibenzofuran	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Diethyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Dimethyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Hexachlorobenzene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Hexachloroethane	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Pentachlorophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
Phenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	15.8	10 U
TPH as gasoline	mg/kg	--	--	--	--	--	--	1.1 U	1.2 U	--	0.95 U	--	--	--	--	--	0.92 U
TPH as motor oil	mg/kg	--	--	--	--	--	21.6 J	10.7 J	10 U	10 U	--	--	--	--	--	17.8 J	10 U
Volatile Organic Compounds																	

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PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Acetone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Acrolein	ug/kg	--	--	--	--	--	--	110 U	100 U	94 U	--	--	--	--	--	--	100 U
Acrylonitrile	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Benzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Bromobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromochloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromodichloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromoform	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromomethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Carbon disulfide	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloro methane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chlorobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloroform	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Dibromomethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Ethyl- benzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
N-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
N-Propylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Nitrobenzene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Styrene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Tetrachloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Toluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Trichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Vinyl chloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylene, m,p-	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylene, o-	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylenes, total	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	2100 J	570 J	730	1400	--	--	--	920	17
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	210 J	85 J	55	110	--	--	--	78	1.8 U
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	14 J	3.1 J	3.2 U	6.9 J	--	--	--	3.7 J	0.33 U
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	14 J	2 UJ	4.9 U	6.4 J	--	--	--	11 U	0.41 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	8.4 UJ	6.7 UJ	2.8 U	7.6 J	--	--	--	6.7 U	0.19 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	75 J	0.79 UJ	15	30	--	--	--	22	0.71 U
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	14 J	5.2 UJ	4.3 U	6 J	--	--	--	9.7 U	0.36 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	5.3 UJ	0.37 UJ	1.5 U	1.8 U	--	--	--	0.23 U	0.13 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	4 UJ	1.5 UJ	0.73 U	2.9 U	--	--	--	1.2 U	0.15 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	25 J	7.9 J	5.9 J	14	--	--	--	7.7 J	0.29 U
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	5.5 UJ	2.3 UJ	5.6 U	2.5 J	--	--	--	1.8 U	0.47 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	350 UJ	2.5 UJ	120 U	180 U	--	--	--	220 U	3.9 U
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	5.5 UJ	1.5 UJ	0.63 U	3.7 U	--	--	--	1.9 U	0.15 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	0.31 UJ	0.1 UJ	0.18 U	0.33 U	--	--	--	0.13 U	0.067 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	2 UJ	0.2 UJ	0.66 U	3 J	--	--	--	1.5 J	0.096 U
OCDD	ng/kg	--	--	--	--	--	--	--	16000 J	8000 J	9900	18000	--	--	--	10000	150 B
OCDF	ng/kg	--	--	--	--	--	--	--	510 J	200 J	170	270	--	--	--	220	5.1 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	37	5	11	23	--	--	--	19	0.55
TEQ Human	ng/kg	--	--	--	--	--	--	--	64	11	21	38	--	--	--	29	0.68
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	64	11	21	38	--	--	--	29	0.68
General																	
pH	PHUNITS	8.69	8.94	9.43	8.58	8.26	9.55	--	7.74	7.89	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	--	5.7 U	5.8 U	2.2 U	2 U	2 U	2.1 U	--	2.2 U	2.2 U
Arsenic	mg/kg	4	5.1	3.7	3.5	3.9	4.7	--	13	9.3	3.8	2.5	1.4	--	2.2	4	3.5
Barium	mg/kg	60	81	160	130	120	110	--	320	230	180	110	82	92	--	200	190
Beryllium	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.43 U	0.45	0.41 U	0.42 U	0.43 U	--	2.6	0.61 U	0.22 U	0.44	0.24	0.21 U	--	0.22 U	1.2
Chromium, total	mg/kg	23	22	35	31	26	22	24	71	21	21	28	18	15 J	--	35	66
Cobalt	mg/kg	9.4	9.7	8.7	7.4	9.9	9.2	--	7.7	6.3	7.1	9.3	9.6	--	8.7	8.3	8.1
Copper	mg/kg	8.4	7.6	12	9.6	8.4	--	7.3 U	22	14	14	10	8.4	9.3	--	17	16
Lead	mg/kg	2.7	2.3	6	7	2.7	3.2	--	23	8.7	8.3	4.5	3.2	1.1	--	9.3	11
Mercury	mg/kg	0.1 U	0.11 U	0.099 U	0.1 U	0.1 U	0.11 U	--	0.14 U	0.14 U	0.11 U	0.1 U	0.1 U	0.11 U	--	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Nickel	mg/kg	14	15	15	12	15	15	--	18	13	13	12	10	--	9.5	15	14
Selenium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 UJ	--	1.1 U	1.1 U
Silver	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	4.3 U	2 U	2 U	2.1 U	4.2 U	--	5.7 U	5.8 U	2.2 U	2 U	2 U	2.1 U	--	2.2 U	2.2 U
Vanadium	mg/kg	37	35	34	30	41	35	--	37	31	32	37	32	32	--	33	33
Zinc	mg/kg	45	42	46	42	44	40	--	81	50	53	45	35	--	37	61	57
Metals CLP																	
Aluminum	mg/kg	--	--	9500	--	--	--	--	14000	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	20000	--	--	--	--	35000	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	1 U	--	--	--	--	6.7 U	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	18000	--	--	--	--	20000	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	7700	--	--	--	--	11000	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	300	--	--	--	--	420	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	3900	--	--	--	--	4000	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	360 U	--	--	--	--	660	--	--	--	--	--	--	--	--
Pesticides																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
4,4-DDD	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	5 U	--	--	--	--	7.1 U	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	50 U	--	--	--	--	71 U	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1221	ug/kg	--	--	33 U	--	--	--	--	47 U	--	--	--	--	--	--	36 UJ	35 UJ
Aroclor 1232	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1242	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1248	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1254	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1260	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1262	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 U	18 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Anthracene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	6 U	6.1 U	5.8 U	12	6 U	6.1 U	--	9	9	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5.2 U	5.3 U	5 U	5.7	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5.2 U	5.3 U	5 U	7.9	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	11	10	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5.2 U	5.3 U	5 U	5.5	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Chrysene	ug/kg	5.2 U	5.3 U	5 U	8.1	5.2 U	5.3 U	--	7.3	7.7	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Fluoranthene	ug/kg	5.2 U	5.3 U	5 U	9.3	5.2 U	5.3 U	--	10	19	--	--	--	--	--	--	--
Fluorene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.3 U	5 U	5.1	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Naphthalene	ug/kg	4.8 U	4.4 U	5 U	5.1 U	5.1 U	5.3 U	--	7.1 U	6.4 U	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	0	0	0	50.9	0	0	--	38.3	51.7	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	--	0	10	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate								Field Duplicate	
ANALYTE	UNITS																
Phenanthrene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	10	--	--	--	--	--	--	--
Pyrene	ug/kg	5.2 U	5.3 U	5 U	9.3	5.2 U	5.3 U	--	10	15	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	680 U	700 U	670 U	670 U	690 U	700 U	--	940 U	960 U	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	--	2300 U	2400 U	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	--	2300 UJ	2400 U	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	680 U	700 U	670 U	670 U	690 U	700 U	--	940 U	960 U	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
Phenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	28.9	10.5	10 U	10 U	--	10 U	10 U	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	1 U	1 U	--	0.98 U	0.92 U	1.2 U	--	--	1.3 U	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	10 U	10 U	30.1 J	22.6 J	10 U	10 U	--	17.5	16.3	--	--	--	--	--	--	--
Volatile Organic Compounds																	

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate								Field Duplicate	
ANALYTE	UNITS																
1,1-Dichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	52 U	--	--	--	--	64 U	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 U	350 U	330 U	340 U	350 U	350 U	330 U	340 U	350 U	--	--	470 U	480 U	--	--	--
4-Isopropyltoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Acetone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Acrolein	ug/kg	96 U	89 U	--	100 U	100 U	120 U	--	--	130 U	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Benzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Bromobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromoform	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromomethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloro methane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloroform	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Dibromomethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Hexachlorobutadiene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	670 U	--	--	--	--	940 UJ	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Methylene chloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Styrene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Toluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Trichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylene, o-	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylenes, total	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5
SAMPLE TYPE					
ANALYTE	UNITS				
Dioxins					
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--
OCDD	ng/kg	--	--	--	--
OCDF	ng/kg	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--
TEQ Human	ng/kg	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--
General					
pH	PHUNITS	--	--	8.56	8.3
Metals					
Antimony	mg/kg	2.1 U	2.1 U	--	--
Arsenic	mg/kg	2.4	2.4	--	--
Barium	mg/kg	110	100	--	--
Beryllium	mg/kg	1.1 U	1.1 U	--	--
Cadmium	mg/kg	1.1 U	1.1 U	--	--
Chromium, Hexavalent	mg/kg	0.21 U	0.21 U	0.05 U	0.05 U
Chromium, total	mg/kg	17	13	38.2	25.3
Cobalt	mg/kg	8.5	7.9	--	--
Copper	mg/kg	9.5	10	16.5	13.6
Lead	mg/kg	3	1.1 U	--	--
Mercury	mg/kg	0.1 U	0.1 U	--	--
Molybdenum	mg/kg	1.1 U	1.1 U	--	--
Nickel	mg/kg	11	10	17.9	12.5
Selenium	mg/kg	1.1 U	1.1 U	--	--
Silver	mg/kg	1.1 U	1.1 U	--	--
Thallium	mg/kg	2.1 U	2.1 U	--	--
Vanadium	mg/kg	37	28	--	--
Zinc	mg/kg	37	32	55	43.4
Metals CLP					
Aluminum	mg/kg	--	--	--	--
Calcium	mg/kg	--	--	--	--
Cyanide	mg/kg	--	--	--	--
Iron	mg/kg	--	--	--	--
Magnesium	mg/kg	--	--	--	--
Manganese	mg/kg	--	--	--	--
Potassium	mg/kg	--	--	--	--
Sodium	mg/kg	--	--	--	--
Pesticides					

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5
SAMPLE TYPE					
ANALYTE	UNITS				
4,4-DDD	ug/kg	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--
Aldrin	ug/kg	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--
beta-BHC	ug/kg	--	--	--	--
delta-BHC	ug/kg	--	--	--	--
Dieldrin	ug/kg	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--
Endrin	ug/kg	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--
Heptachlor	ug/kg	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--
Toxaphene	ug/kg	--	--	--	--
Polychlorinated Biphenyls					
Aroclor 1016	ug/kg	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--
Total PCBs	ug/kg	--	--	--	--
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	ug/kg	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--
Anthracene	ug/kg	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--
Chrysene	ug/kg	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--
Fluorene	ug/kg	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--
Naphthalene	ug/kg	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5
SAMPLE TYPE					
ANALYTE	UNITS				
Phenanthrene	ug/kg	--	--	--	--
Pyrene	ug/kg	--	--	--	--
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	ug/kg	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--
Acetophenone	ug/kg	--	--	--	--
Atrazine	ug/kg	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--
Caprolactam	ug/kg	--	--	--	--
Carbazole	ug/kg	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--
Phenol	ug/kg	--	--	--	--
Total Petroleum Hydrocarbons					
TPH as diesel	mg/kg	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--
Volatile Organic Compounds					

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5
SAMPLE TYPE					
ANALYTE	UNITS				
1,1-Dichloroethane	ug/kg	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--
Acetone	ug/kg	--	--	--	--
Acrolein	ug/kg	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--
Benzene	ug/kg	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--
Bromoform	ug/kg	--	--	--	--
Bromomethane	ug/kg	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--
Chloro methane	ug/kg	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--
Chloroethane	ug/kg	--	--	--	--
Chloroform	ug/kg	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--

Table TT-A1
Dataset for the TT HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5
SAMPLE TYPE					
ANALYTE	UNITS				
Hexachlorobutadiene	ug/kg	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--
Isophorone	ug/kg	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--
Styrene	ug/kg	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--
Toluene	ug/kg	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

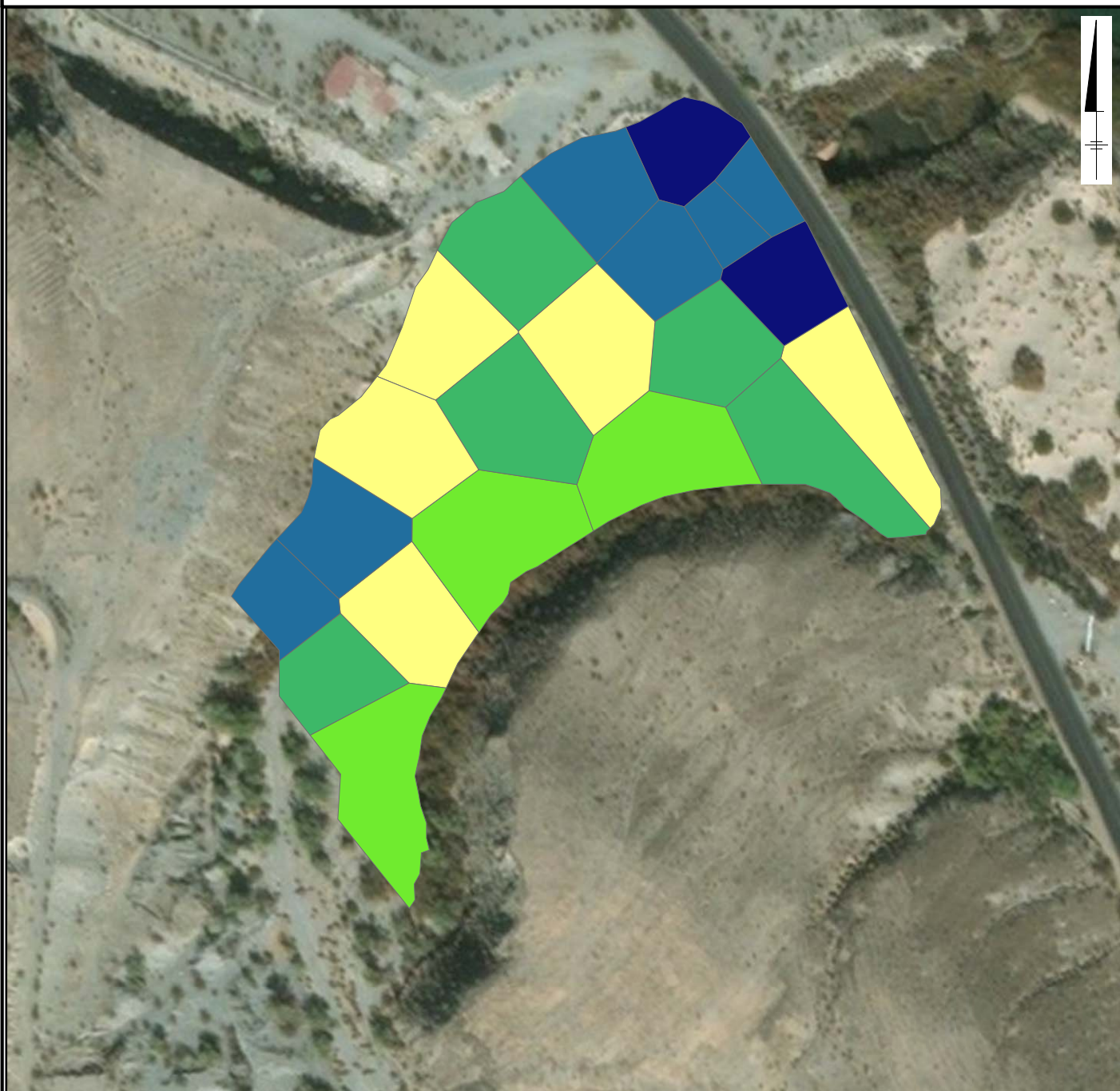
TT-A3 Appendix Figure List

Exposure Unit: TAMARISK THICKET

Reference Figure: TT-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
TT-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
TT-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
TT-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
TT-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
TT-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIUM
TT-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
TT-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
TT-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
TT-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
TT-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
TT-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
TT-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
TT-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
TT-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
TT-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
TT-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
TT-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
TT-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
TT-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
TT-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
TT-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
TT-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
TT-A3.23	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
TT-A3.24	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
TT-A3.25	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
TT-A3.26	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
TT-A3.27	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIUM
TT-A3.28	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
TT-A3.29	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
TT-A3.30	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
TT-A3.31	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
TT-A3.32	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
TT-A3.33	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
TT-A3.34	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
TT-A3.35	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
TT-A3.36	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
TT-A3.37	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
TT-A3.38	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
TT-A3.39	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
TT-A3.40	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
TT-A3.41	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
TT-A3.42	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
TT-A3.43	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
TT-A3.44	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
TT-A3.45	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
TT-A3.46	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
TT-A3.47	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
TT-A3.48	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
TT-A3.49	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
TT-A3.50	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIUM
TT-A3.51	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
TT-A3.52	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
TT-A3.53	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
TT-A3.54	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER
TT-A3.55	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
TT-A3.56	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
TT-A3.57	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
TT-A3.58	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
TT-A3.59	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
TT-A3.60	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
TT-A3.61	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
TT-A3.62	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
TT-A3.63	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
TT-A3.64	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
TT-A3.65	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
TT-A3.66	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
TT-A3.67	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE
TT-A3.68	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
TT-A3.69	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
TT-A3.70	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
TT-A3.71	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
TT-A3.72	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
TT-A3.73	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.37 - 6.00
- ≥ 6.00 - 14.00
- ≥ 14.00 - 19.00
- ≥ 19.00 - 58.00
- ≥ 58.00 - 110.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300 Feet
GRAPHIC SCALE

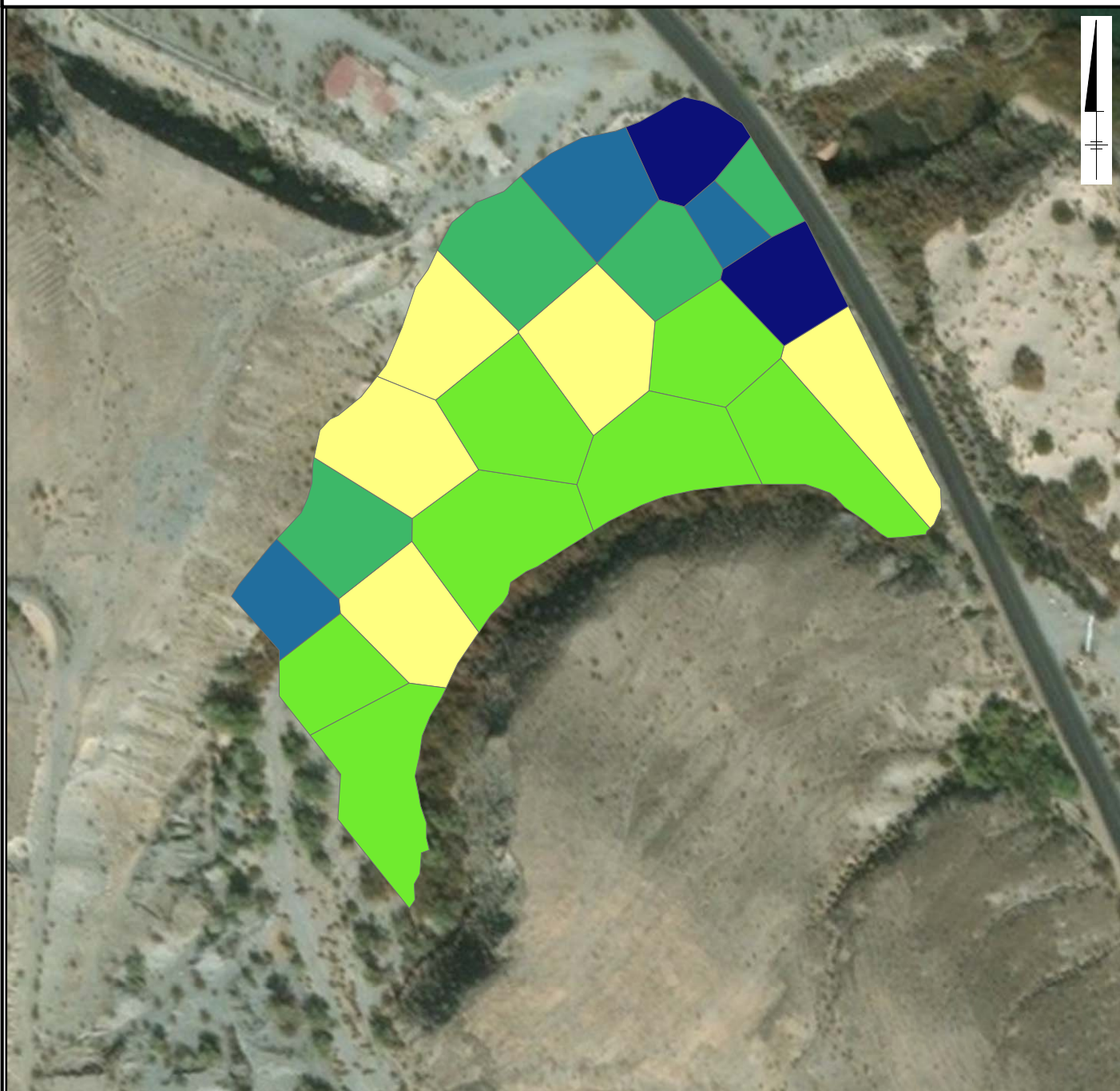
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
TT-A31

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.42 - 11.00
- ≥ 11.00 - 29.00
- ≥ 29.00 - 64.00
- ≥ 64.00 - 110.00
- ≥ 110.00 - 180.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

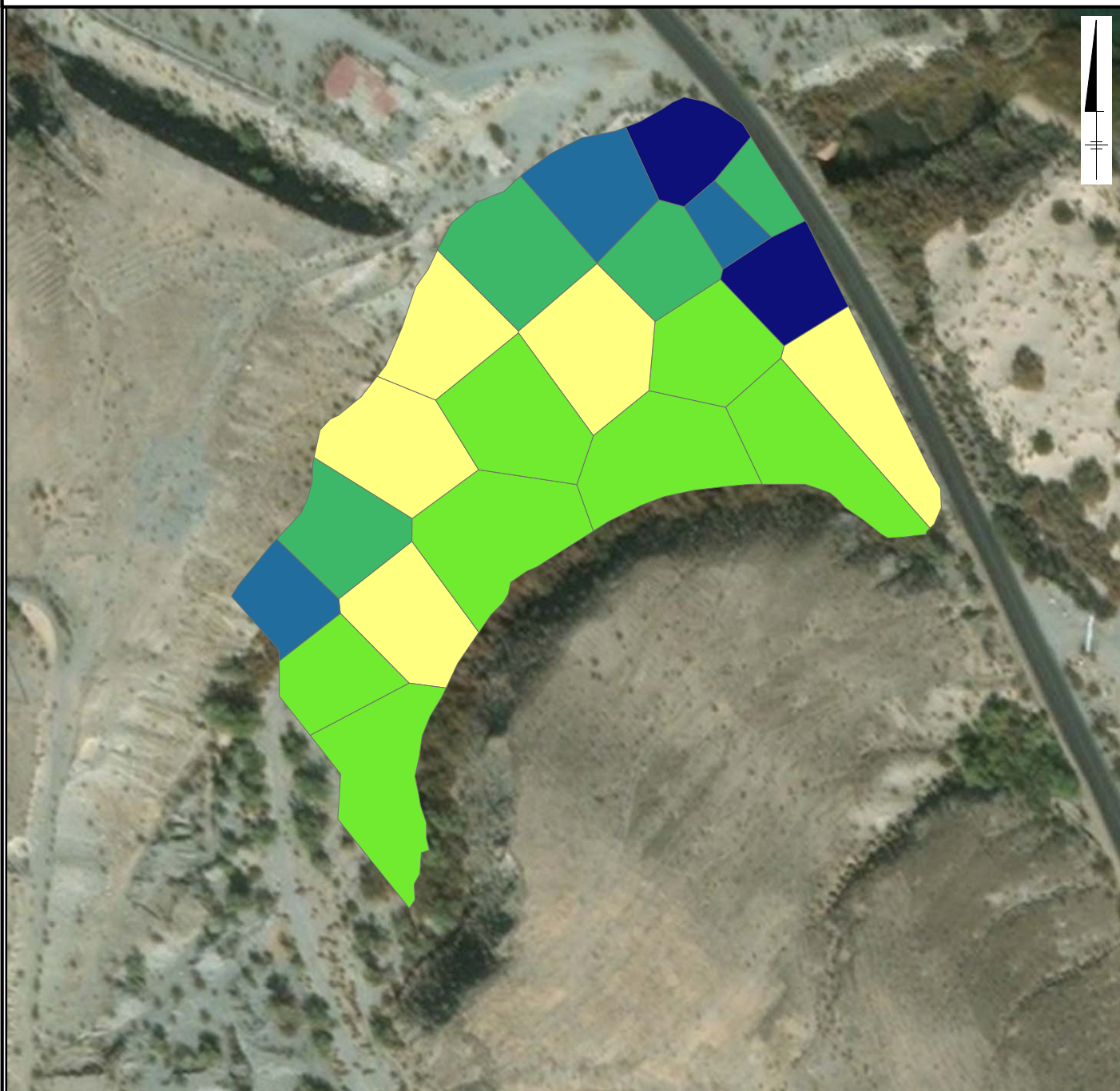
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ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING

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built assets

FIGURE
TT-A32

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.42 - 11.00
- ≥ 11.00 - 29.00
- ≥ 29.00 - 64.00
- ≥ 64.00 - 110.00
- ≥ 110.00 - 180.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

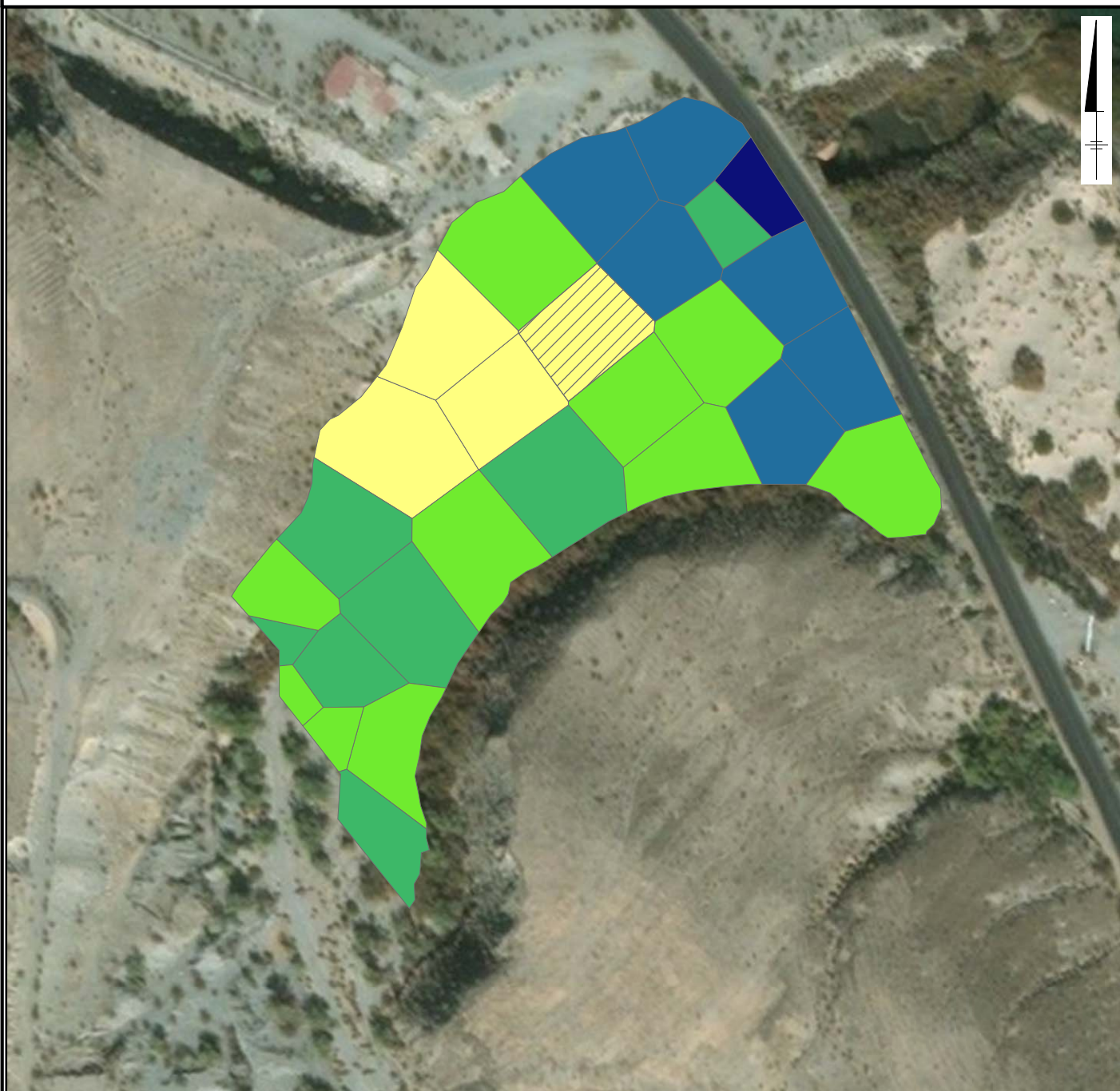
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ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING

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FIGURE
TT-A33

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

- NOT DETECTED
- 0.50 - 2.70
- ≥2.70 - 3.90
- ≥3.90 - 4.70
- ≥4.70 - 6.90
- ≥6.90 - 13.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

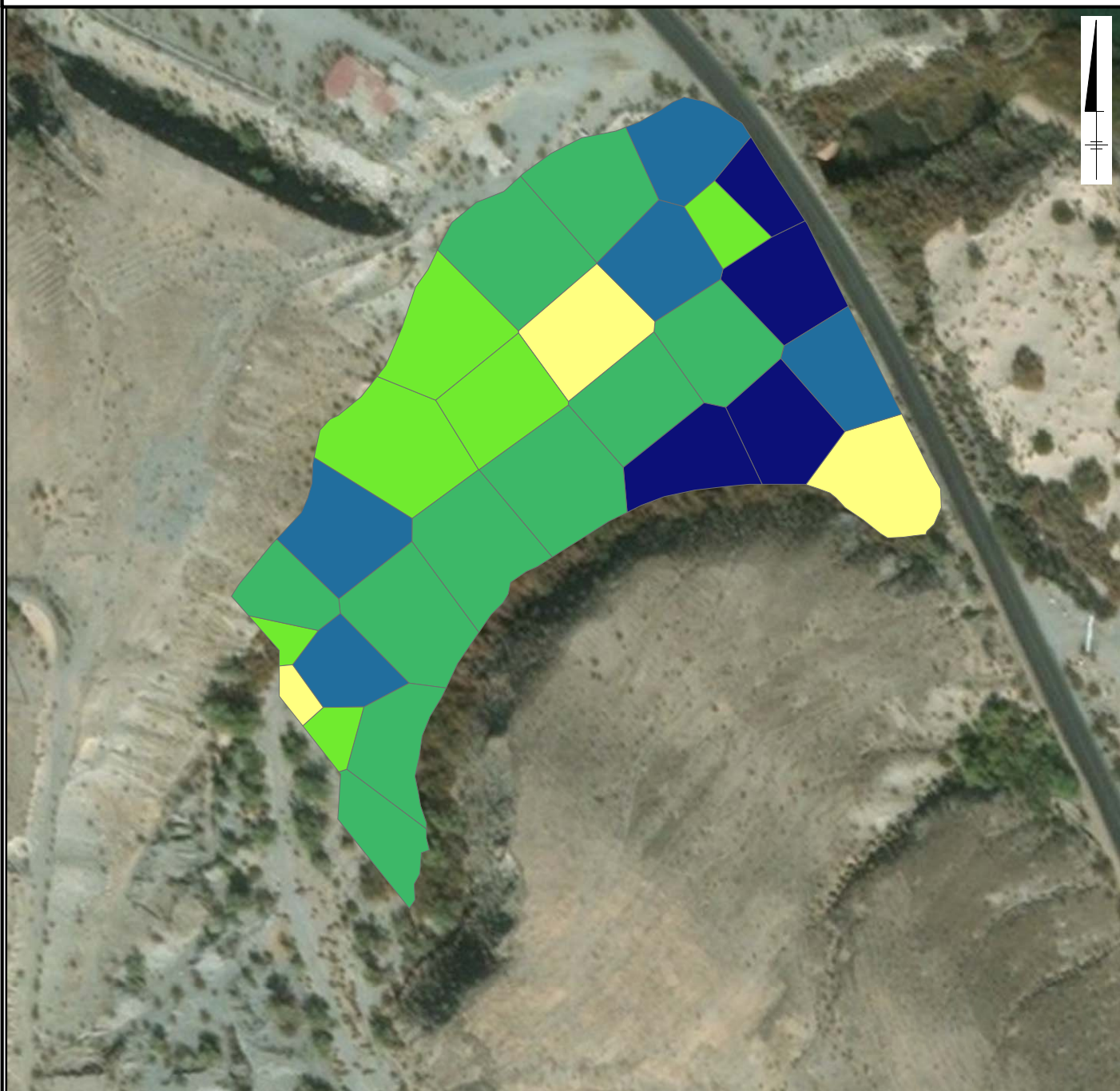
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ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING

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FIGURE
TT-A34

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM



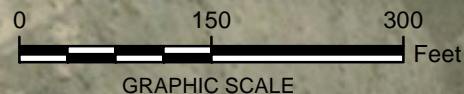
BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:

BARIUM (MG/KG)

	NOT DETECTED
	72.00 - 96.00
	≥96.00 - 160.00
	≥160.00 - 190.00
	≥190.00 - 230.00
	≥230.00 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING



FIGURE
TT-A35

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

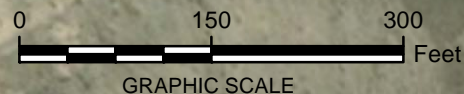


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.13
	≥0.13 - 0.30
	≥0.30 - 0.45
	≥0.45 - 2.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



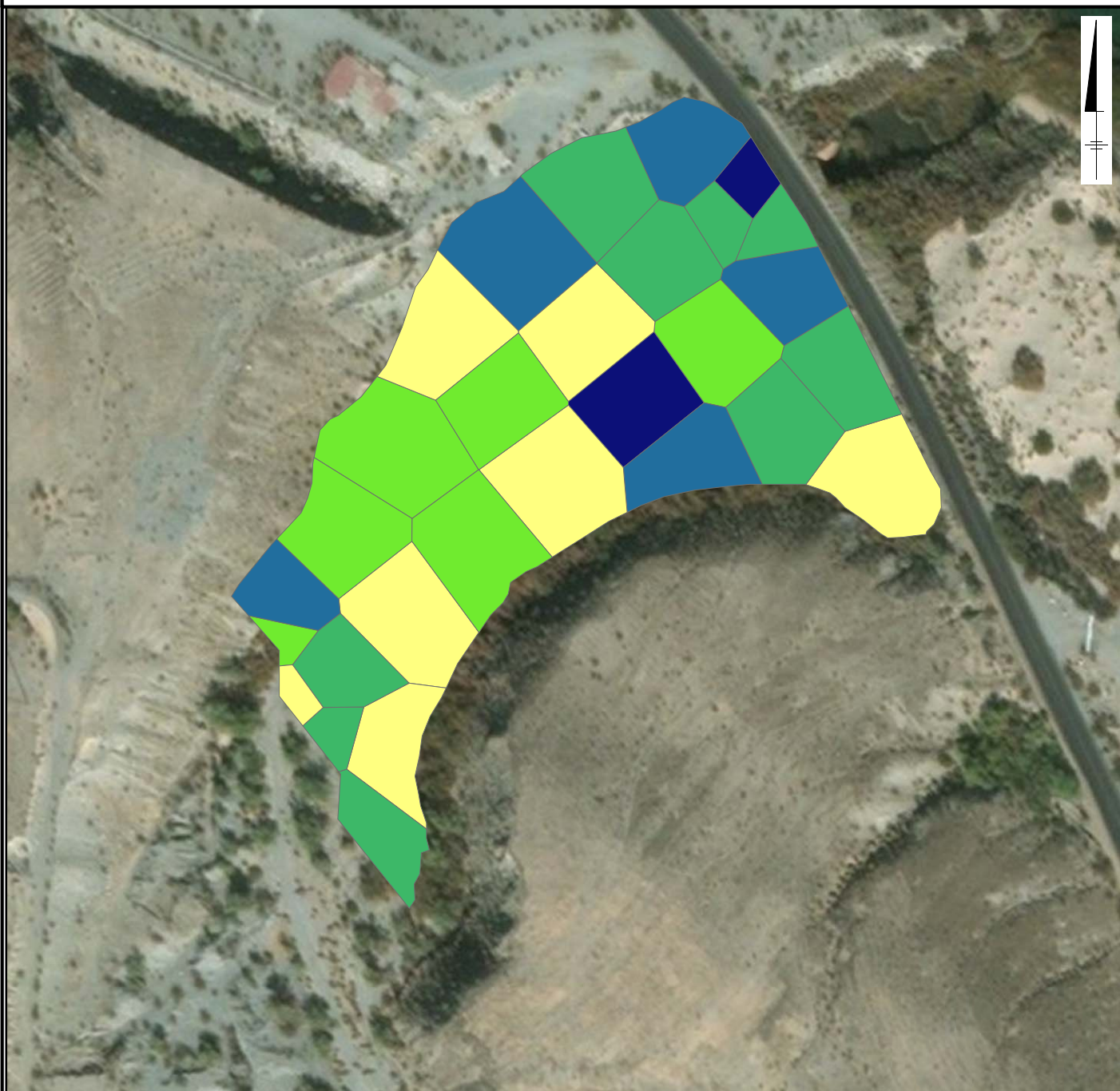
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FIGURE
TT-A36

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

-  NOT DETECTED
-  12.00 - 21.00
-  ≥ 21.00 - 30.00
-  ≥ 30.00 - 39.00
-  ≥ 39.00 - 52.00
-  ≥ 52.00 - 71.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

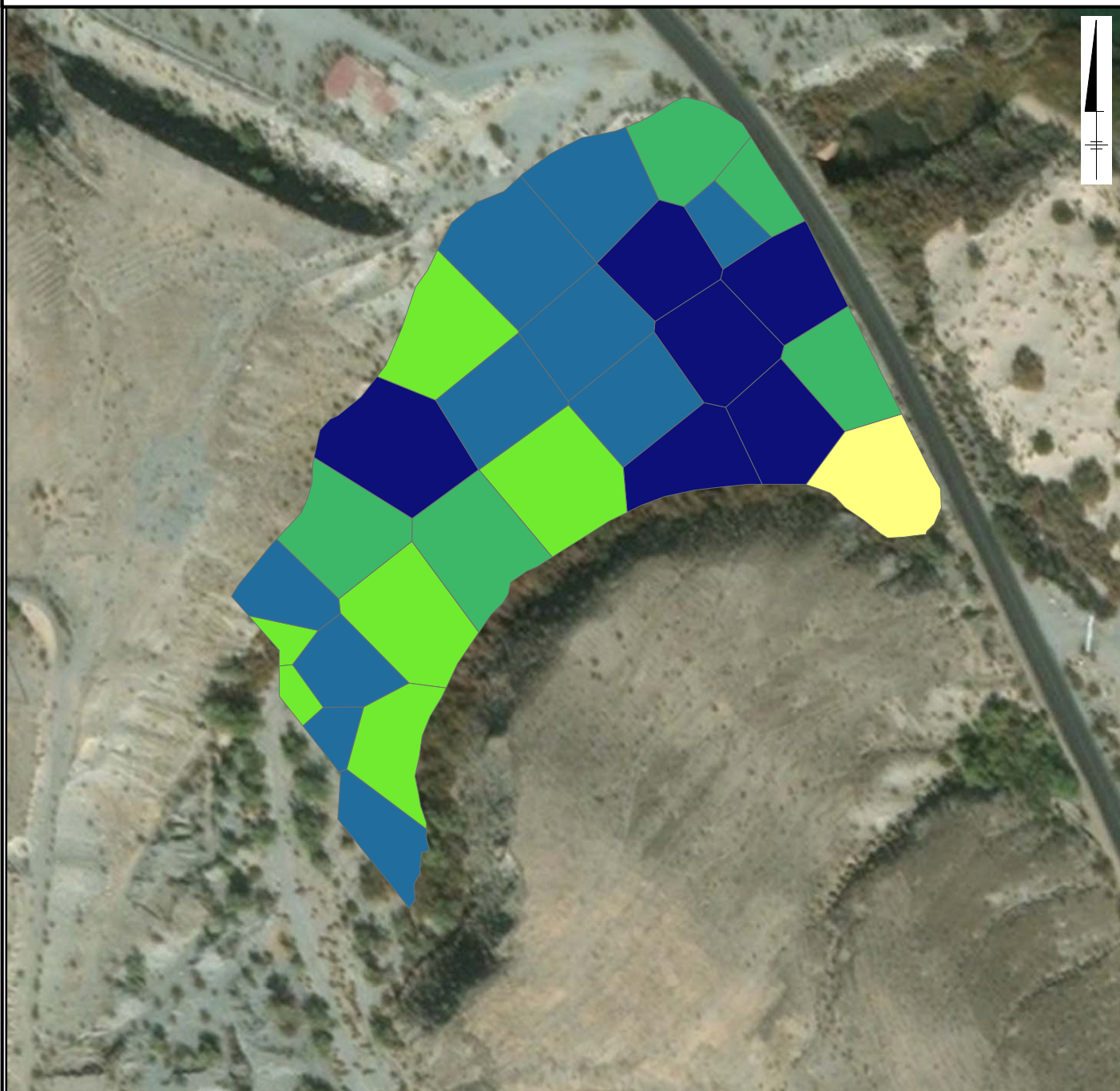
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FIGURE
TT-A37

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	4.60 - 4.60
	≥4.60 - 7.10
	≥7.10 - 8.10
	≥8.10 - 9.00
	≥9.00 - 9.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

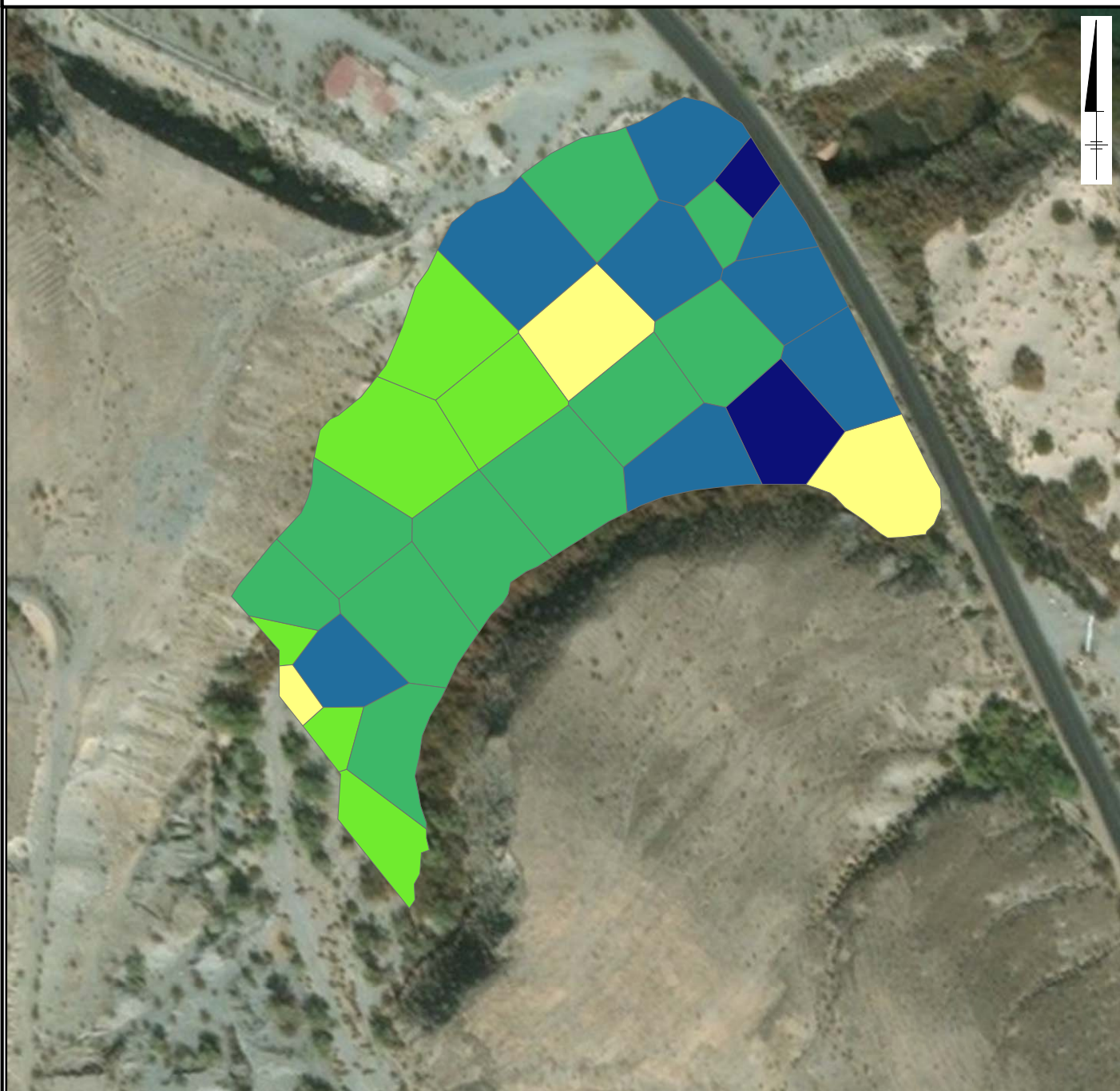
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FIGURE
TT-A38

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE COPPER

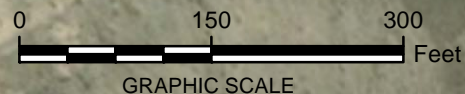


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

-  NOT DETECTED
-  7.00 - 8.20
-  ≥ 8.20 - 13.00
-  ≥ 13.00 - 16.00
-  ≥ 16.00 - 19.00
-  ≥ 19.00 - 22.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



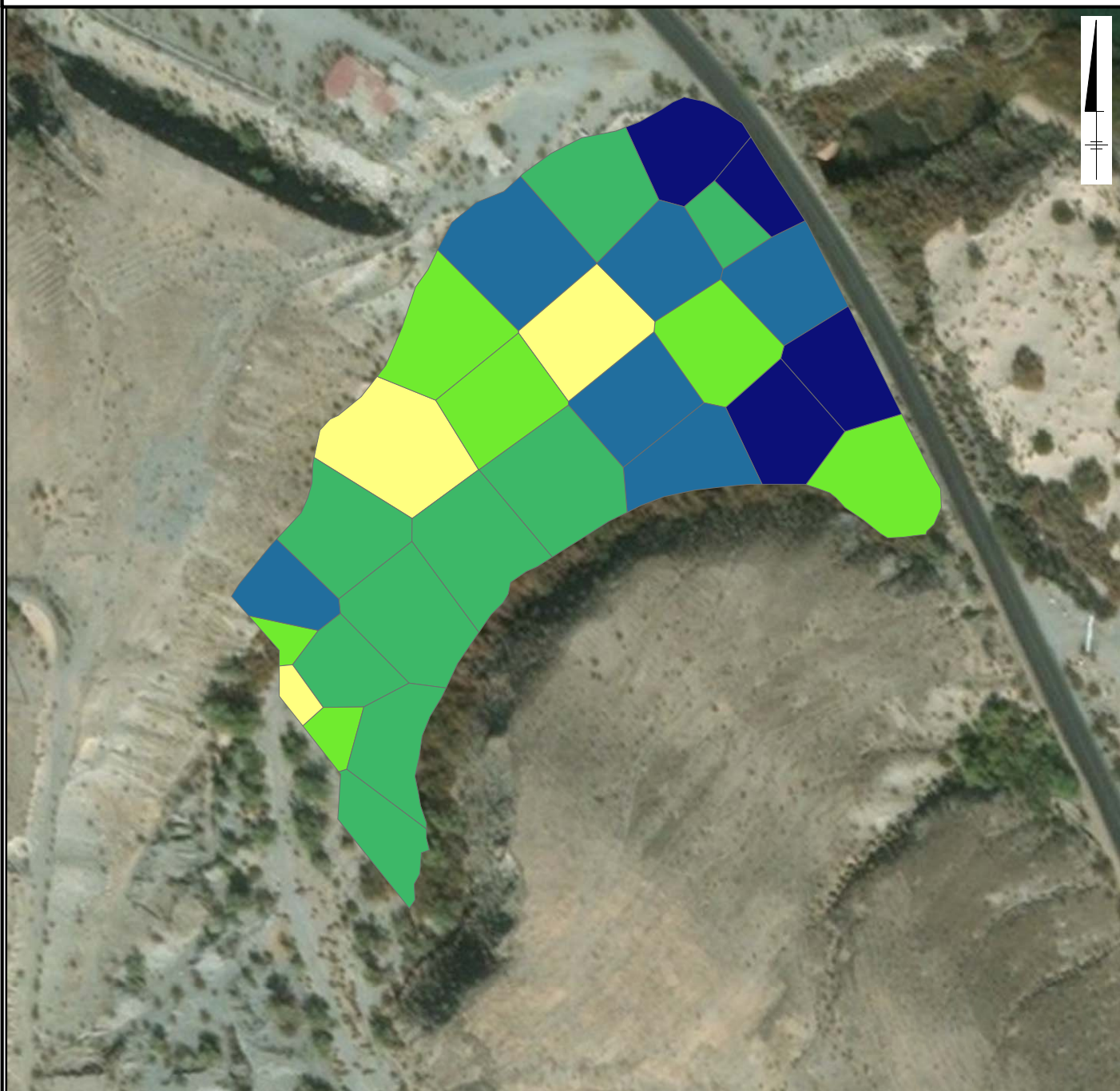
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**FIGURE
TT-A39**

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE LEAD

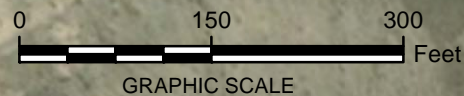


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	2.20 - 4.70
	≥4.70 - 7.40
	≥7.40 - 9.80
	≥9.80 - 14.00
	≥14.00 - 23.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A3.10

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 6.80 - 10.00
- ≥ 10.00 - 13.00
- ≥ 13.00 - 15.00
- ≥ 15.00 - 17.00
- ≥ 17.00 - 18.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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FIGURE
TT-A3.11

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

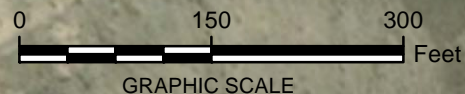


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

-  NOT DETECTED
-  23.00 - 25.00
-  ≥ 25.00 - 31.00
-  ≥ 31.00 - 36.00
-  ≥ 36.00 - 39.00
-  ≥ 39.00 - 42.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A3.12

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND:

ZINC (MG/KG)

	NOT DETECTED
	26.00 - 40.00
	≥40.00 - 54.00
	≥54.00 - 62.00
	≥62.00 - 69.00
	≥69.00 - 84.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

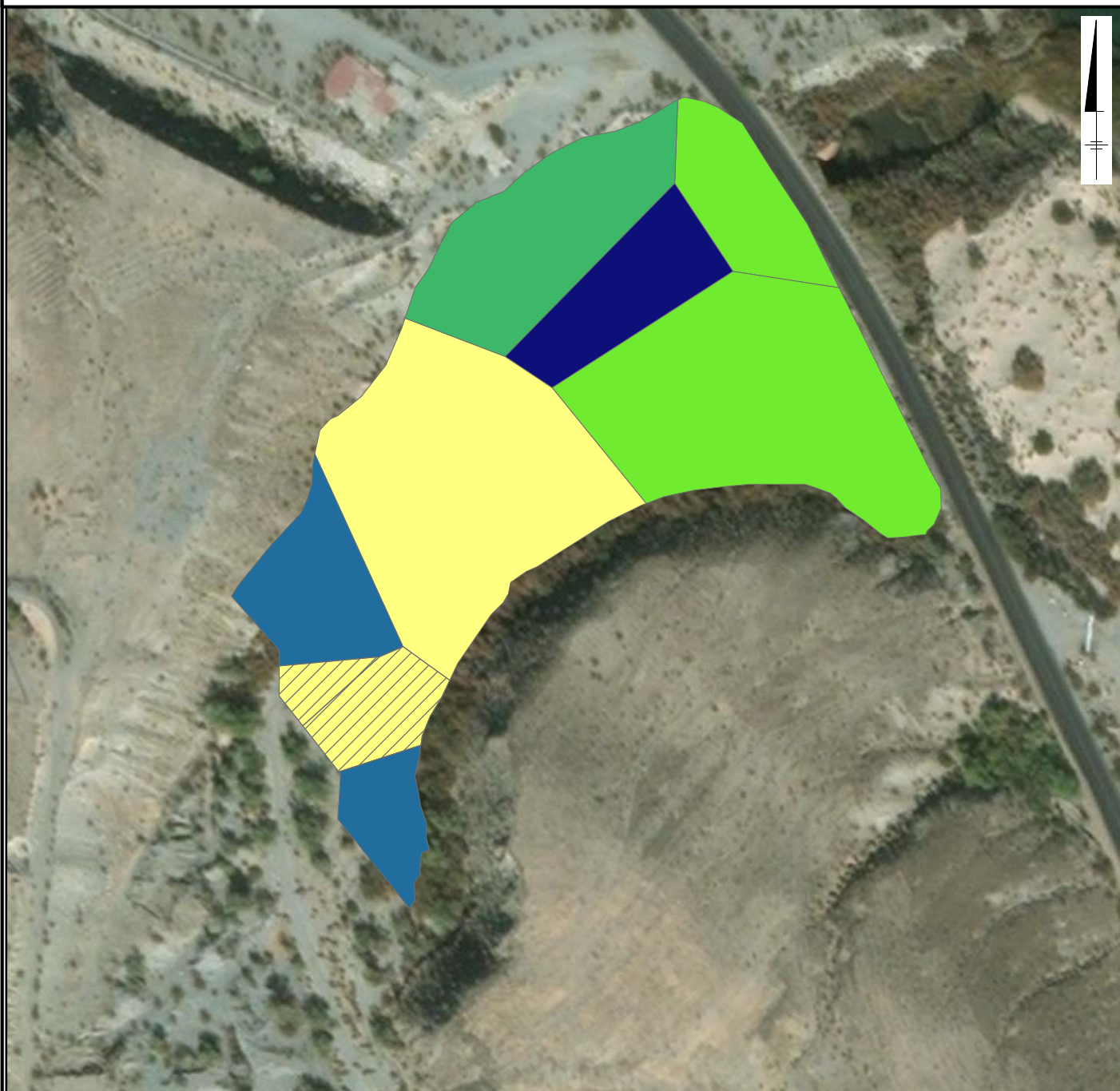
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FIGURE
TT-A3.13

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

-  NOT DETECTED
-  5.80 - 6.10
-  $\geq 6.10 - 14.00$
-  $\geq 14.00 - 21.00$
-  $\geq 21.00 - 32.00$
-  $\geq 32.00 - 72.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

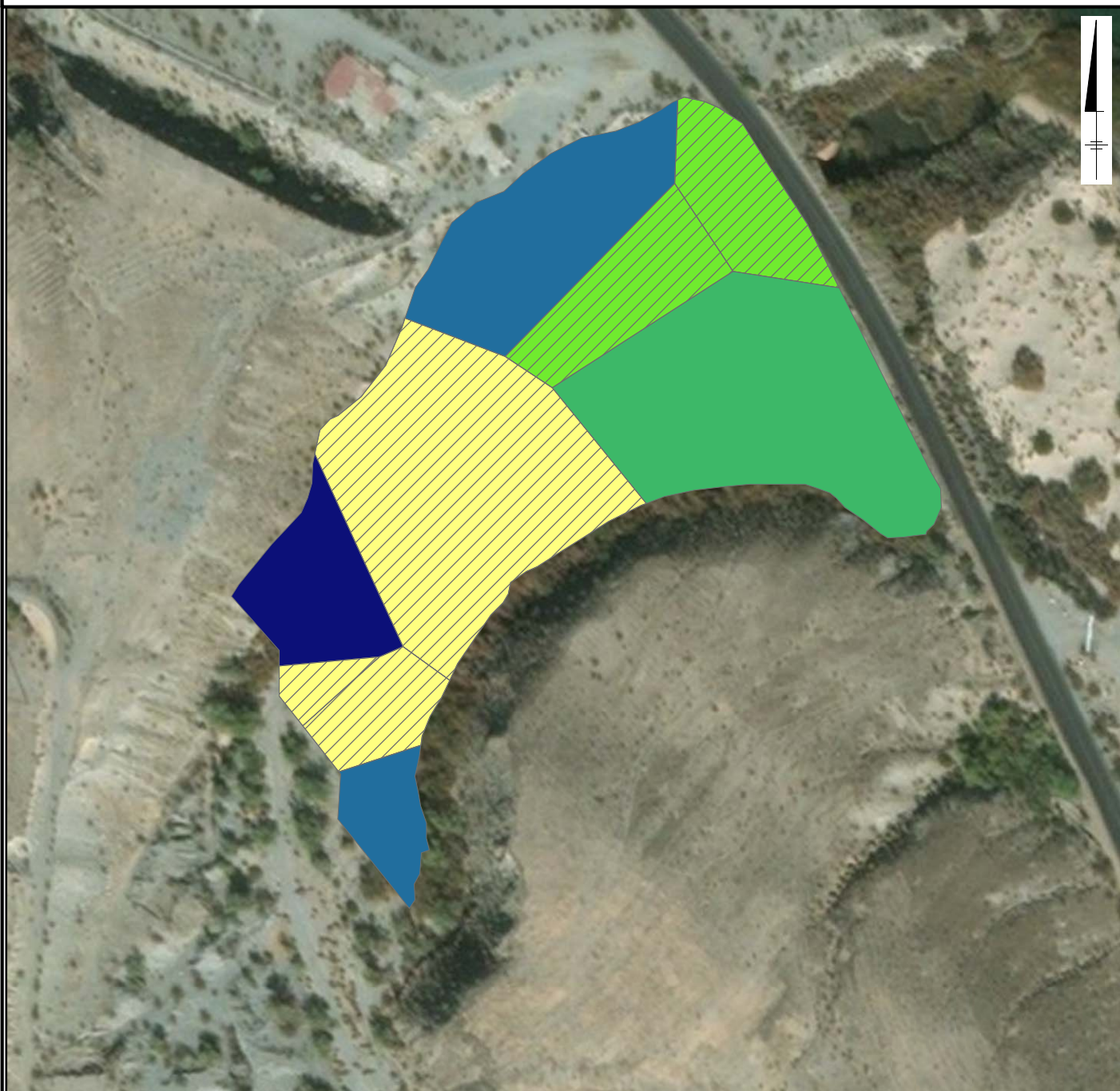
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FIGURE
TT-A3.14

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE

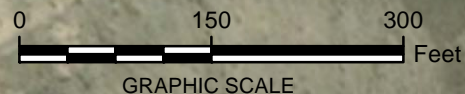


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.50 - 2.65
-  $\geq 2.65 - 3.55$
-  $\geq 3.55 - 7.20$
-  $\geq 7.20 - 12.00$
-  $\geq 12.00 - 22.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



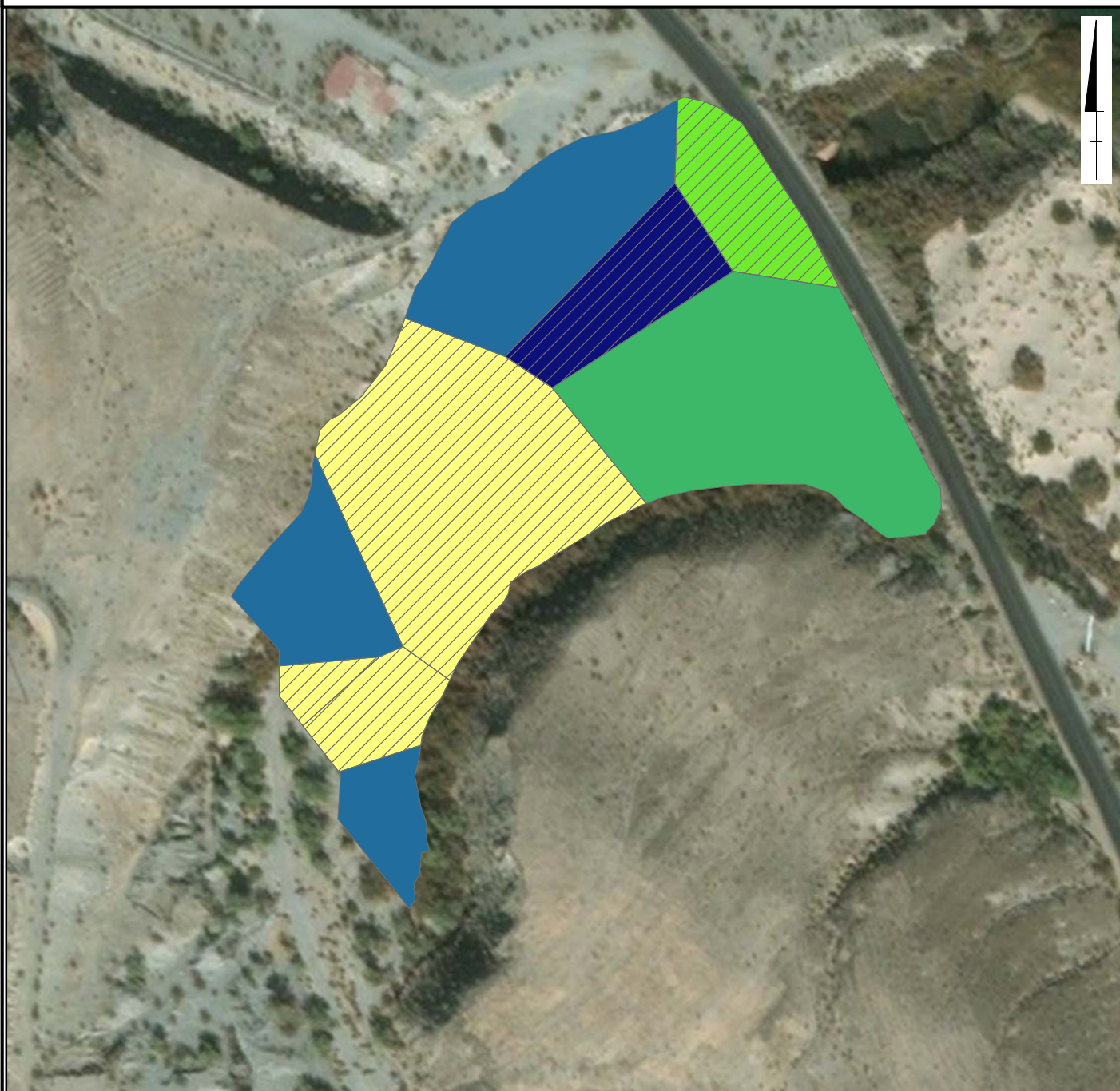
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FIGURE
TT-A3.15

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

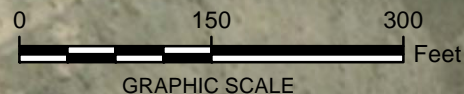


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 3.55
	≥3.55 - 8.00
	≥8.00 - 20.00
	≥20.00 - 32.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



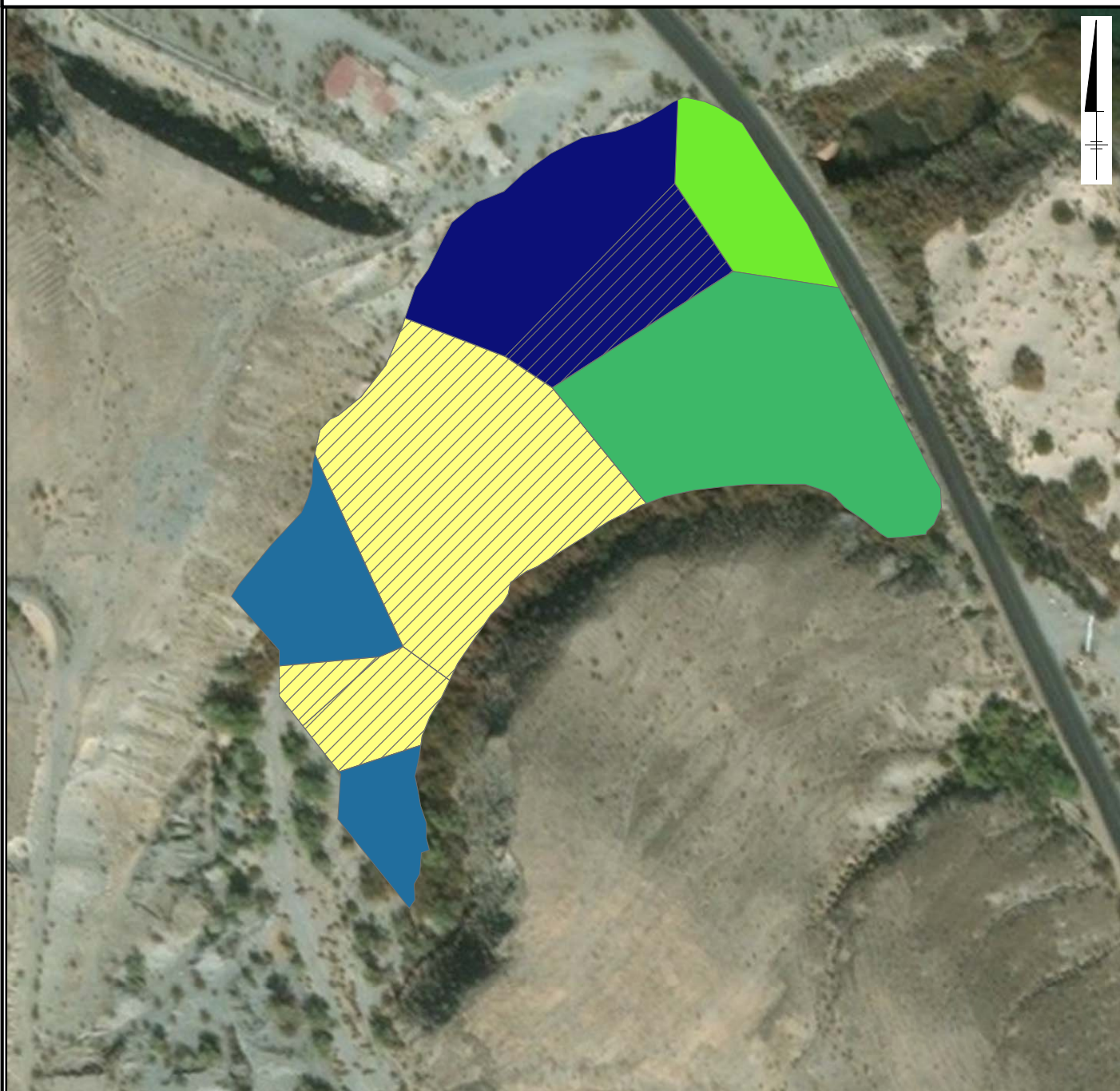
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FIGURE
TT-A3.16

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

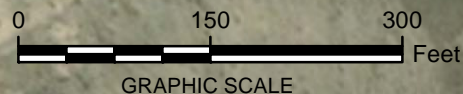


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 2.65
-  ≥2.65 - 11.00
-  ≥11.00 - 17.00
-  ≥17.00 - 27.00
-  ≥27.00 - 32.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



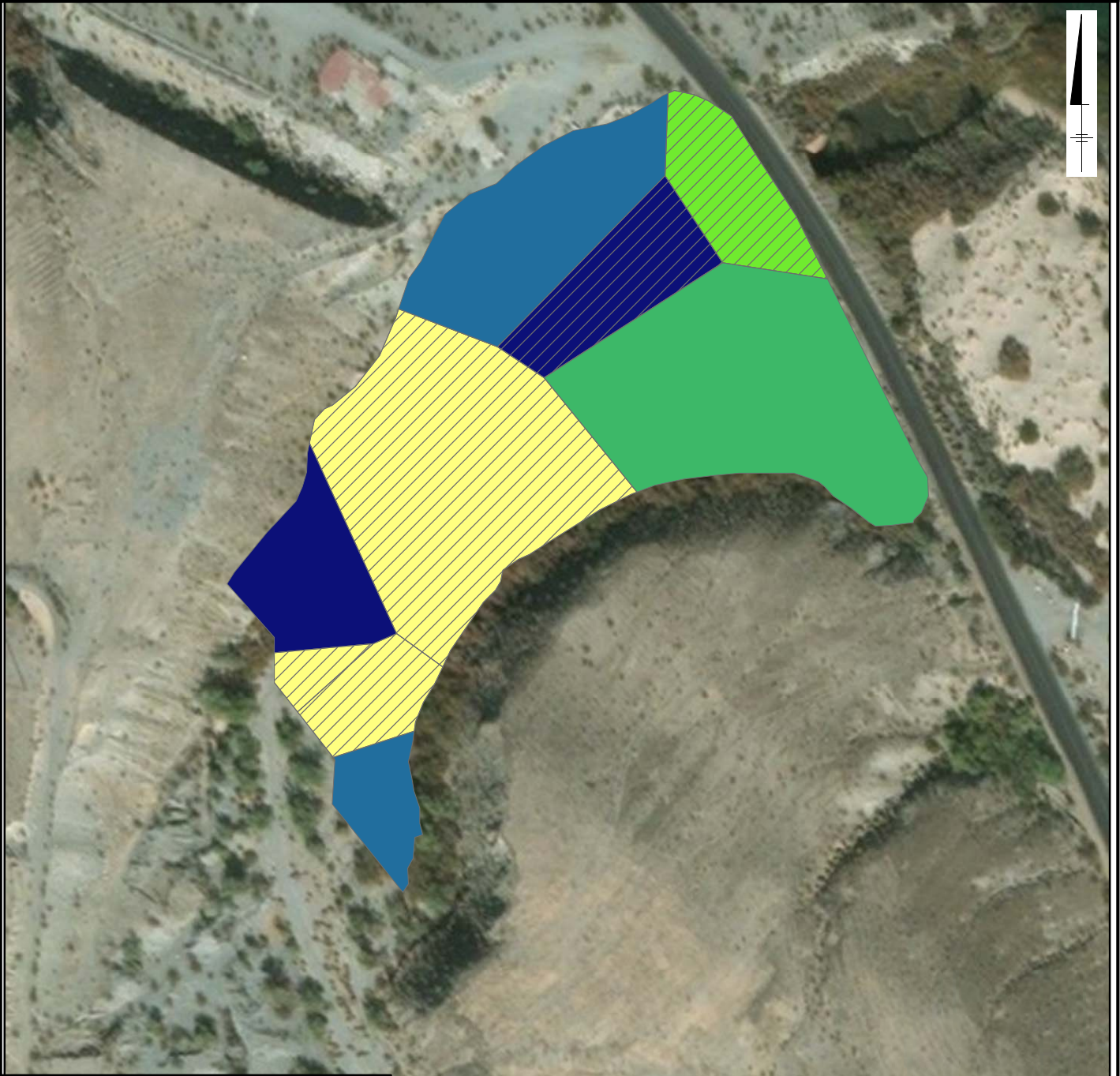
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FIGURE
TT-A3.17

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

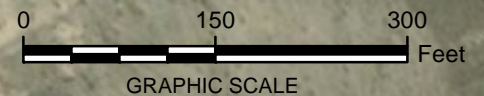


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 2.65
-  $\geq 2.65 - 3.55$
-  $\geq 3.55 - 7.60$
-  $\geq 7.60 - 16.00$
-  $\geq 16.00 - 32.50$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



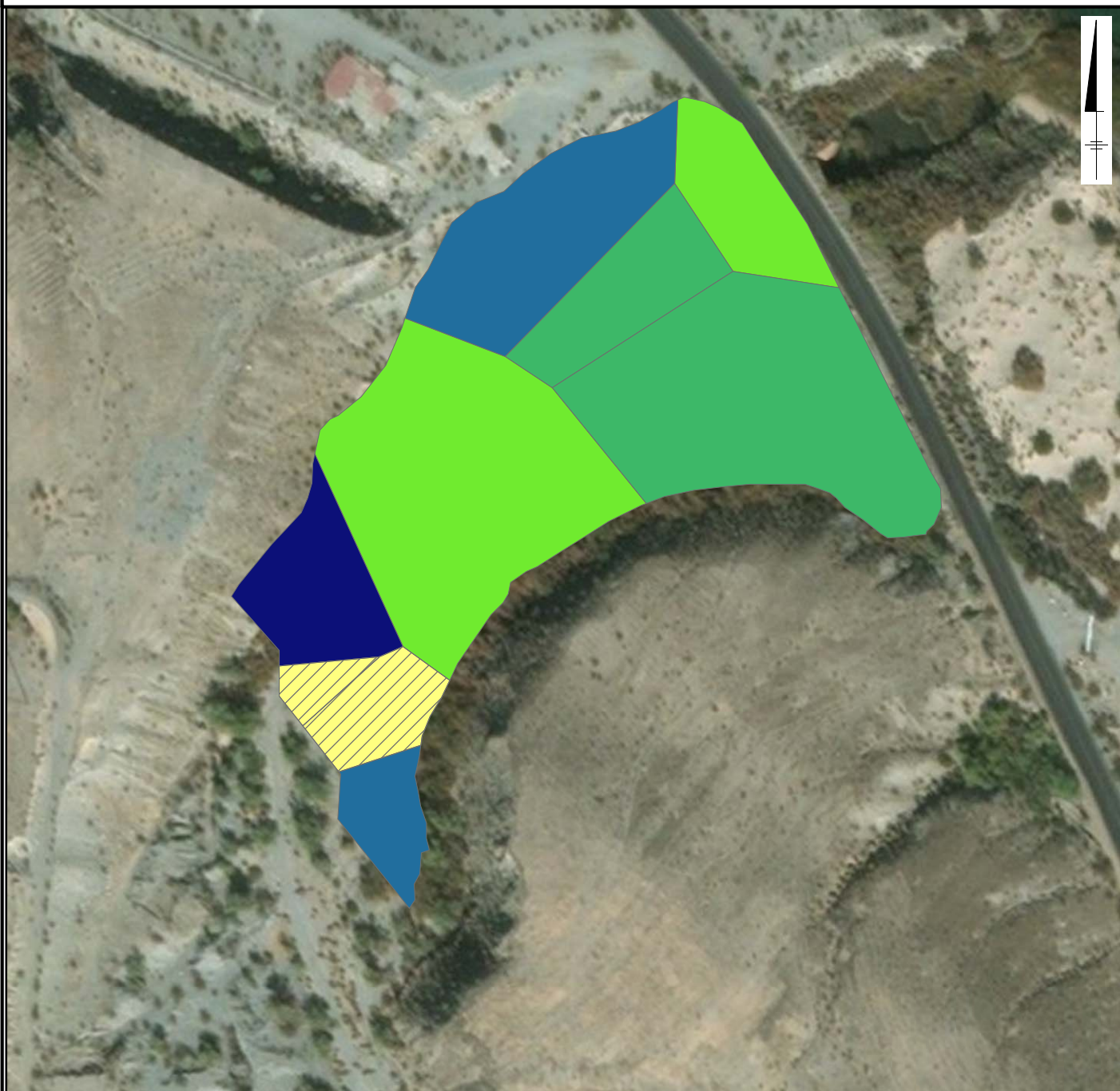
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FIGURE
TT-A3.18

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE

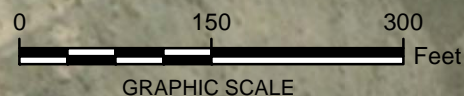


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.50
- $\geq 2.50 - 7.30$
- $\geq 7.30 - 11.00$
- $\geq 11.00 - 22.00$
- $\geq 22.00 - 29.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



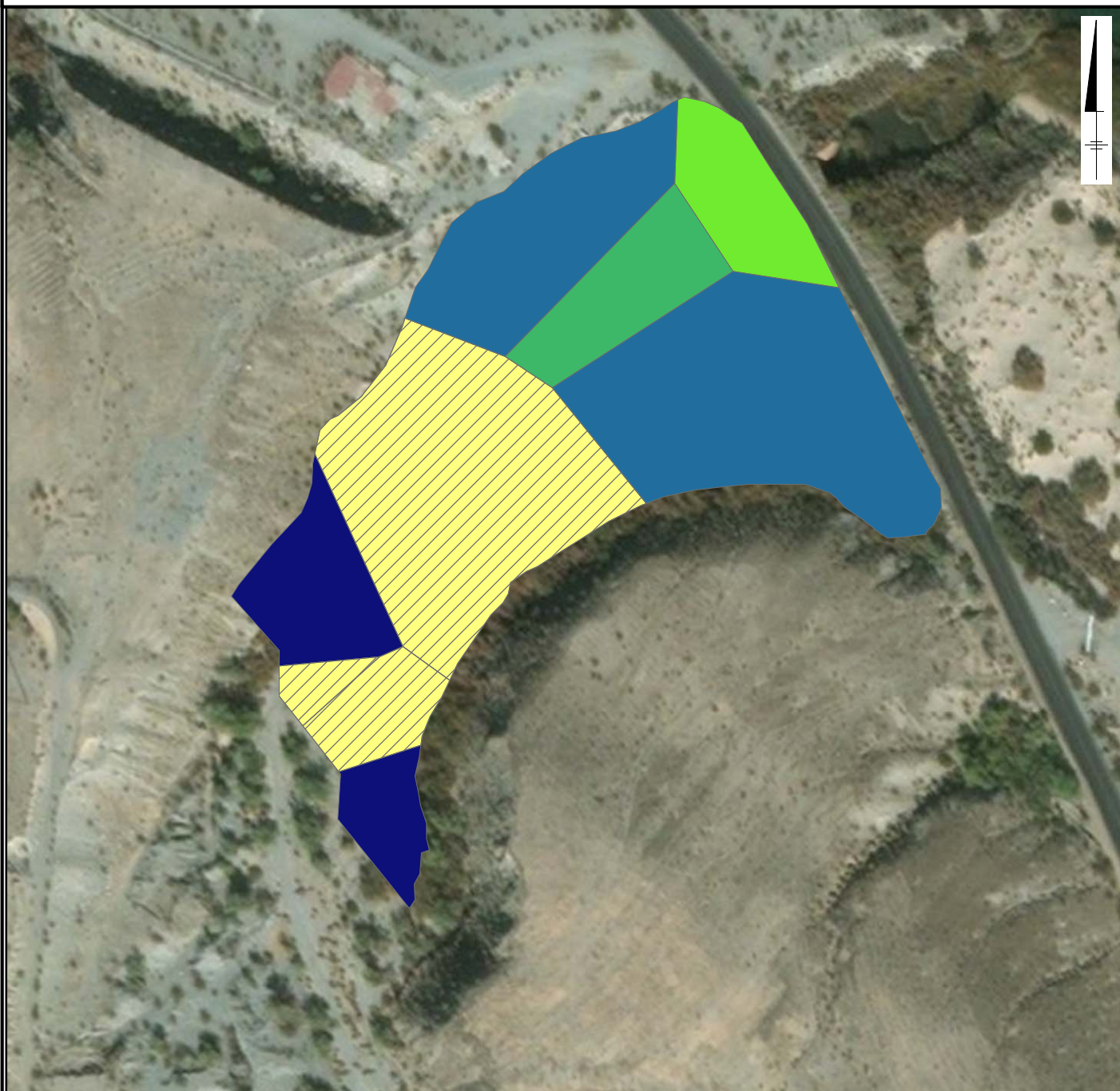
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FIGURE
TT-A3.19

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE

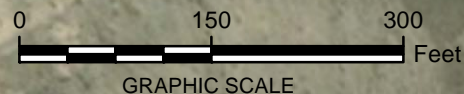


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.65
- $\geq 2.65 - 10.00$
- $\geq 10.00 - 16.00$
- $\geq 16.00 - 26.00$
- $\geq 26.00 - 34.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



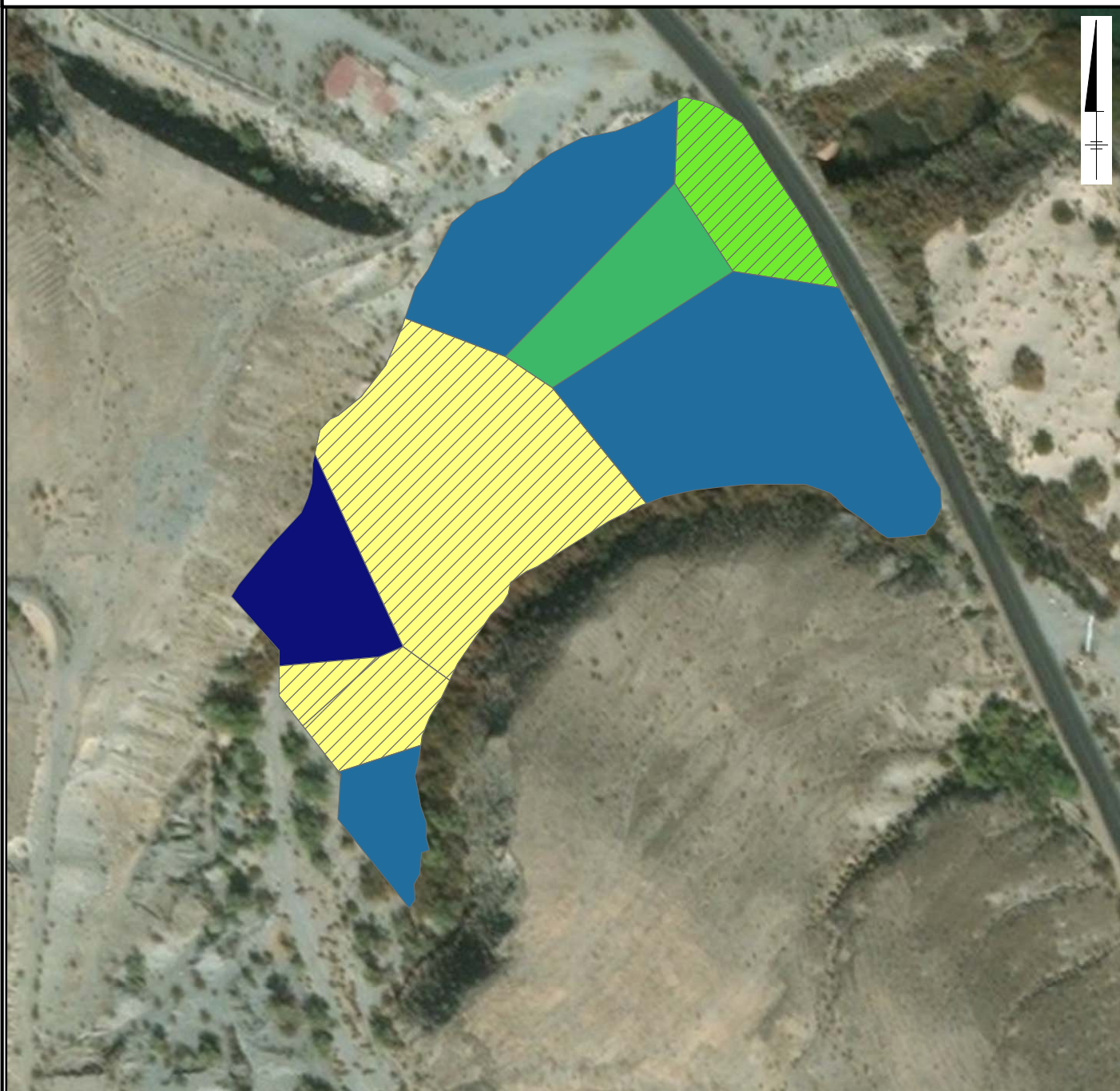
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FIGURE
TT-A320

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE PHENANTHRENE

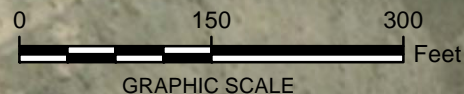


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.65
- ≥2.65 - 3.55
- ≥3.55 - 7.80
- ≥7.80 - 12.00
- ≥12.00 - 14.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



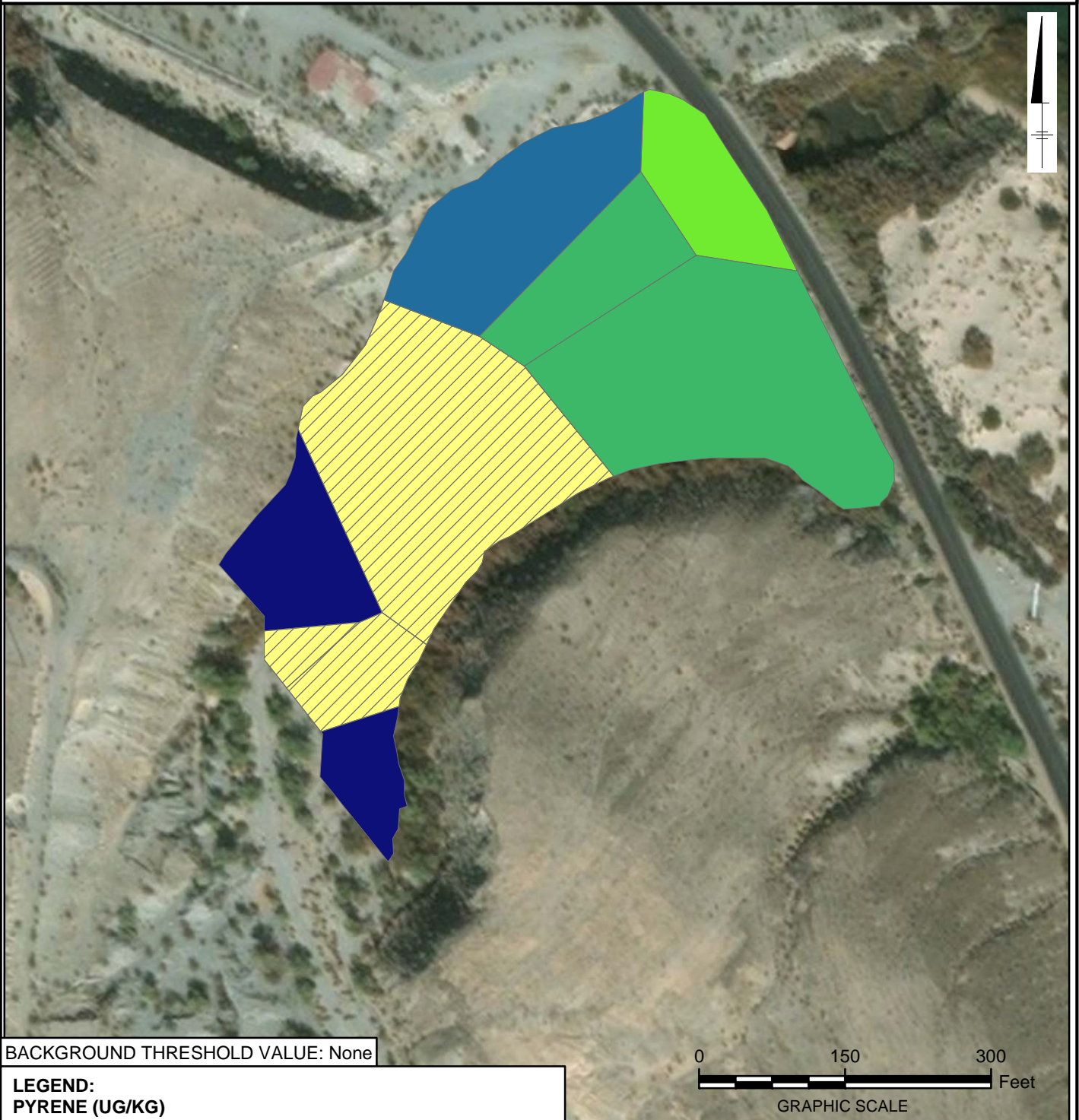
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FIGURE
TT-A321

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 2.65
- $\geq 2.65 - 10.00$
- $\geq 10.00 - 16.00$
- $\geq 16.00 - 23.00$
- $\geq 23.00 - 30.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

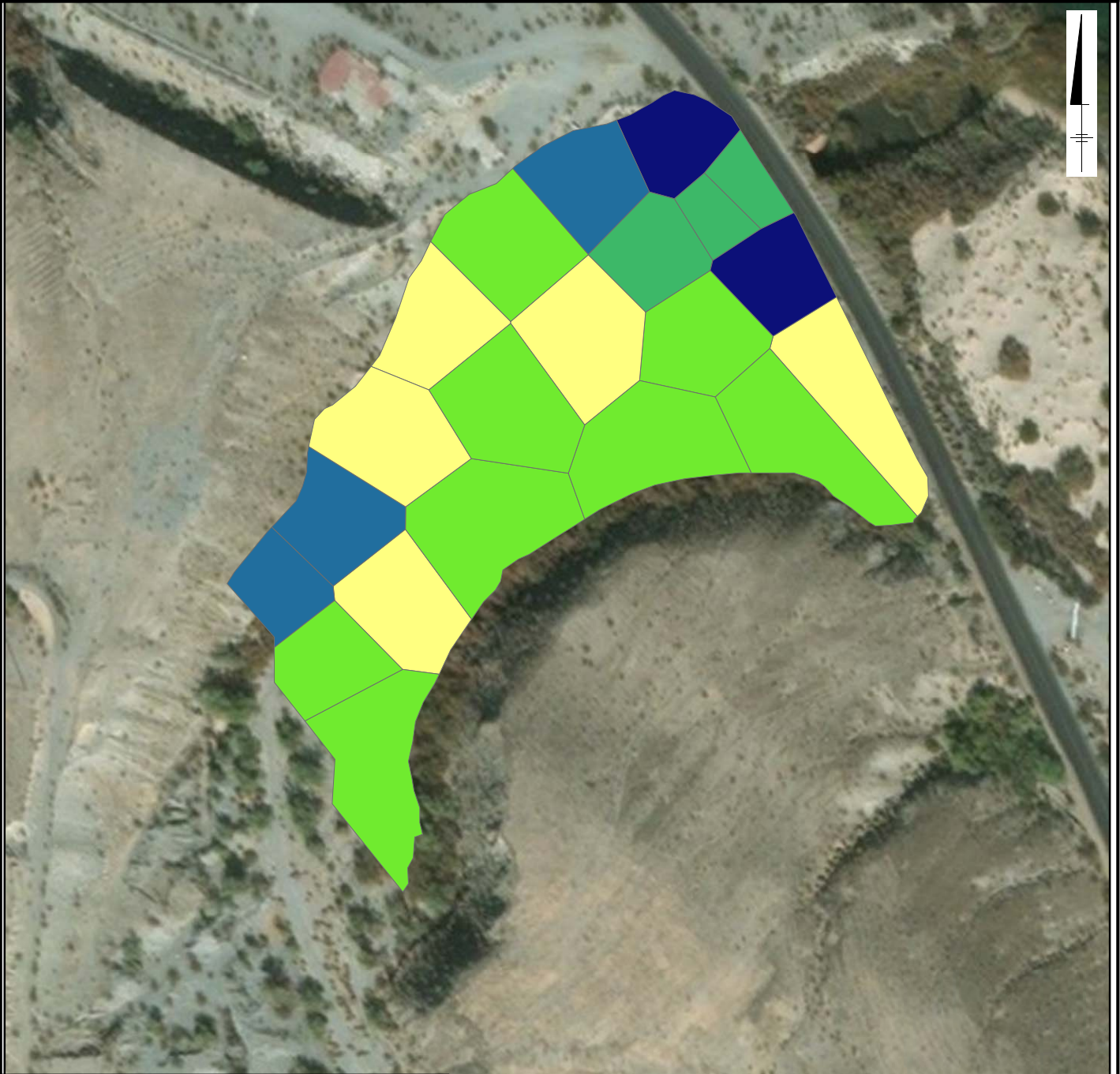
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FIGURE
TT-A322

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.31 - 6.63
- ≥6.63 - 17.30
- ≥17.30 - 31.60
- ≥31.60 - 50.70
- ≥50.70 - 73.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

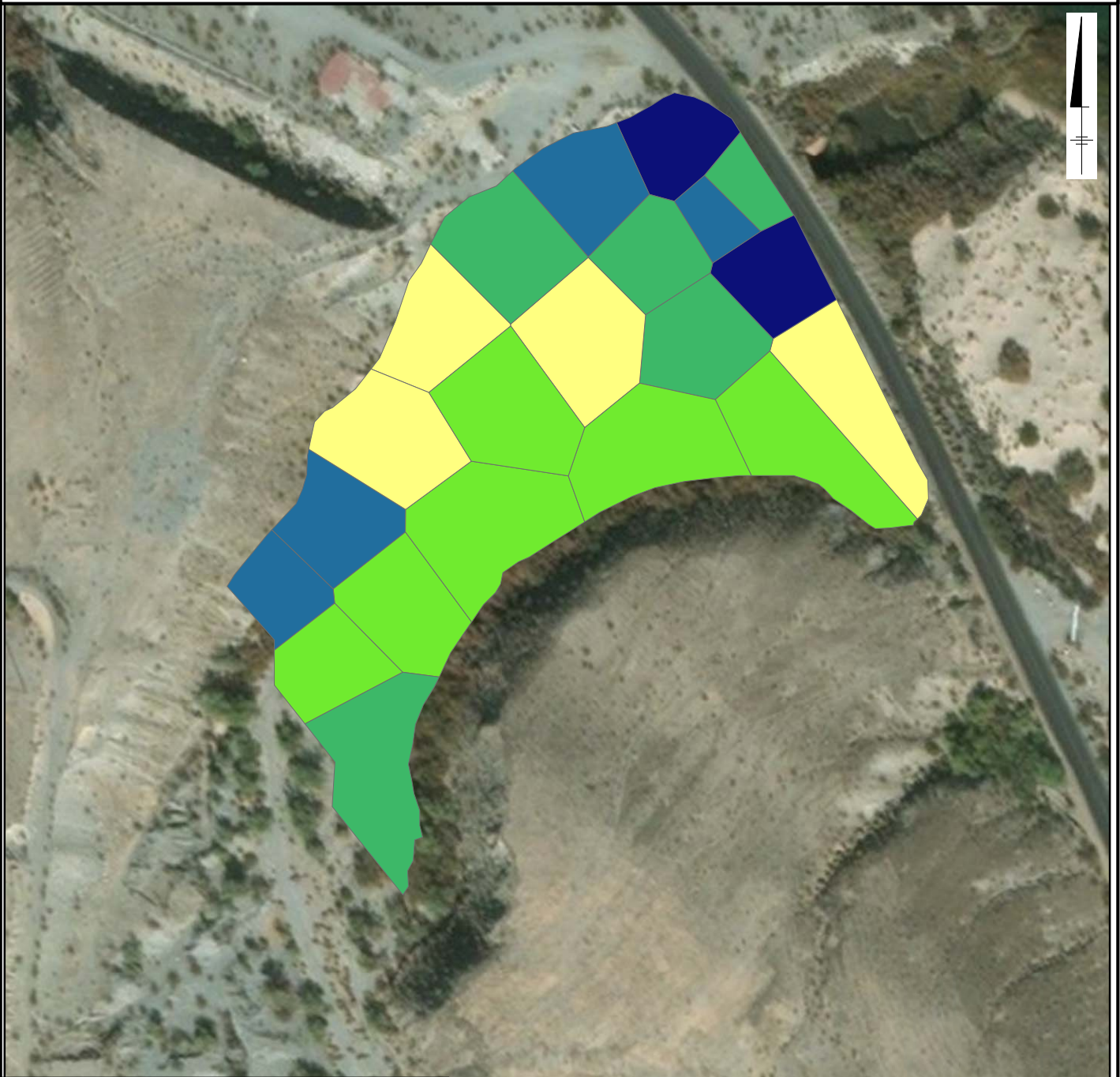
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FIGURE
TT-A323

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.33 - 7.90
- ≥ 7.90 - 23.30
- ≥ 23.30 - 46.30
- ≥ 46.30 - 79.30
- ≥ 79.30 - 120.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

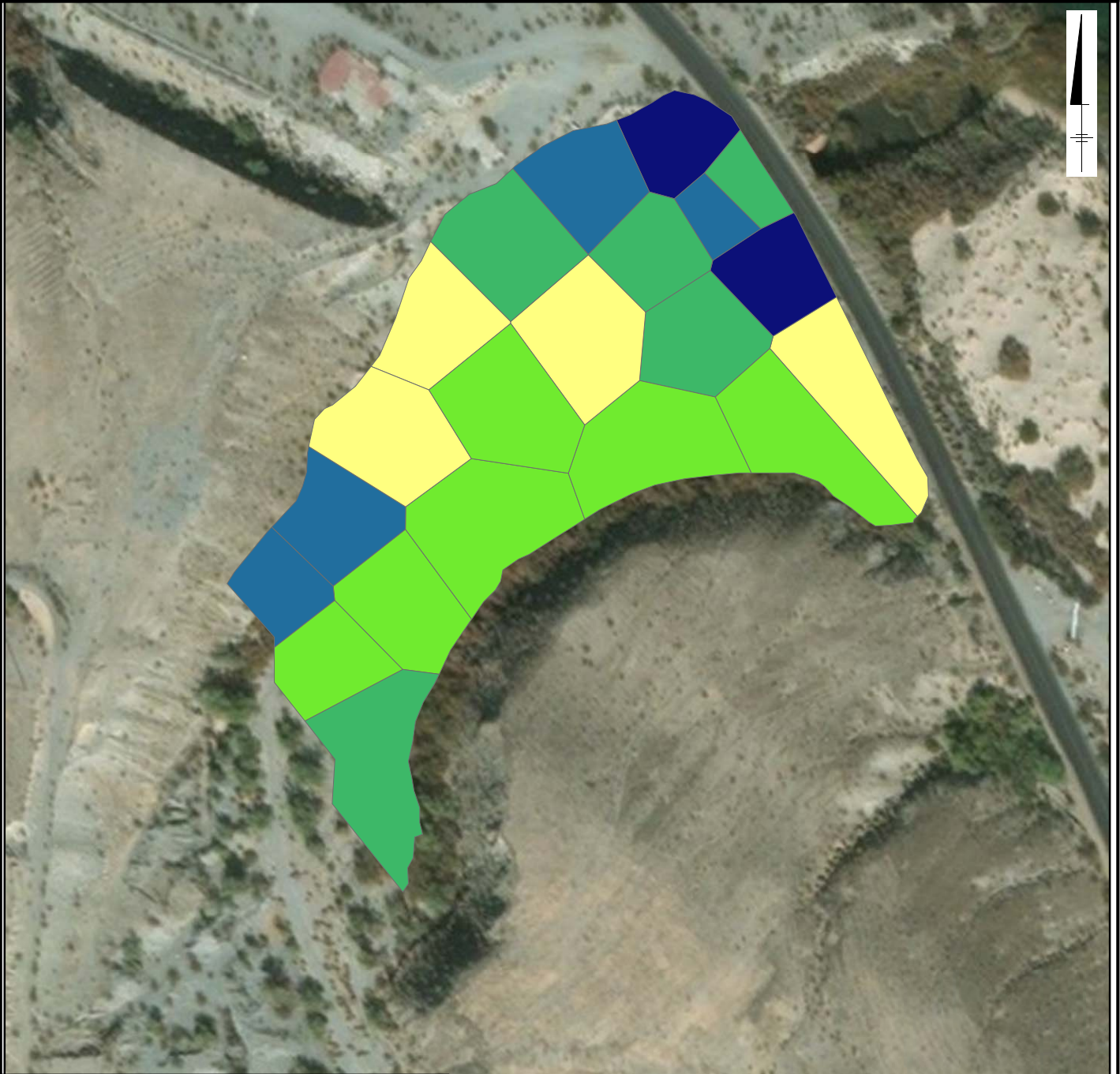
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FIGURE
TT-A324

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.33 - 7.90
- ≥ 7.90 - 23.30
- ≥ 23.30 - 46.30
- ≥ 46.30 - 79.30
- ≥ 79.30 - 120.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

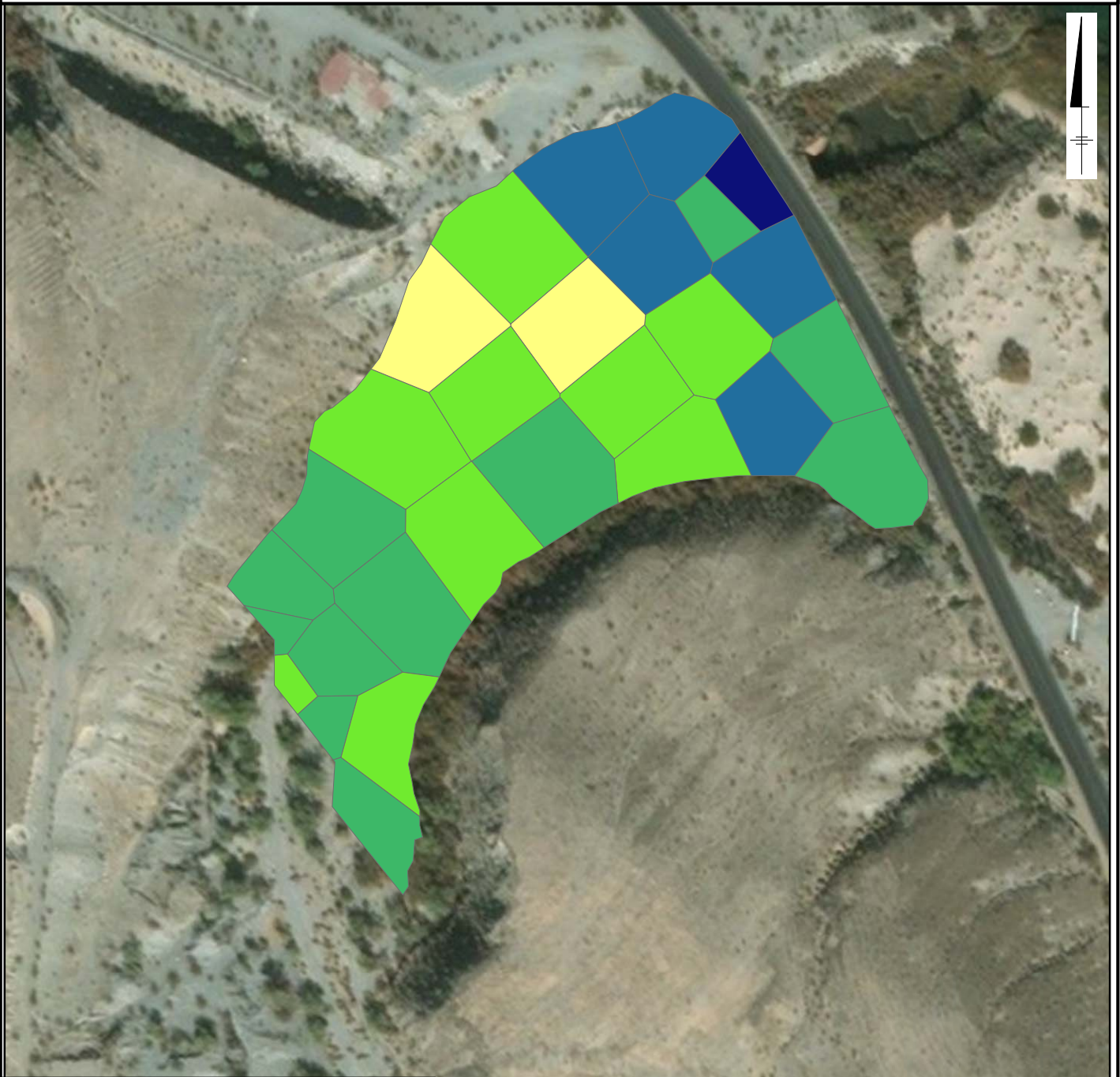
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FIGURE
TT-A325

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.93 - 1.98
	≥ 1.98 - 3.43
	≥ 3.43 - 4.27
	≥ 4.27 - 5.70
	≥ 5.70 - 11.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

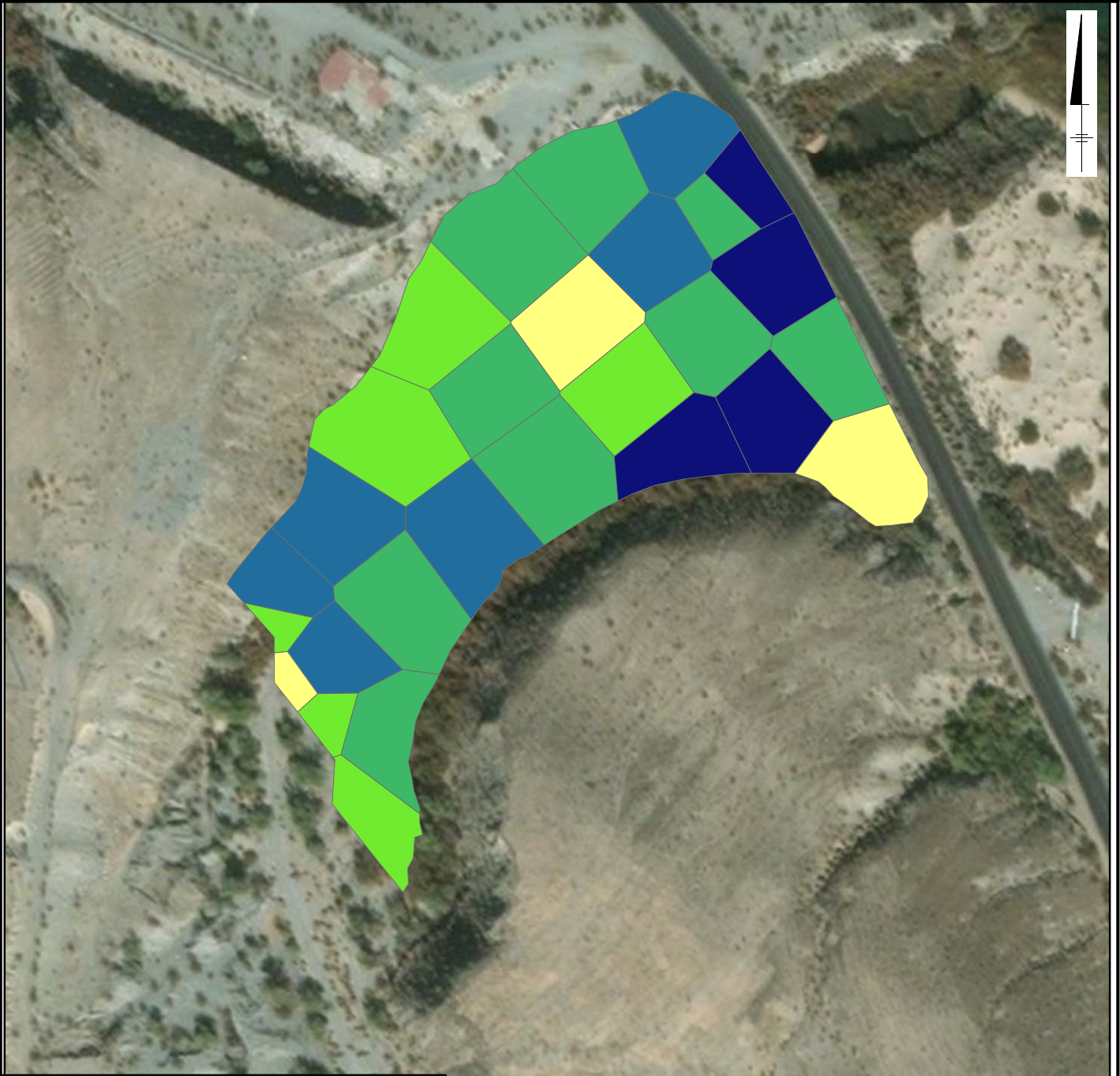
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FIGURE
TT-A326

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE BARIUM

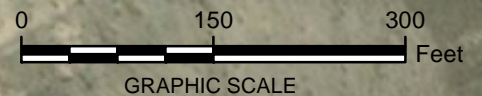


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	72.30 - 101.00
	≥ 101.00 - 150.00
	≥ 150.00 - 180.00
	≥ 180.00 - 213.00
	≥ 213.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



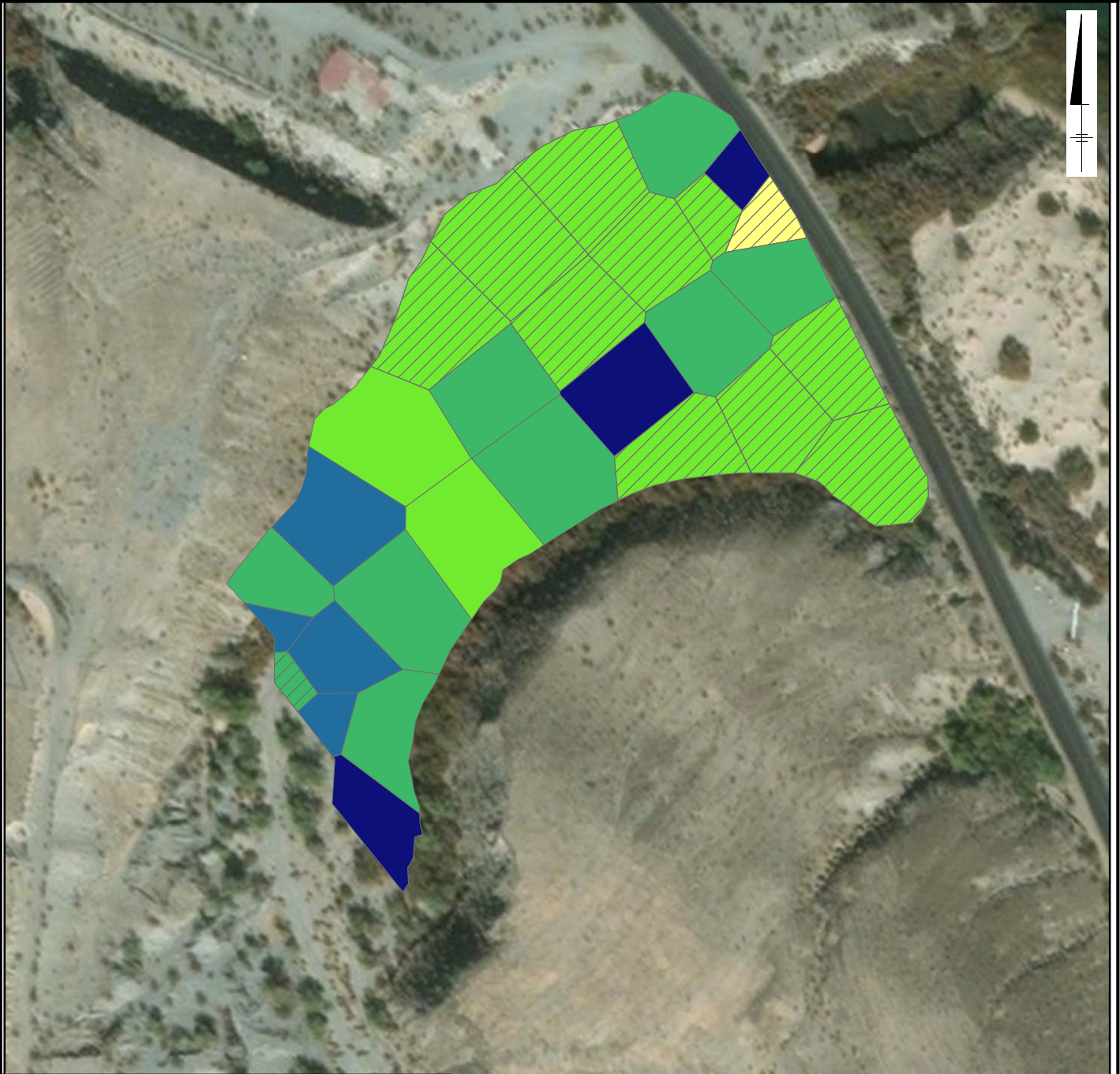
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**FIGURE
TT-A327**

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

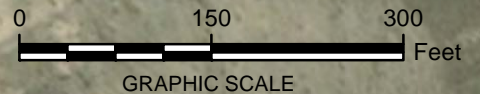


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.15
	≥0.15 - 0.26
	≥0.26 - 0.47
	≥0.47 - 1.84

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



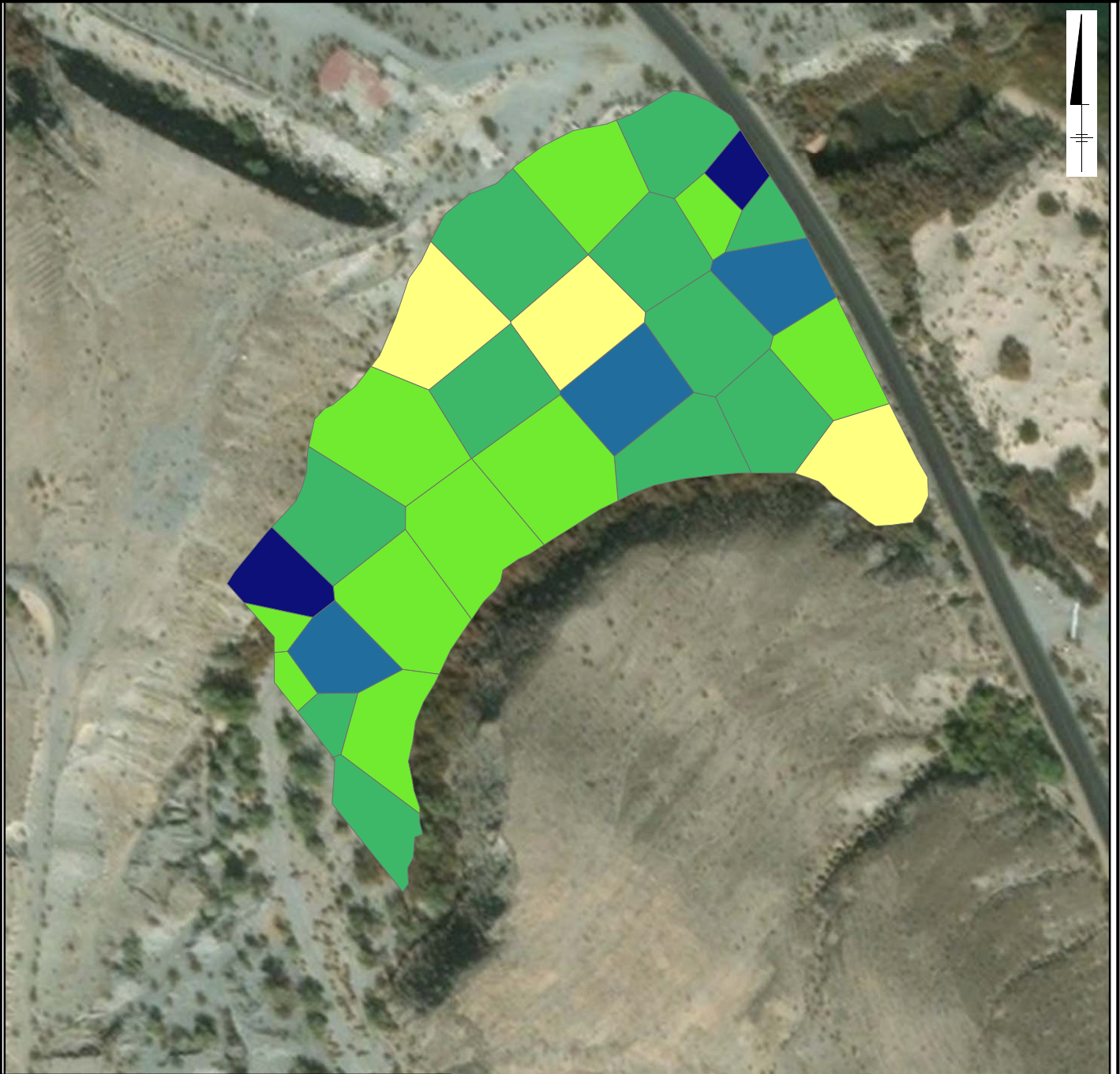
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FIGURE
TT-A328

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 14.70 - 18.00
- ≥ 18.00 - 28.30
- ≥ 28.30 - 36.70
- ≥ 36.70 - 45.30
- ≥ 45.30 - 56.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

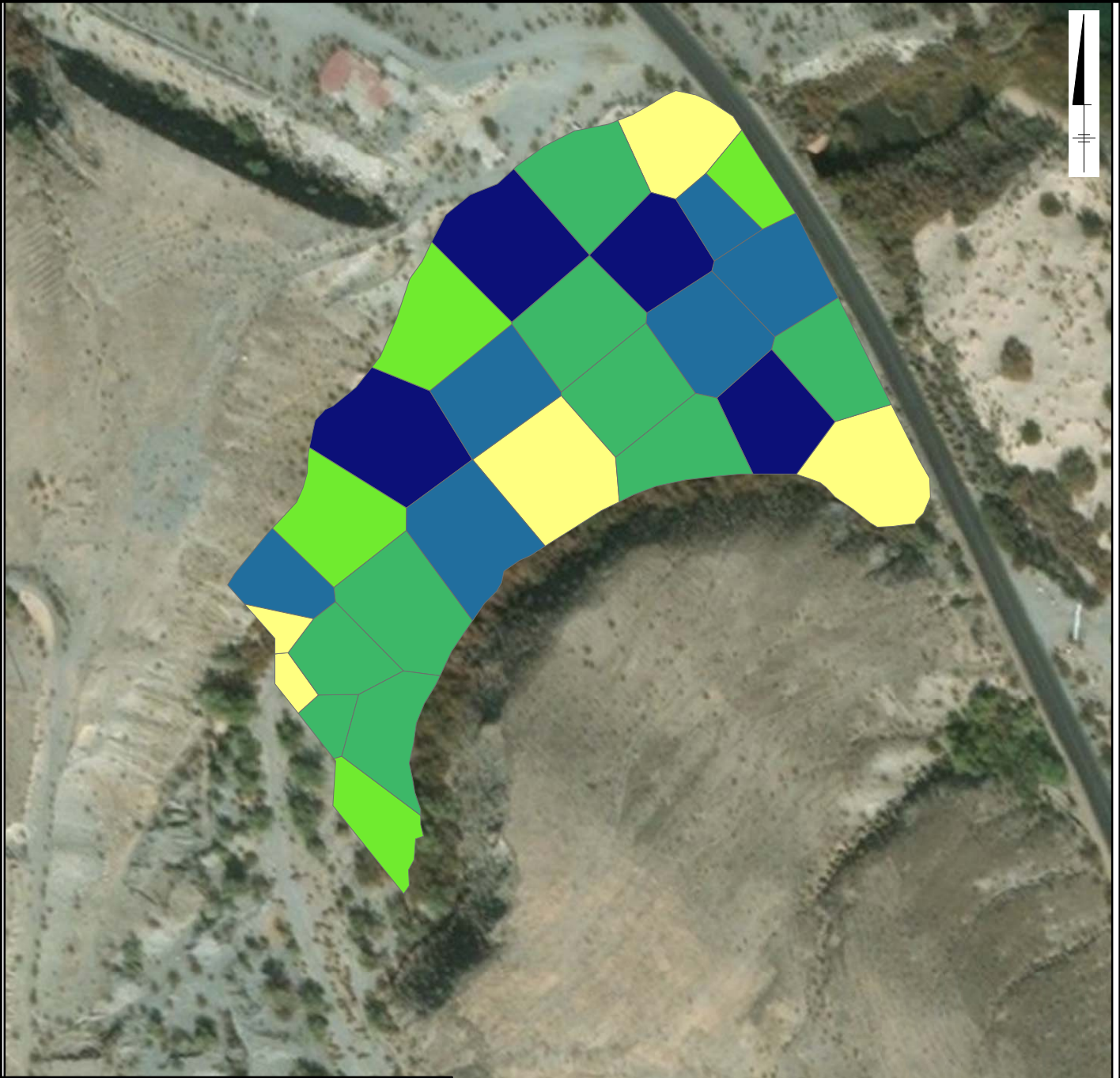
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FIGURE
TT-A329

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE COBALT

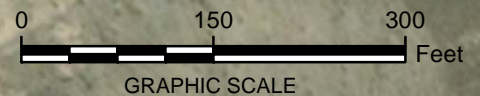


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 5.27 - 6.87
- ≥6.87 - 7.63
- ≥7.63 - 8.27
- ≥8.27 - 8.70
- ≥8.70 - 9.33

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A330

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE COPPER

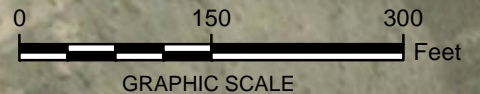


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 7.93 - 8.13
- ≥ 8.13 - 12.70
- ≥ 12.70 - 15.10
- ≥ 15.10 - 16.70
- ≥ 16.70 - 19.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



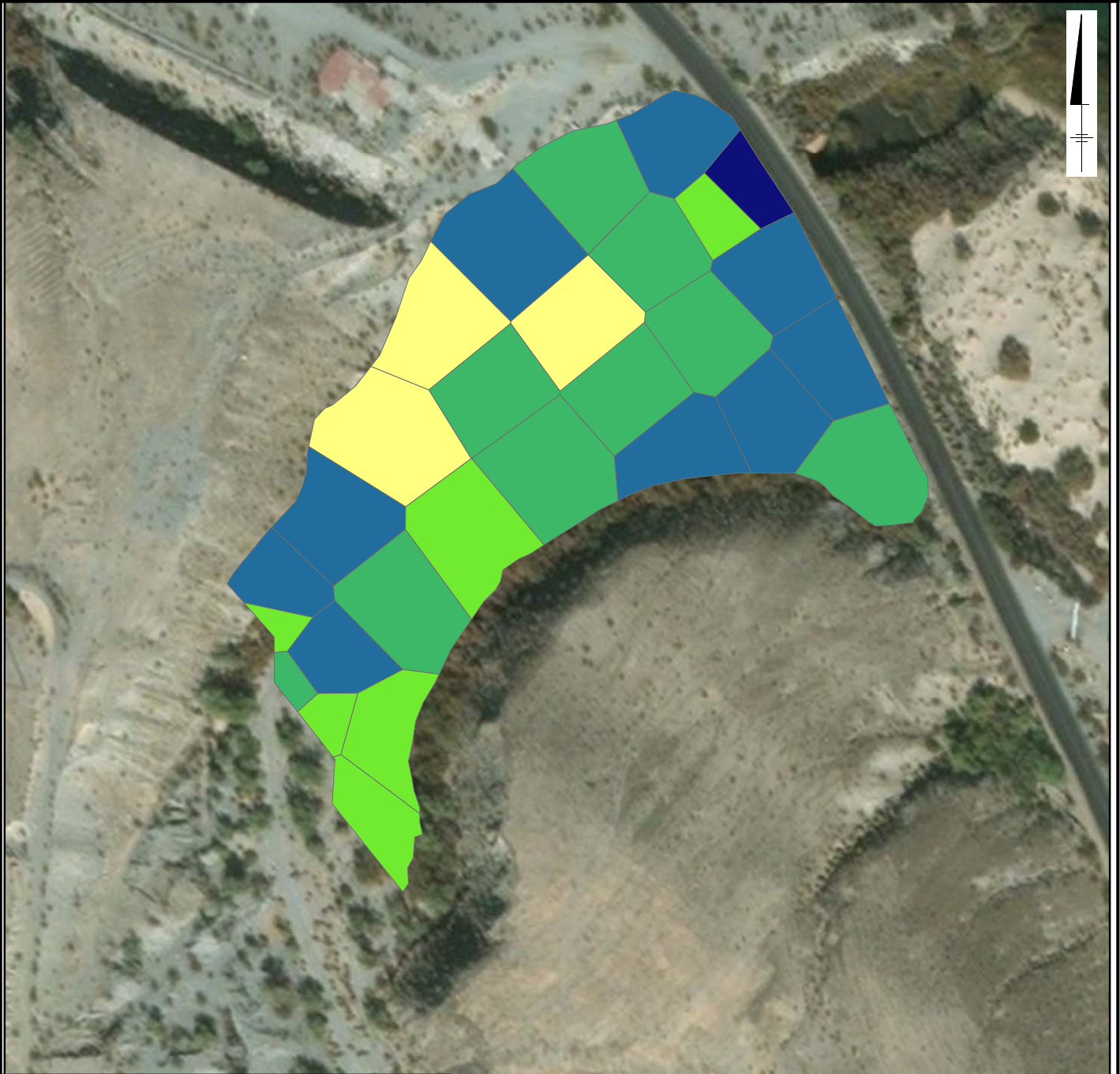
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FIGURE
TT-A331

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE LEAD

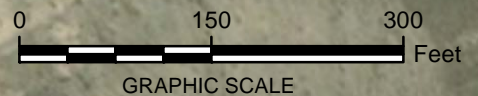


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

- NOT DETECTED
- 2.00 - 4.33
- ≥4.33 - 7.47
- ≥7.47 - 9.43
- ≥9.43 - 13.00
- ≥13.00 - 18.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A332

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE NICKEL

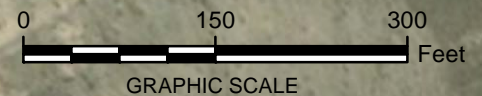


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 8.53 - 11.30
- $\geq 11.30 - 13.10$
- $\geq 13.10 - 14.00$
- $\geq 14.00 - 15.20$
- $\geq 15.20 - 16.30$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



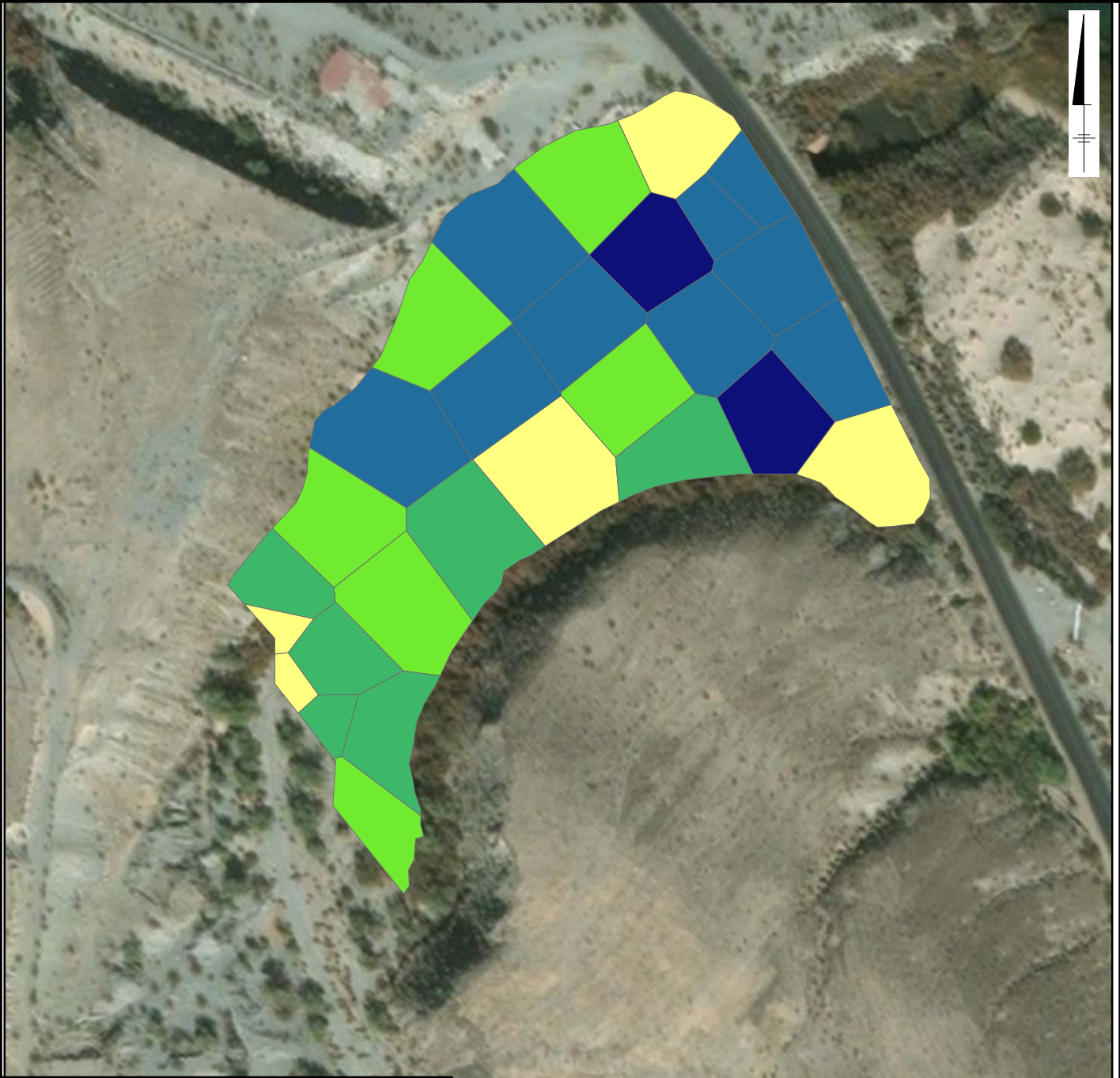
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




**FIGURE
TT-A333**

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE VANADIUM

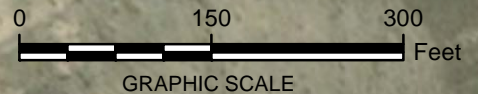


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

-  NOT DETECTED
-  25.30 - 28.00
-  ≥ 28.00 - 31.30
-  ≥ 31.30 - 33.70
-  ≥ 33.70 - 36.70
-  ≥ 36.70 - 40.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



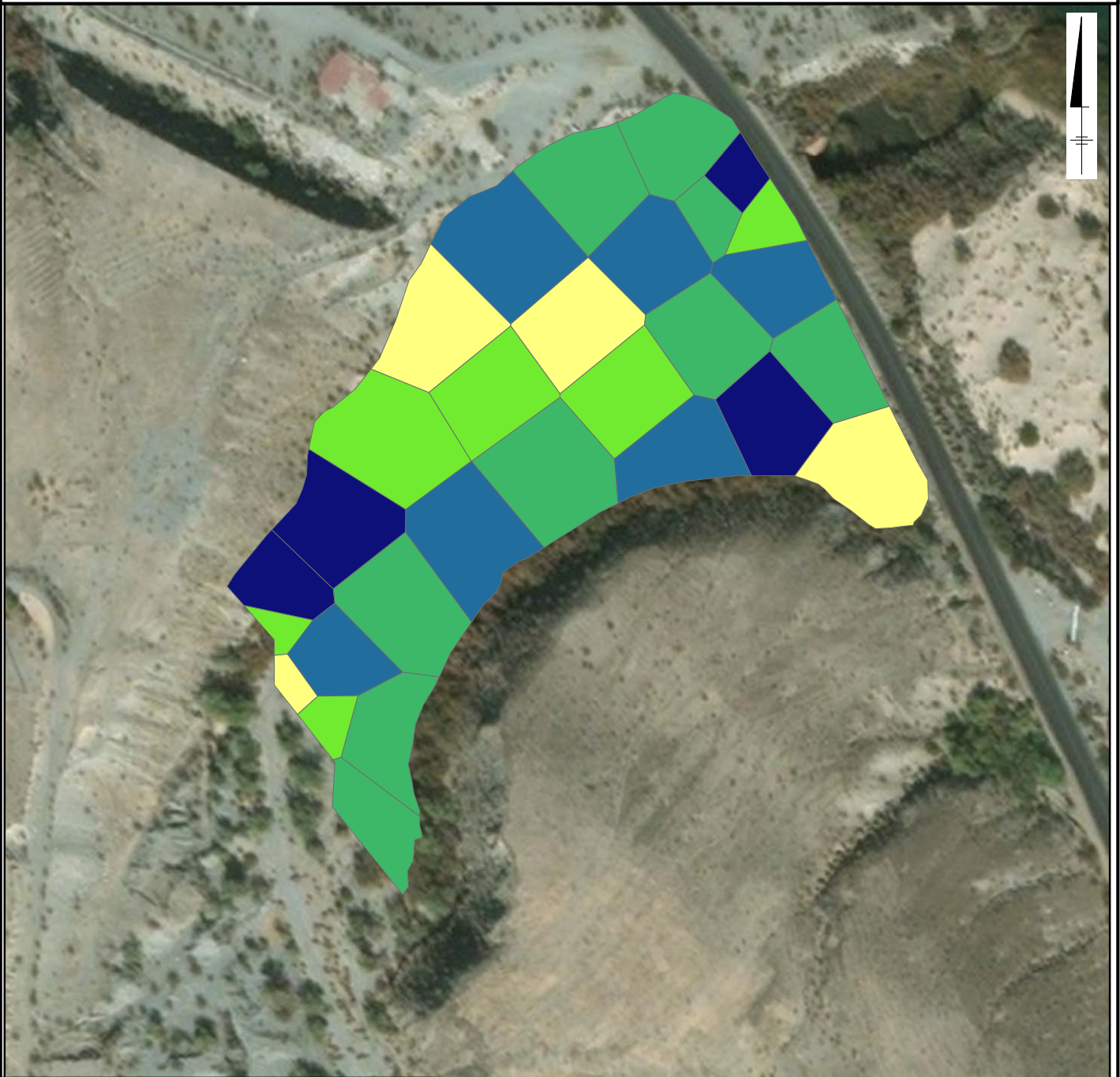
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FIGURE
TT-A334

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE ZINC



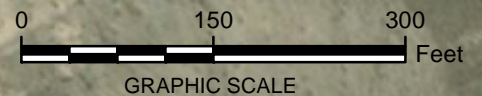
BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND:

ZINC (MG/KG)

- NOT DETECTED
- 31.70 - 39.70
- ≥39.70 - 49.20
- ≥49.20 - 54.00
- ≥54.00 - 61.30
- ≥61.30 - 71.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



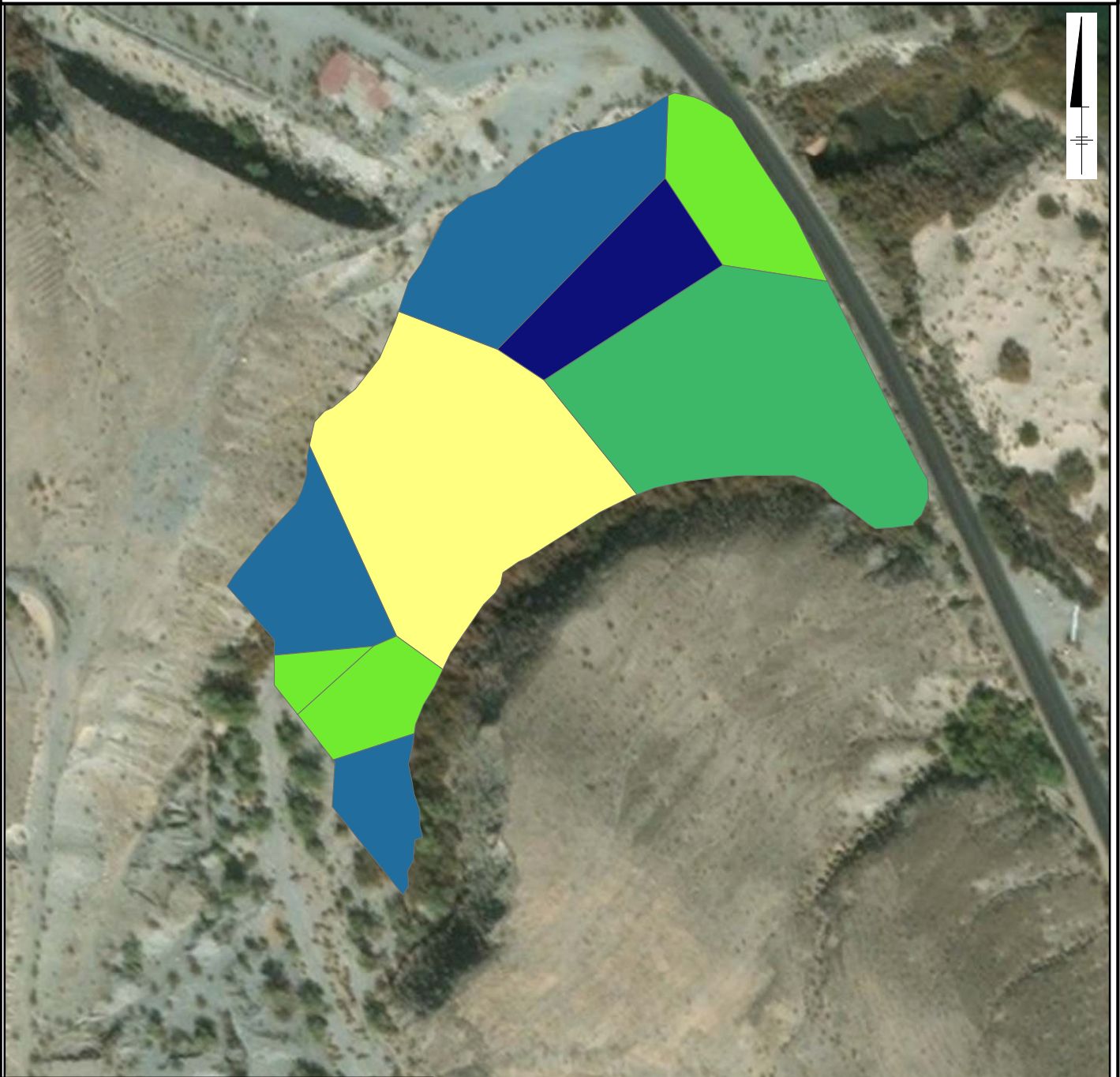
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FIGURE
TT-A335

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

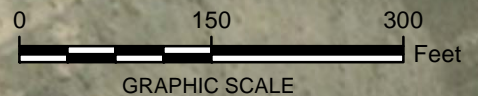


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 6.23 - 6.23
- $\geq 6.23 - 9.00$
- $\geq 9.00 - 14.00$
- $\geq 14.00 - 23.30$
- $\geq 23.30 - 50.50$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



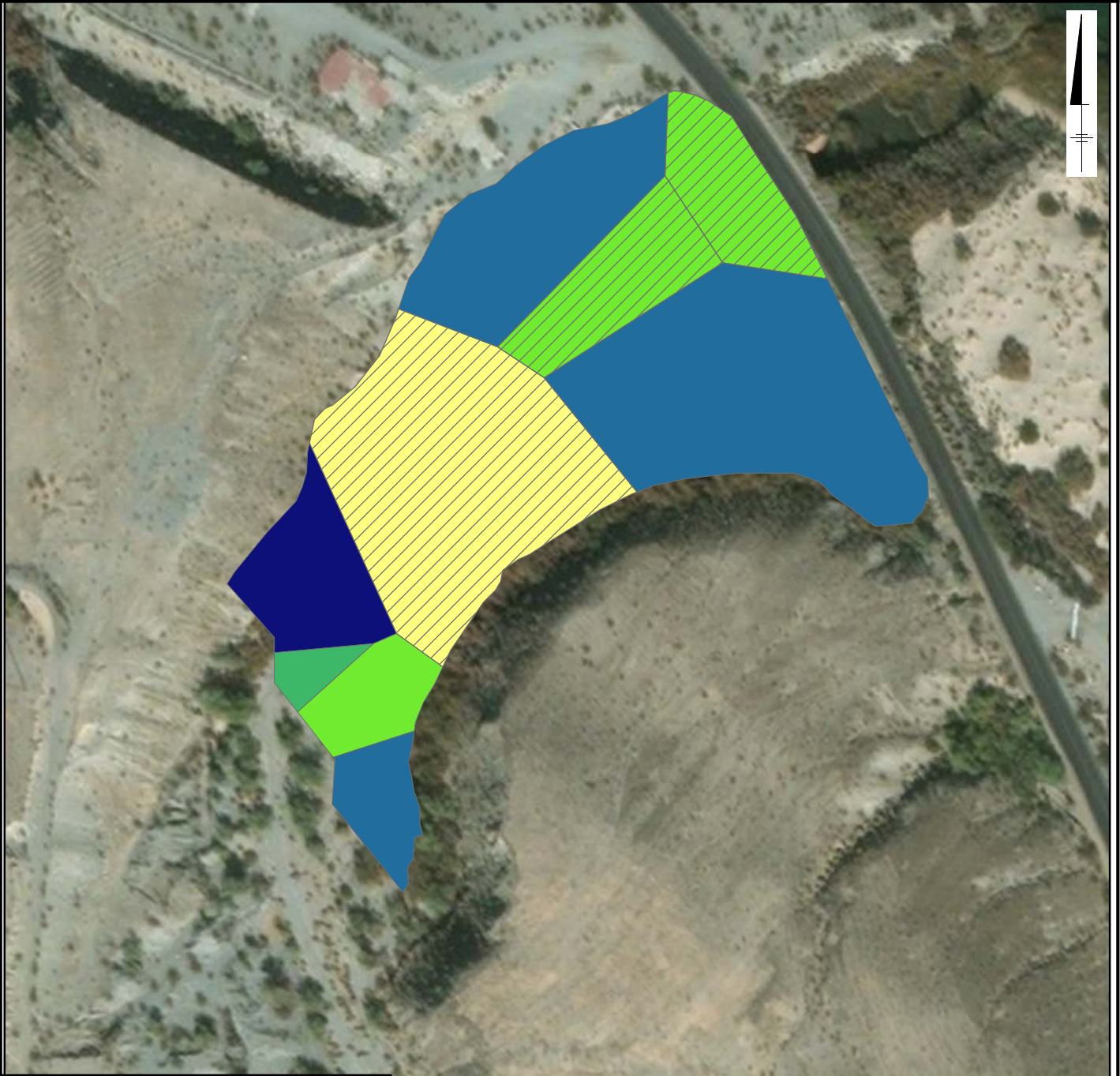
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FIGURE
TT-A336

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.70 - 2.70
	≥2.70 - 3.57
	≥3.57 - 4.30
	≥4.30 - 9.80
	≥9.80 - 15.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

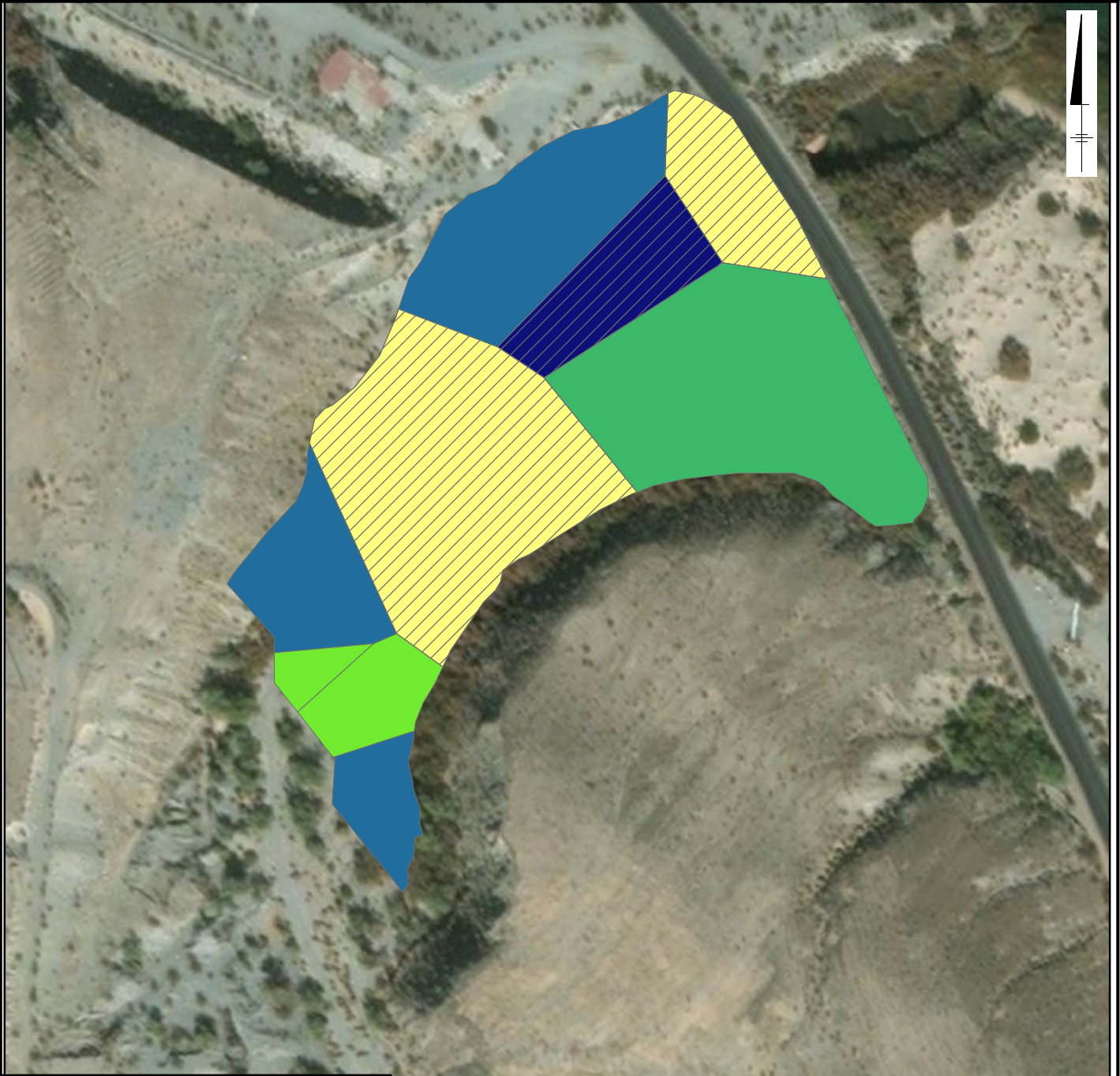
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FIGURE
TT-A337

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

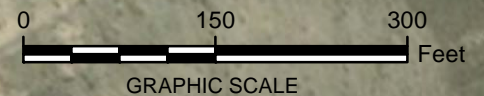


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.70 - 3.57
-  $\geq 3.57 - 5.00$
-  $\geq 5.00 - 8.00$
-  $\geq 8.00 - 14.20$
-  $\geq 14.20 - 22.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



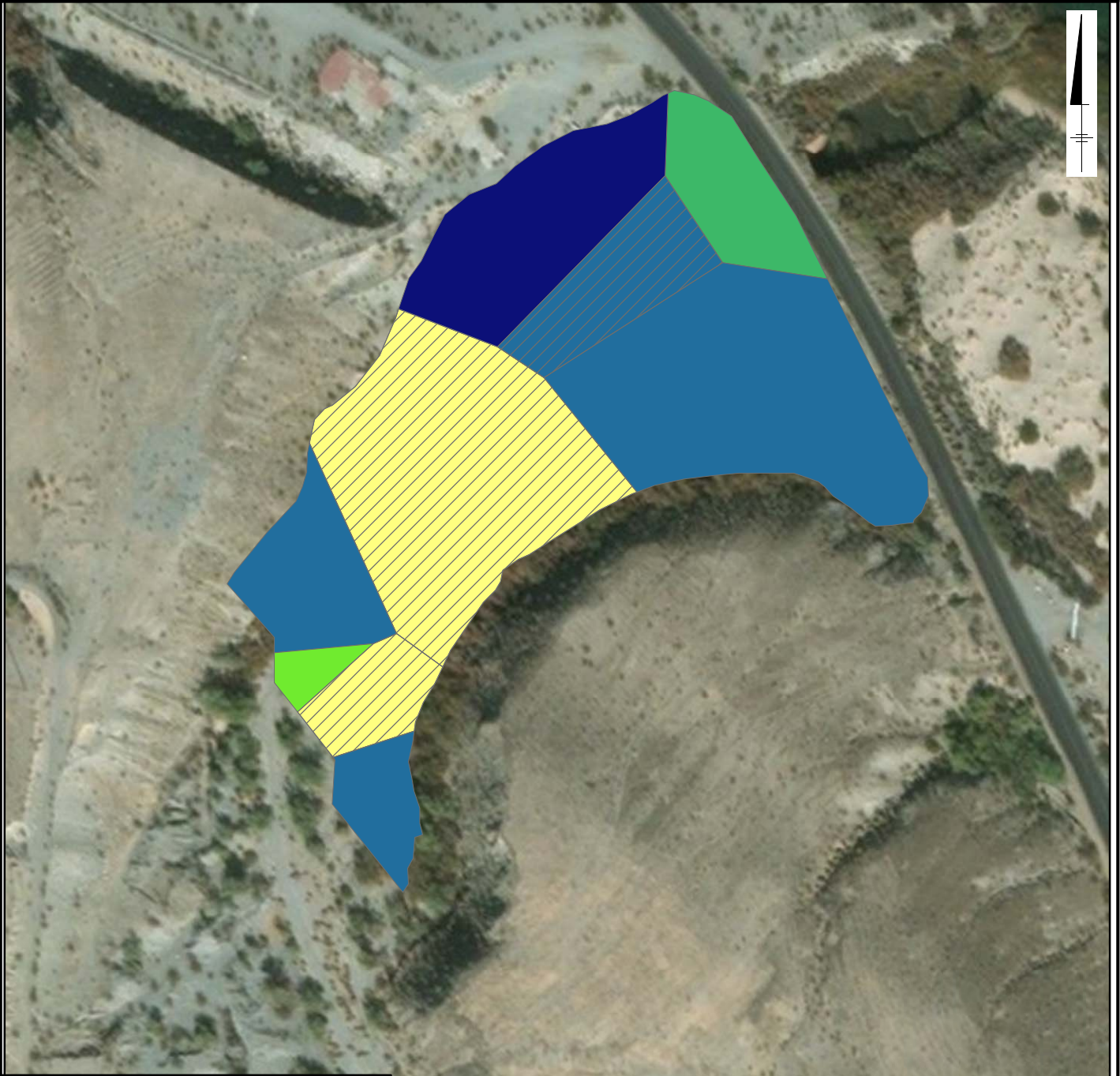
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FIGURE
TT-A338

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

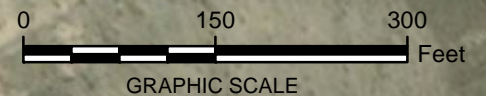


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.52 - 2.70
- ≥2.70 - 4.90
- ≥4.90 - 10.70
- ≥10.70 - 22.80
- ≥22.80 - 31.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



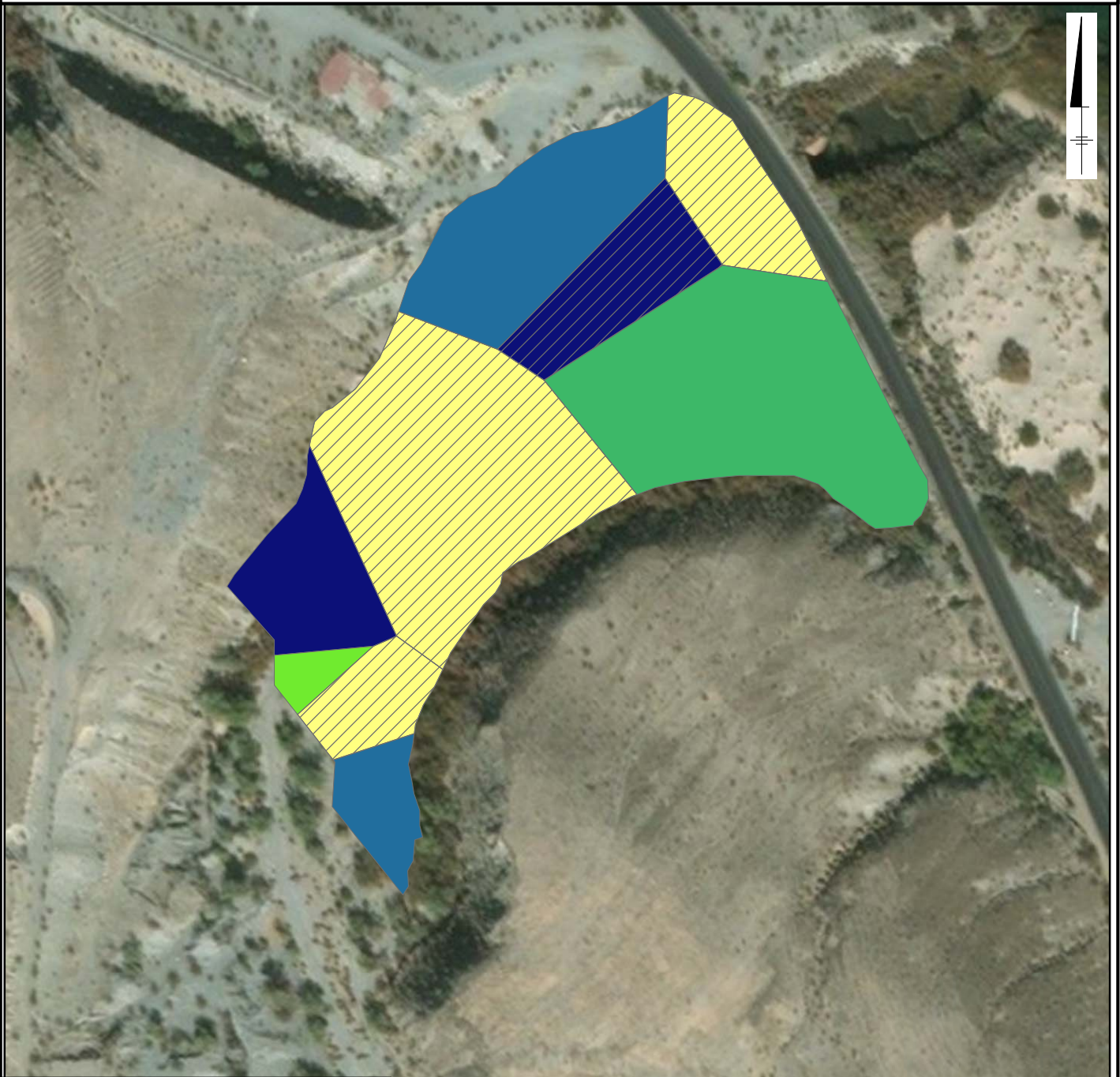
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FIGURE
TT-A339

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

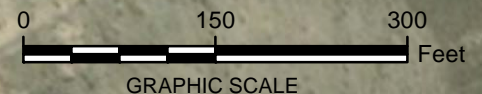


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.52 - 3.57
- $\geq 3.57 - 5.33$
- $\geq 5.33 - 7.60$
- $\geq 7.60 - 13.00$
- $\geq 13.00 - 22.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



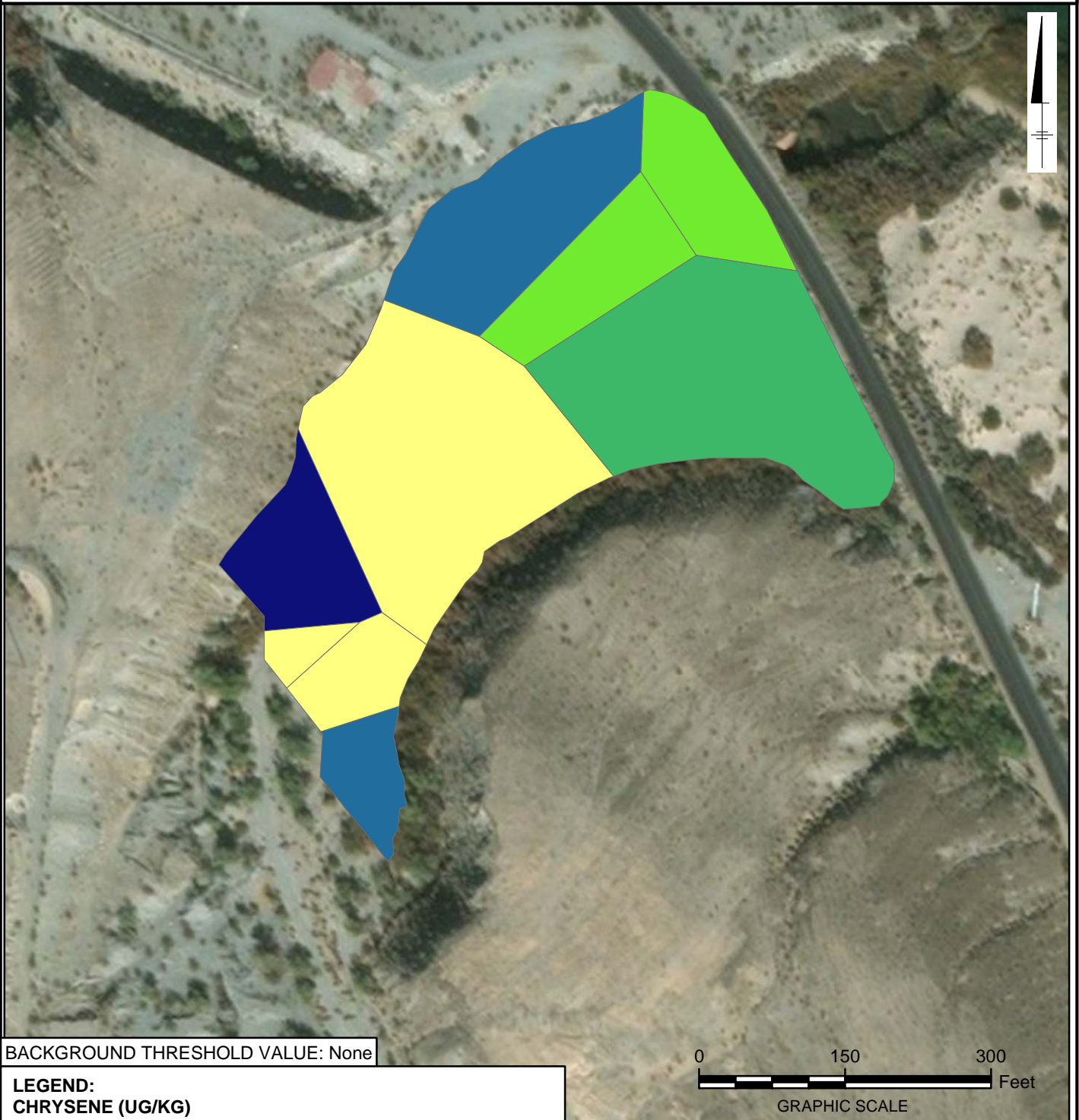
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FIGURE
TT-A340

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 4.37 - 5.67
- ≥5.67 - 7.75
- ≥7.75 - 11.00
- ≥11.00 - 16.00
- ≥16.00 - 20.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

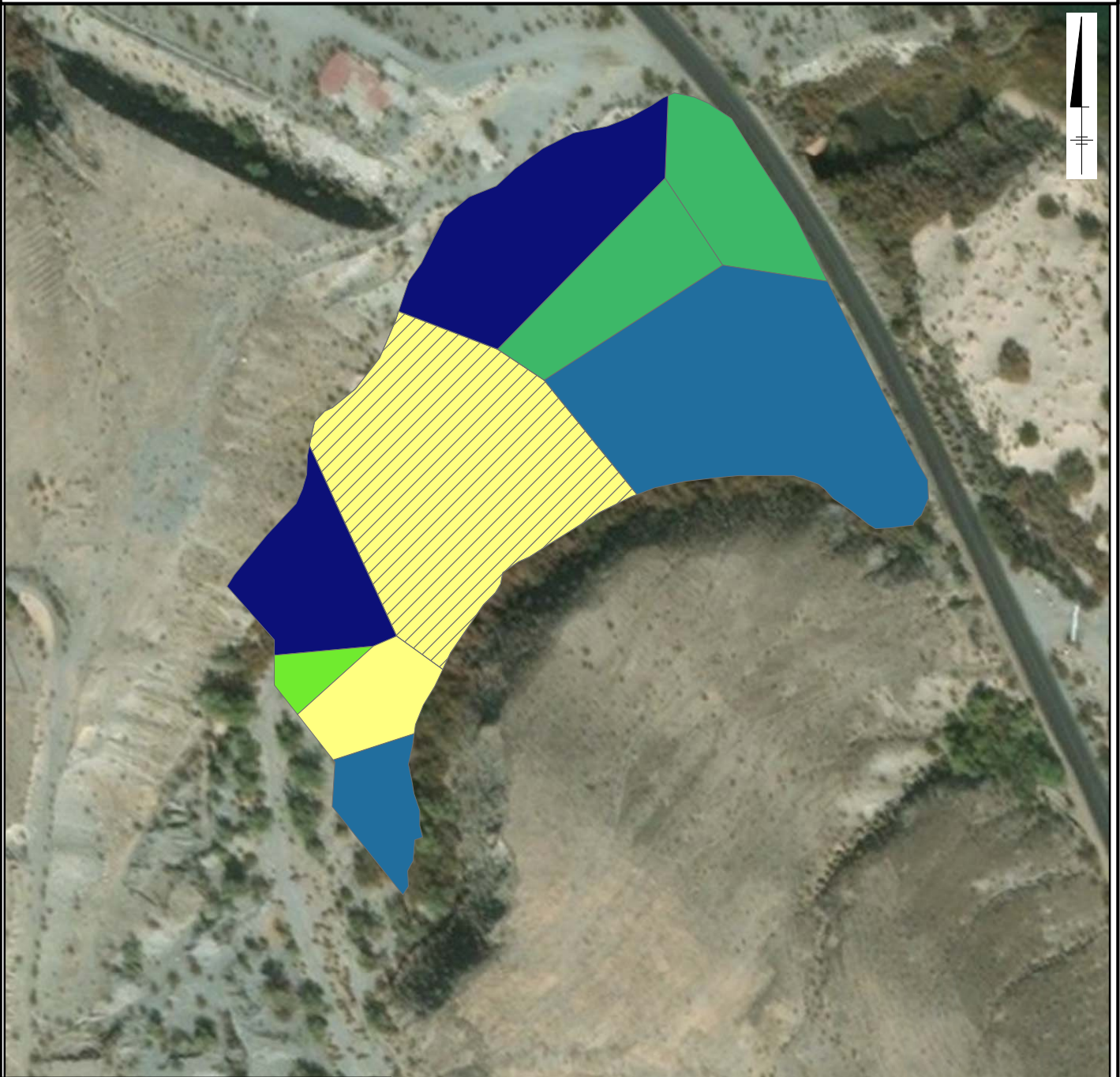
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**FIGURE
TT-A341**

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.70 - 4.77
-  ≥ 4.77 - 8.00
-  ≥ 8.00 - 13.00
-  ≥ 13.00 - 21.50
-  ≥ 21.50 - 26.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

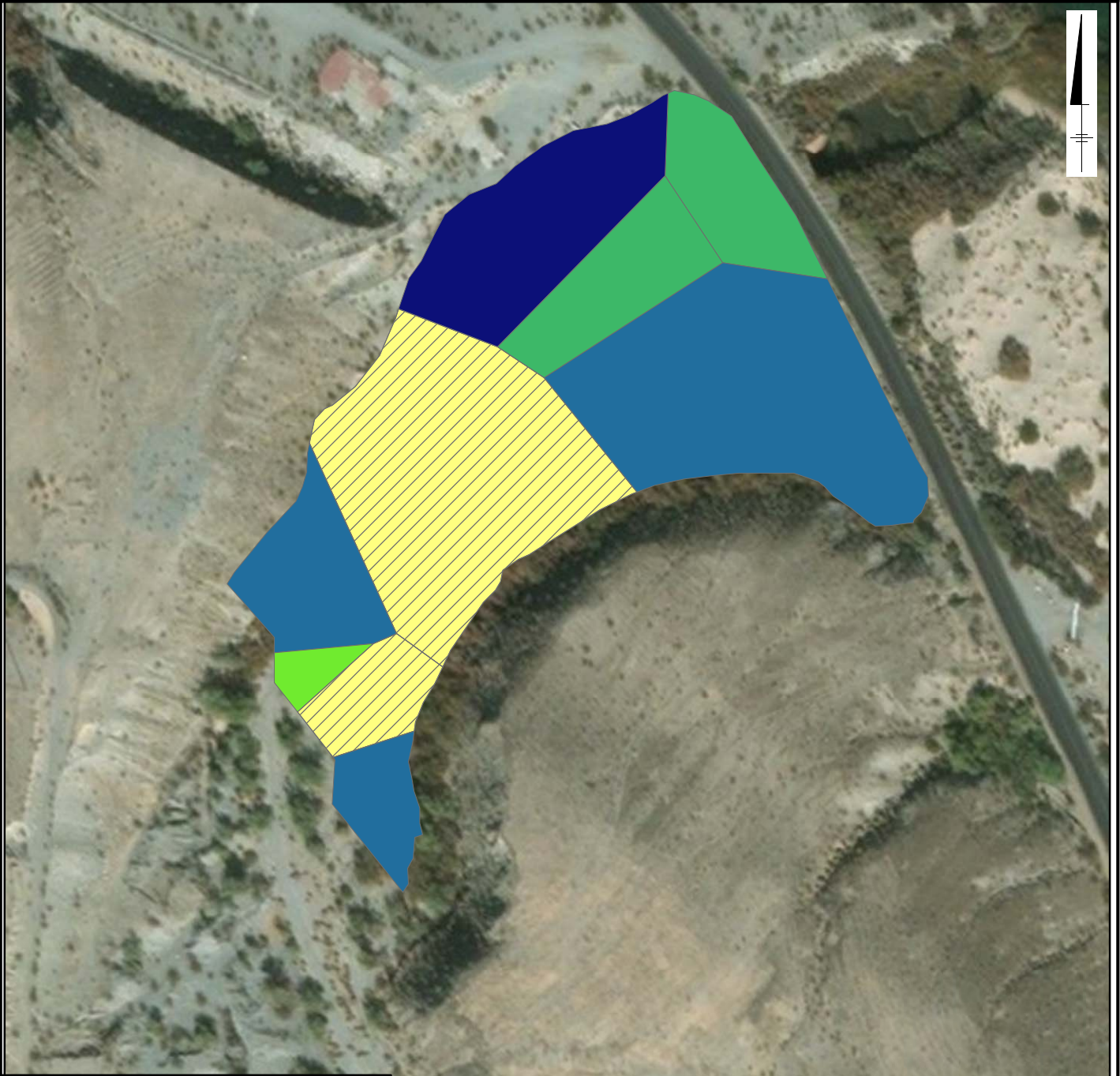
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**FIGURE
TT-A342**

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE

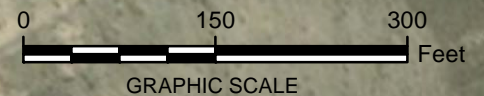


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.52 - 2.70
- $\geq 2.70 - 3.73$
- $\geq 3.73 - 6.28$
- $\geq 6.28 - 10.20$
- $\geq 10.20 - 12.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



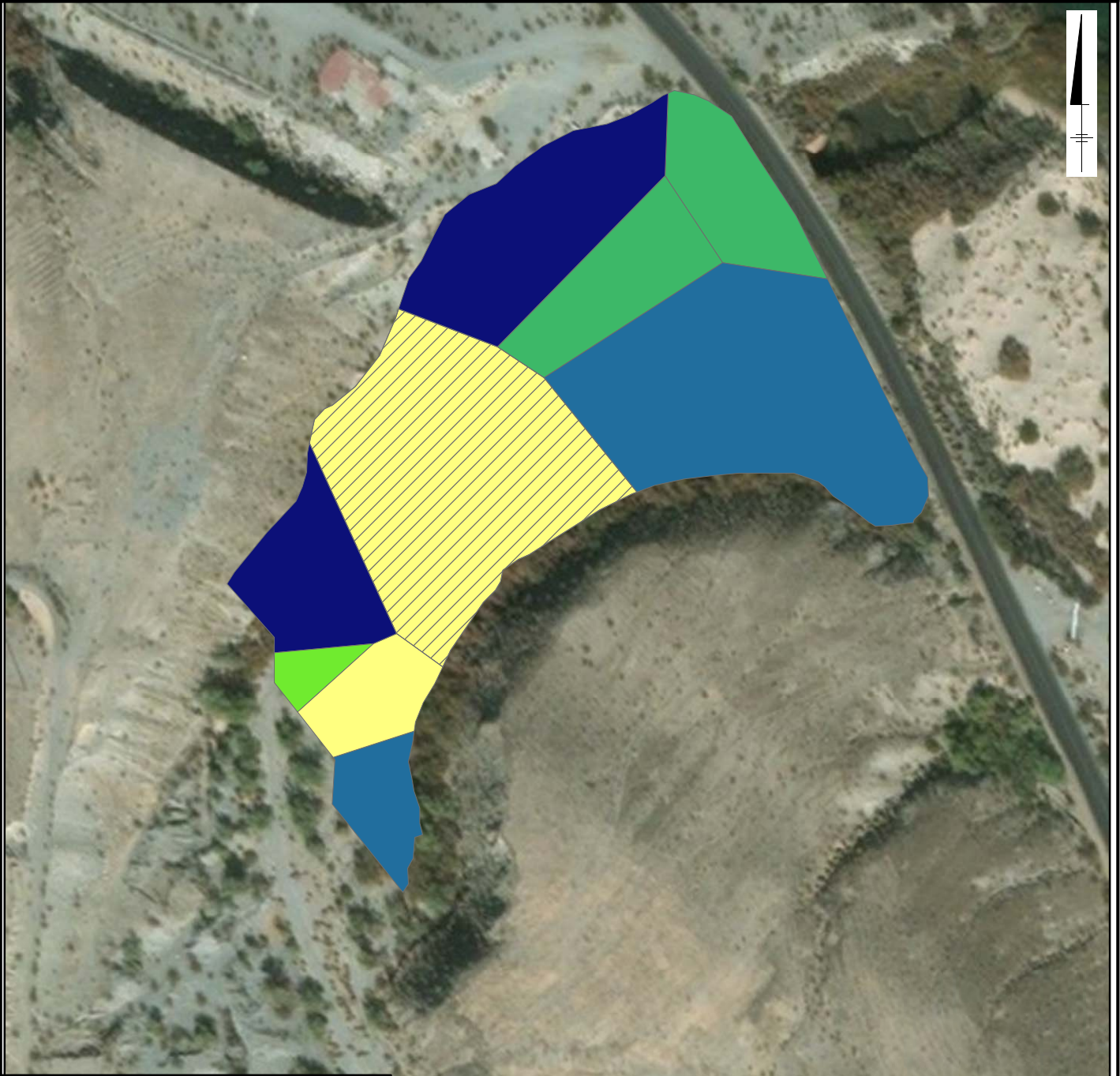
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FIGURE
TT-A343

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE PYRENE

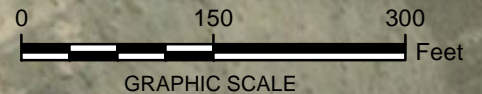


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.70 - 4.77
- $\geq 4.77 - 7.00$
- $\geq 7.00 - 11.70$
- $\geq 11.70 - 18.90$
- $\geq 18.90 - 23.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A344

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2,3,7,8-TCDD (NG/KG)

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.07
	≥0.07 - 0.14
	≥0.14 - 0.23
	≥0.23 - 0.65

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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FIGURE
TT-A345

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.24 - 2.73
- ≥ 2.73 - 6.70
- ≥ 6.70 - 16.40
- ≥ 16.40 - 23.40
- ≥ 23.40 - 60.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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FIGURE
TT-A346

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.23 - 4.80
- ≥ 4.80 - 14.20
- ≥ 14.20 - 28.70
- ≥ 28.70 - 48.10
- ≥ 48.10 - 84.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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FIGURE
TT-A347

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.23 - 4.80
	≥4.80 - 14.20
	≥14.20 - 28.70
	≥28.70 - 48.10
	≥48.10 - 84.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300 Feet
GRAPHIC SCALE

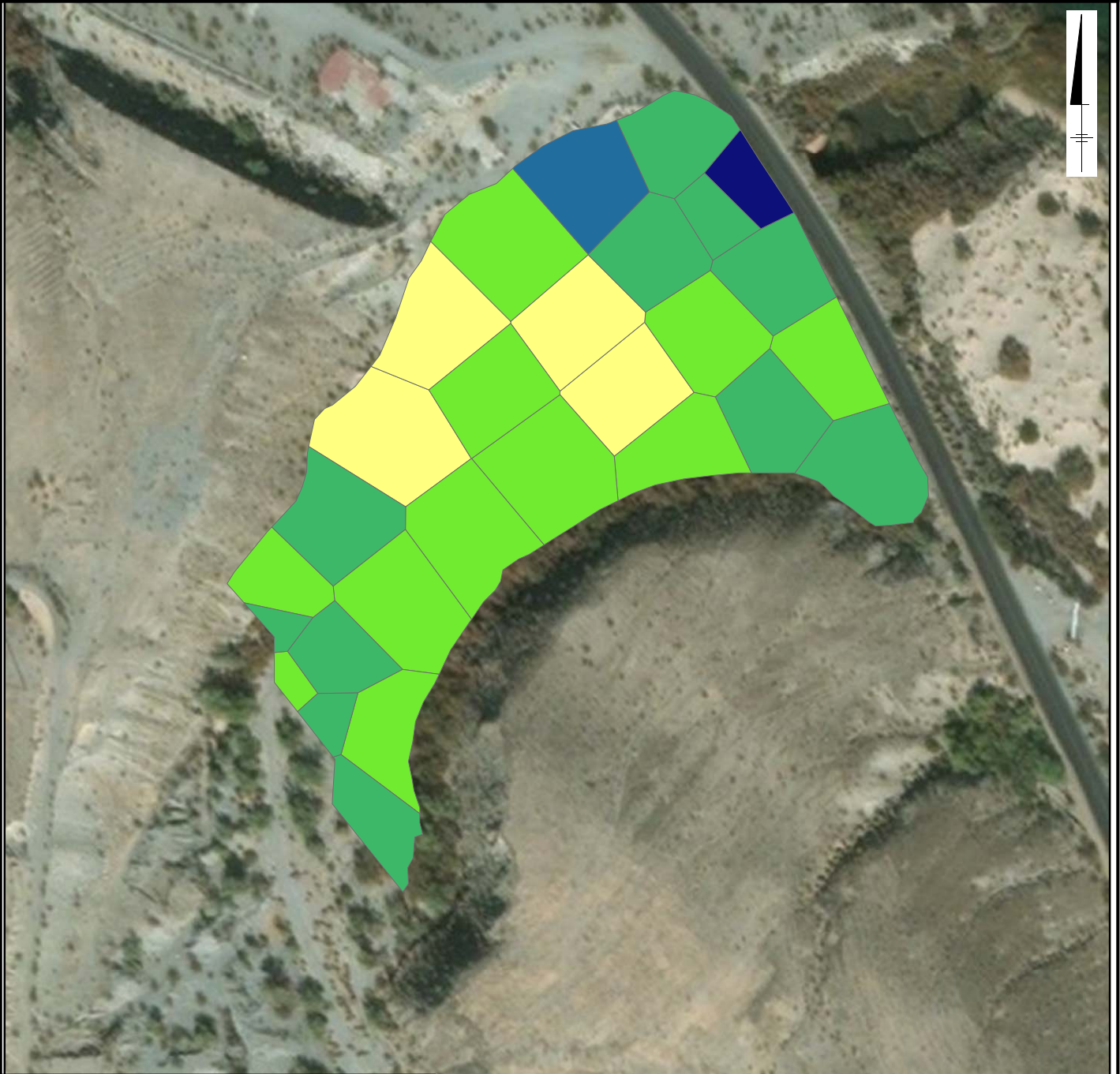
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FIGURE
TT-A348

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE ARSENIC

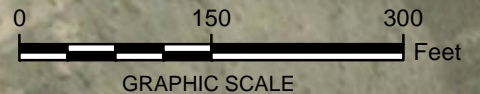


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	1.27 - 2.17
	≥2.17 - 3.27
	≥3.27 - 4.43
	≥4.43 - 5.77
	≥5.77 - 10.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



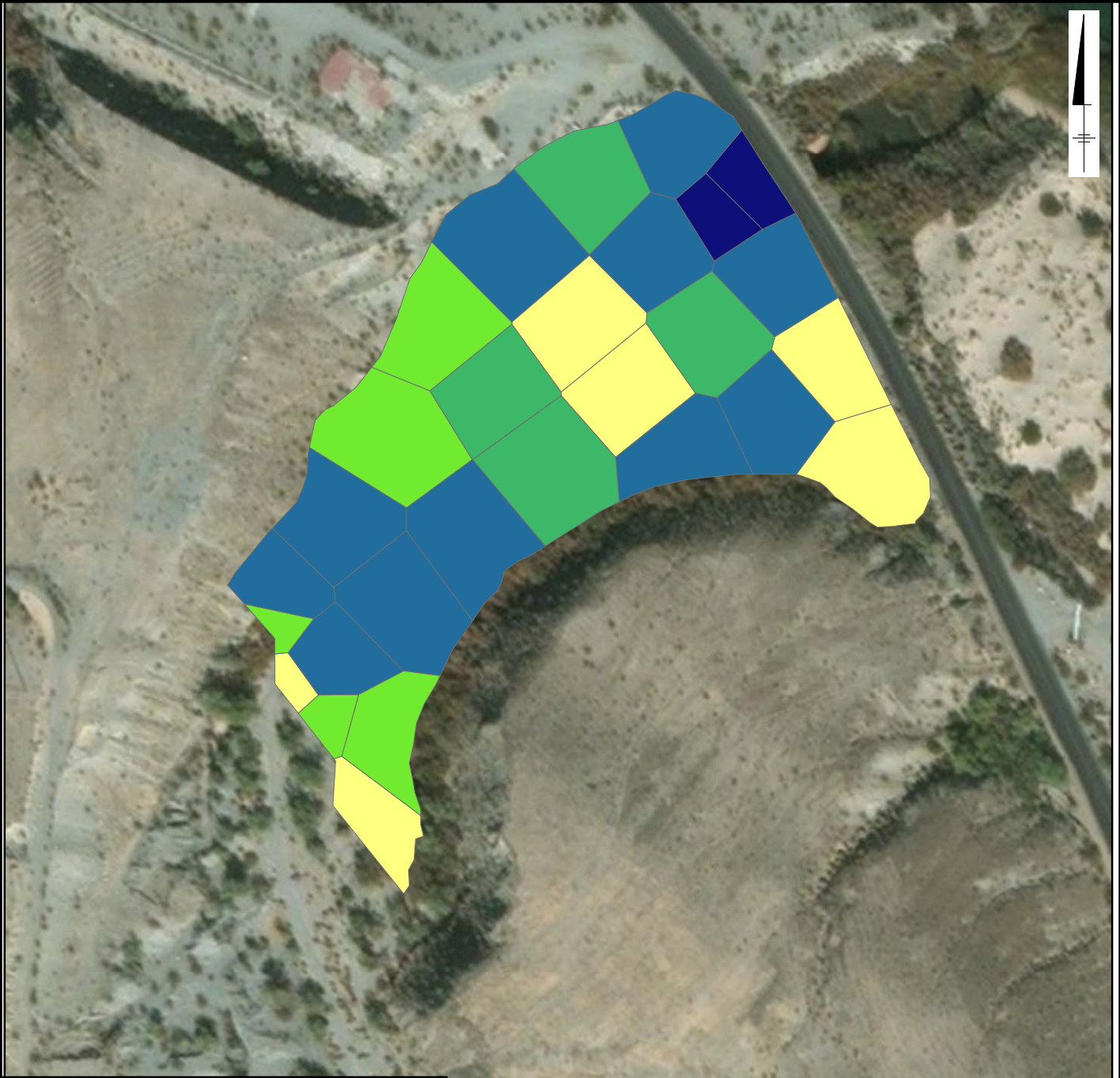
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FIGURE
TT-A349

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE BARIUM

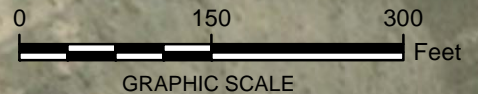


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	70.30 - 111.00
	≥ 111.00 - 138.00
	≥ 138.00 - 164.00
	≥ 164.00 - 192.00
	≥ 192.00 - 260.00

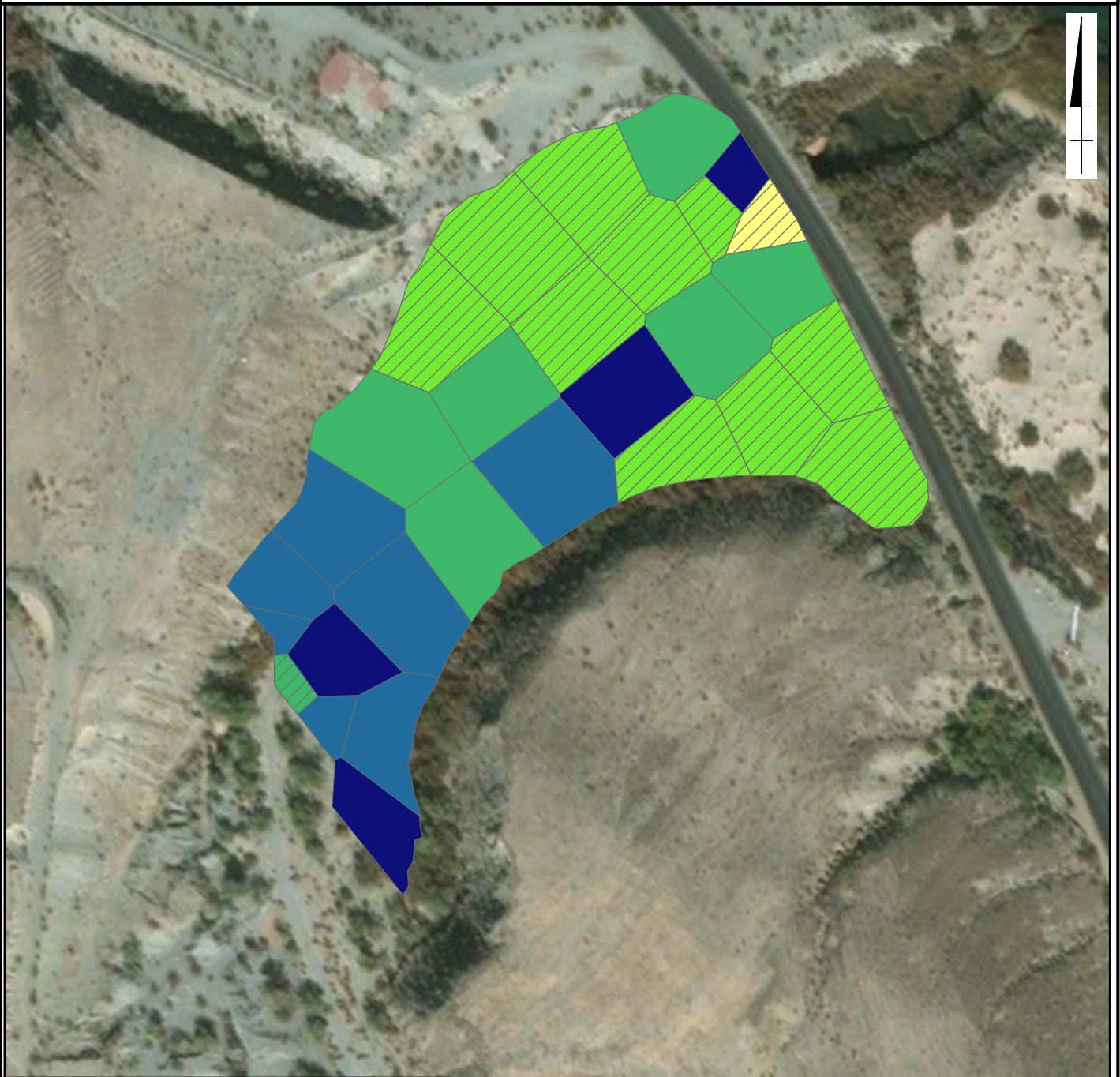
SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

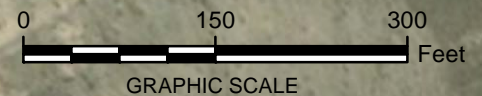


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.14
	≥0.14 - 0.23
	≥0.23 - 0.46
	≥0.46 - 1.07

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



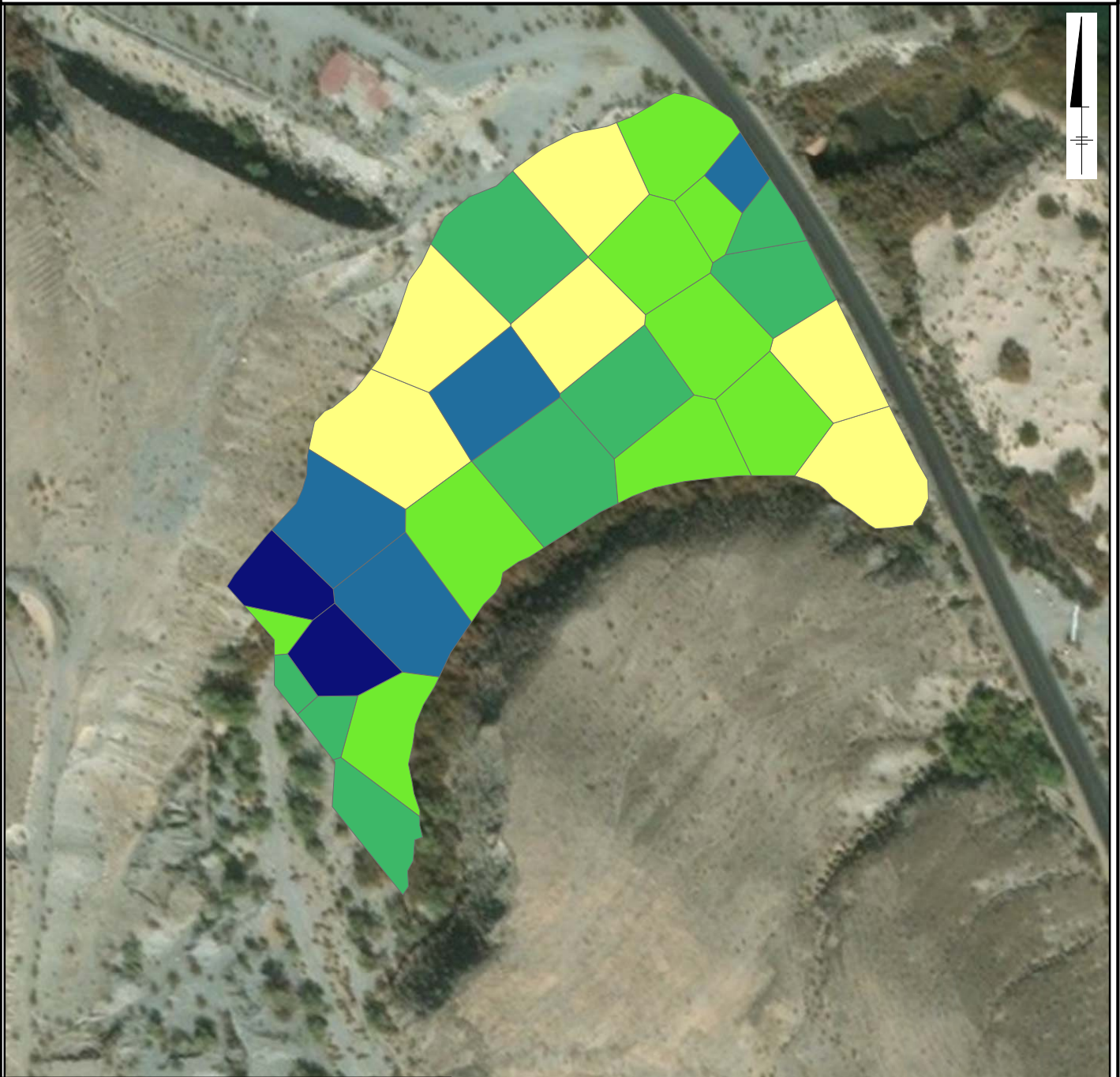
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FIGURE
TT-A351

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

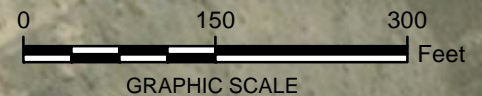


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 15.70 - 19.80
- ≥19.80 - 26.30
- ≥26.30 - 31.50
- ≥31.50 - 37.70
- ≥37.70 - 53.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
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FIGURE
TT-A352

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE COBALT

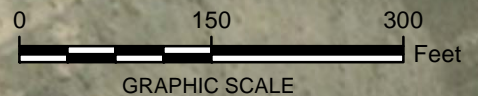


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	6.10 - 6.85
	≥6.85 - 7.38
	≥7.38 - 7.98
	≥7.98 - 8.62
	≥8.62 - 9.58

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A353

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE COPPER

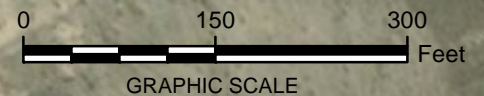


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 7.88 - 8.62
- ≥8.62 - 11.10
- ≥11.10 - 12.70
- ≥12.70 - 14.80
- ≥14.80 - 16.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



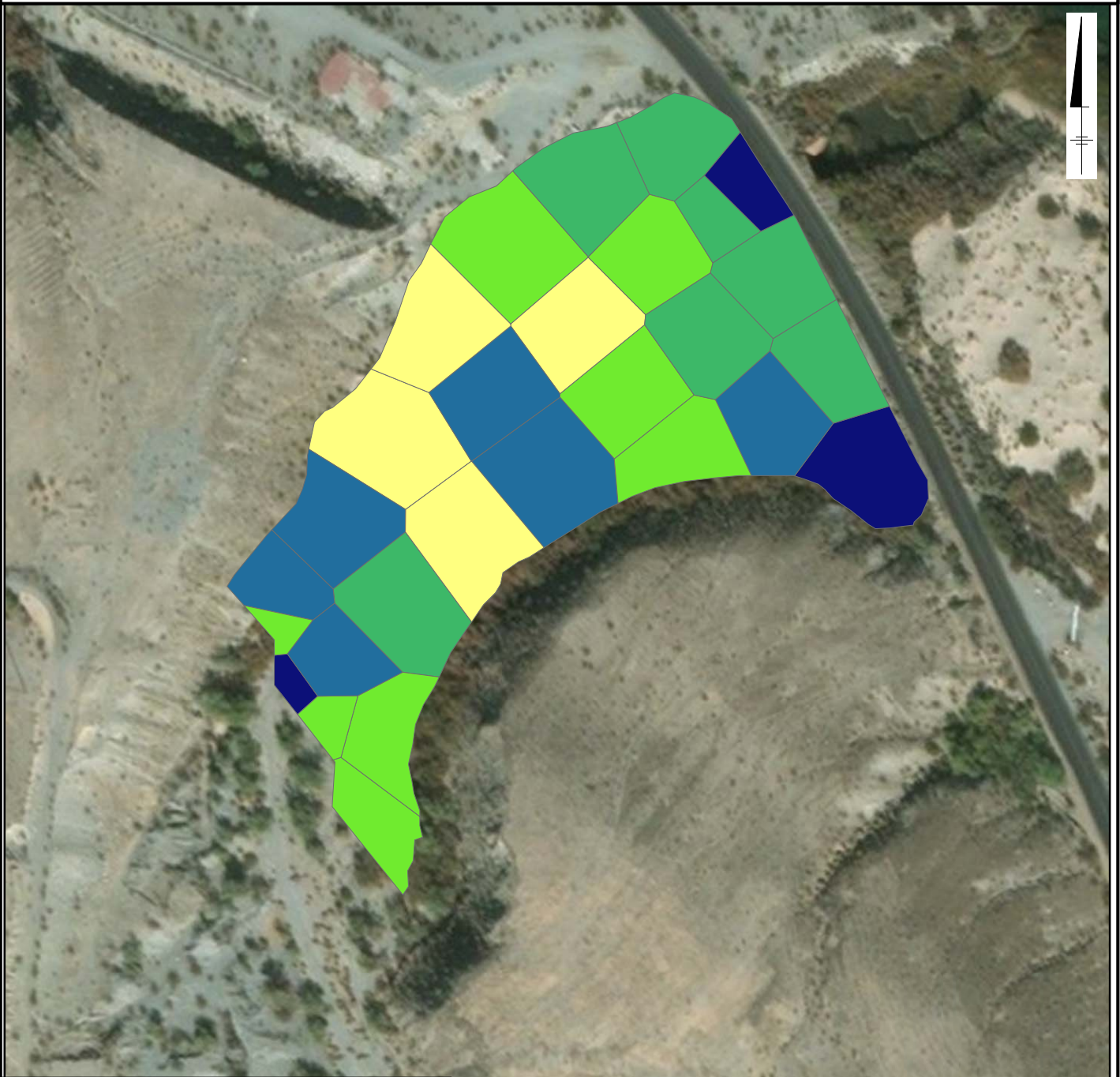
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FIGURE
TT-A354

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE LEAD

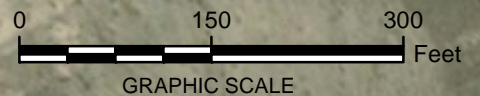


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

-  NOT DETECTED
-  1.77 - 3.98
-  ≥3.98 - 6.20
-  ≥6.20 - 7.67
-  ≥7.67 - 9.35
-  ≥9.35 - 13.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A355

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 9.78 - 10.40
- ≥ 10.40 - 11.40
- ≥ 11.40 - 12.40
- ≥ 12.40 - 13.50
- ≥ 13.50 - 15.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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**FIGURE
TT-A356**

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE VANADIUM

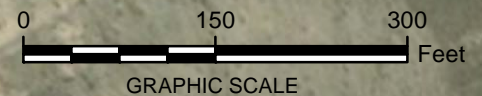


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	24.20 - 27.30
	≥27.30 - 30.00
	≥30.00 - 33.20
	≥33.20 - 34.50
	≥34.50 - 37.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



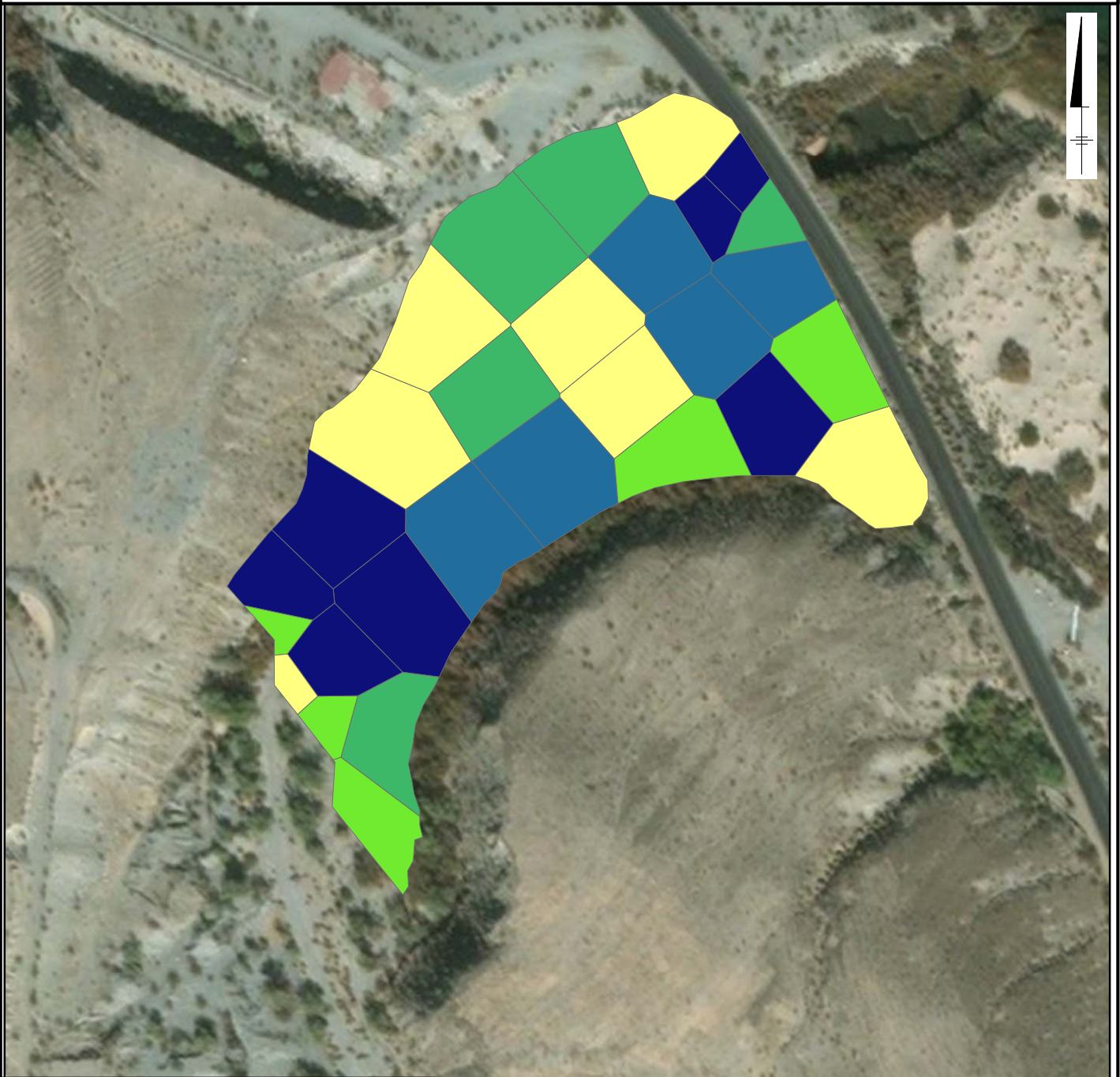
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FIGURE
TT-A357

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE ZINC

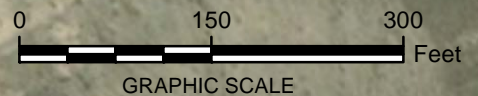


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	33.00 - 39.70
	≥39.70 - 44.30
	≥44.30 - 46.80
	≥46.80 - 50.20
	≥50.20 - 60.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



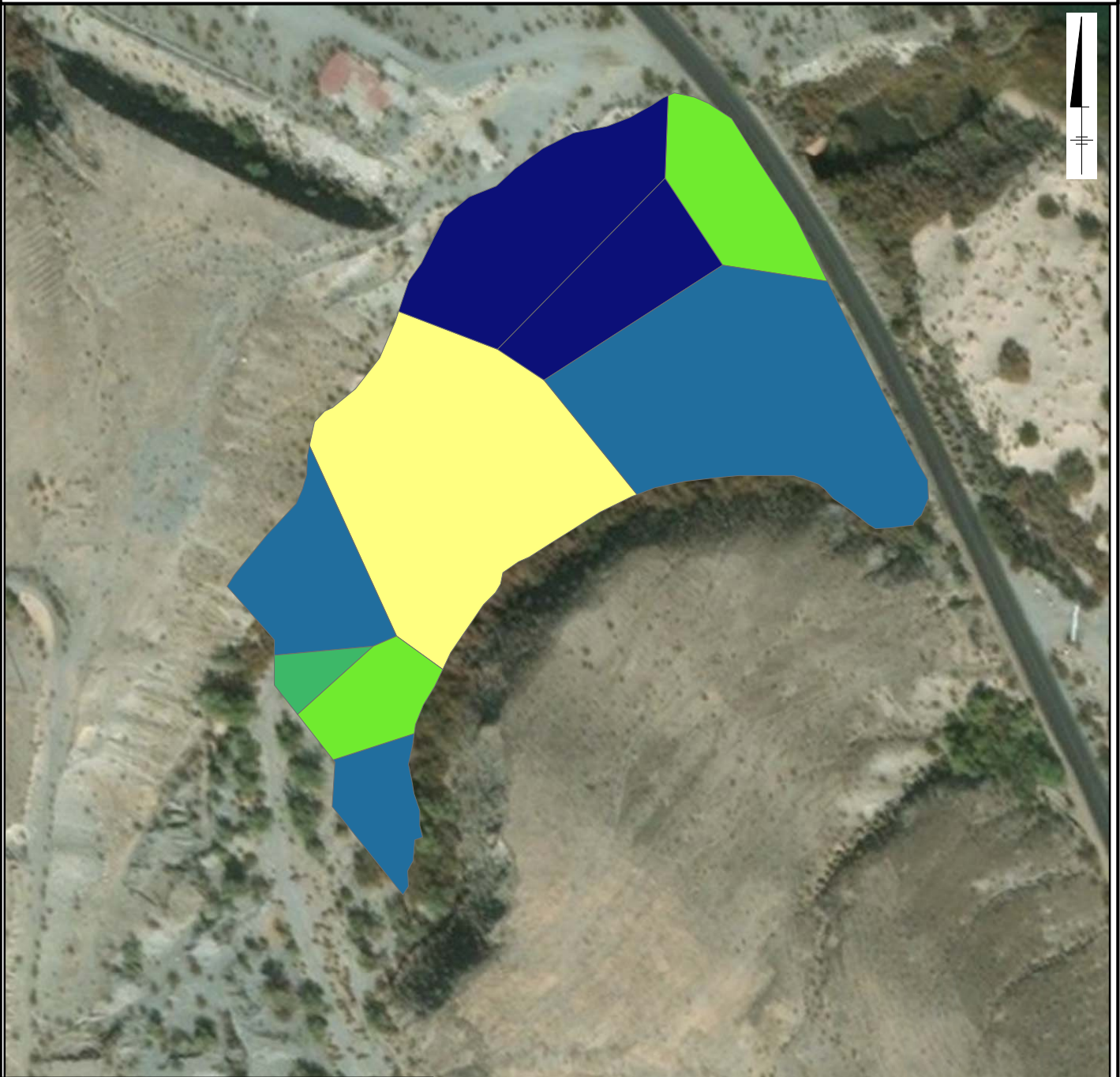
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FIGURE
TT-A358

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

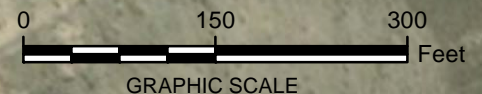


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 6.37 - 6.37
- ≥6.37 - 9.00
- ≥9.00 - 10.40
- ≥10.40 - 14.60
- ≥14.60 - 28.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



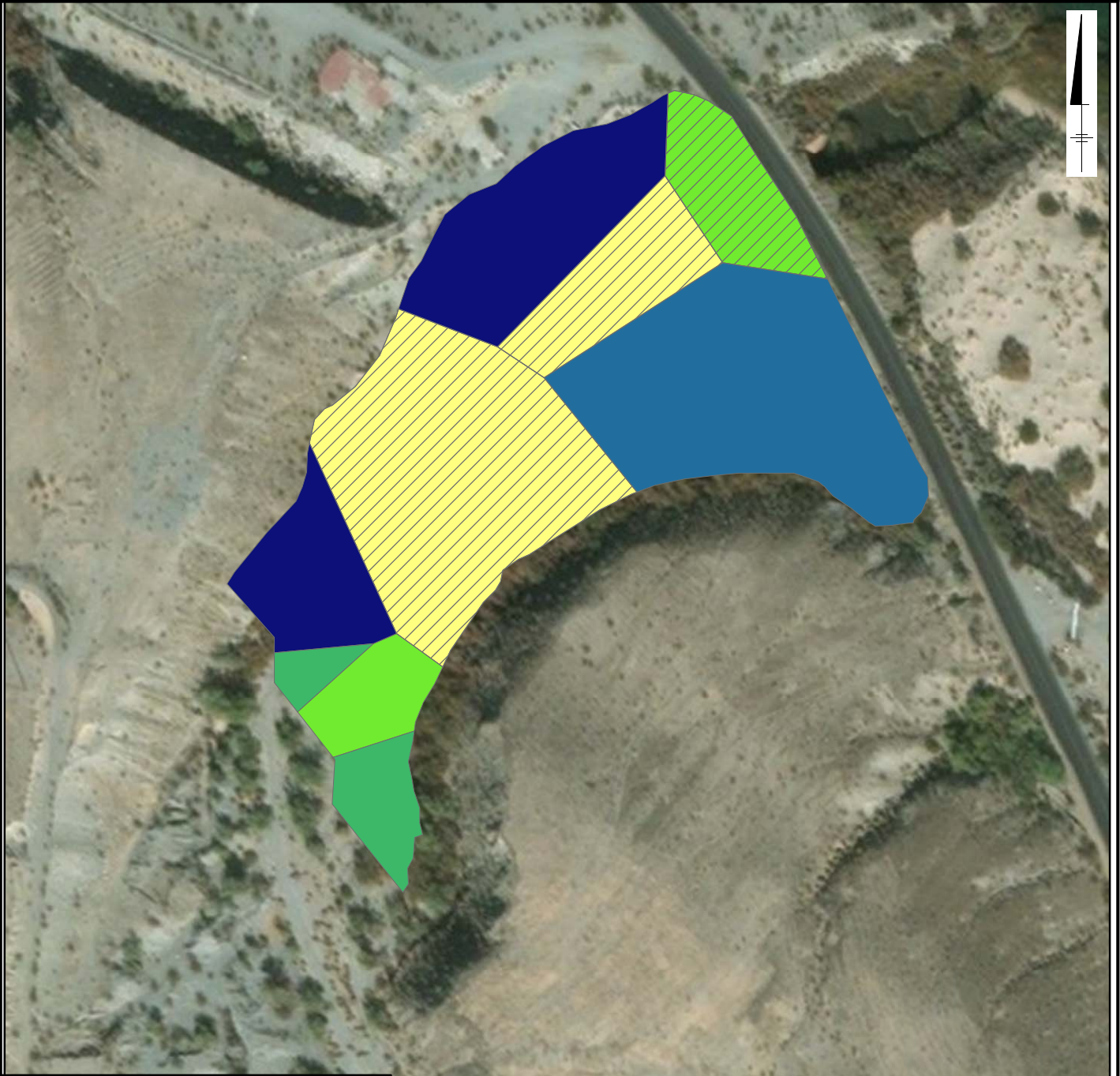
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FIGURE
TT-A359

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE

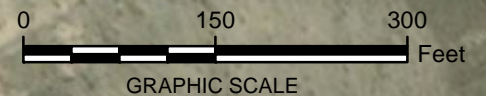


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.75 - 3.17
-  $\geq 3.17 - 4.12$
-  $\geq 4.12 - 5.71$
-  $\geq 5.71 - 7.20$
-  $\geq 7.20 - 9.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



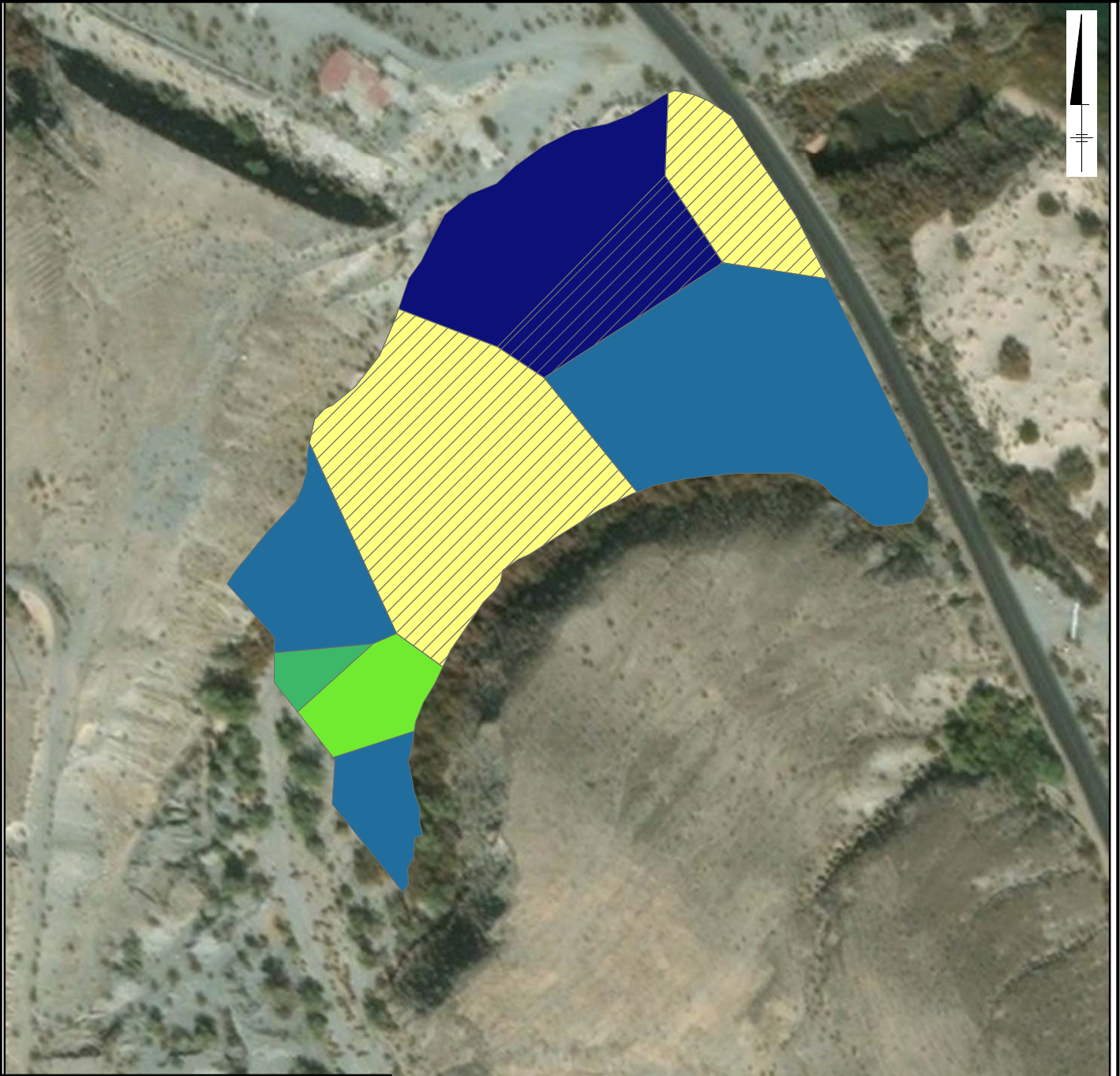
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FIGURE
TT-A3.60

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE

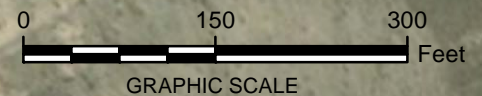


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.75 - 3.58
-  ≥ 3.58 - 5.22
-  ≥ 5.22 - 6.25
-  ≥ 6.25 - 8.35
-  ≥ 8.35 - 14.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



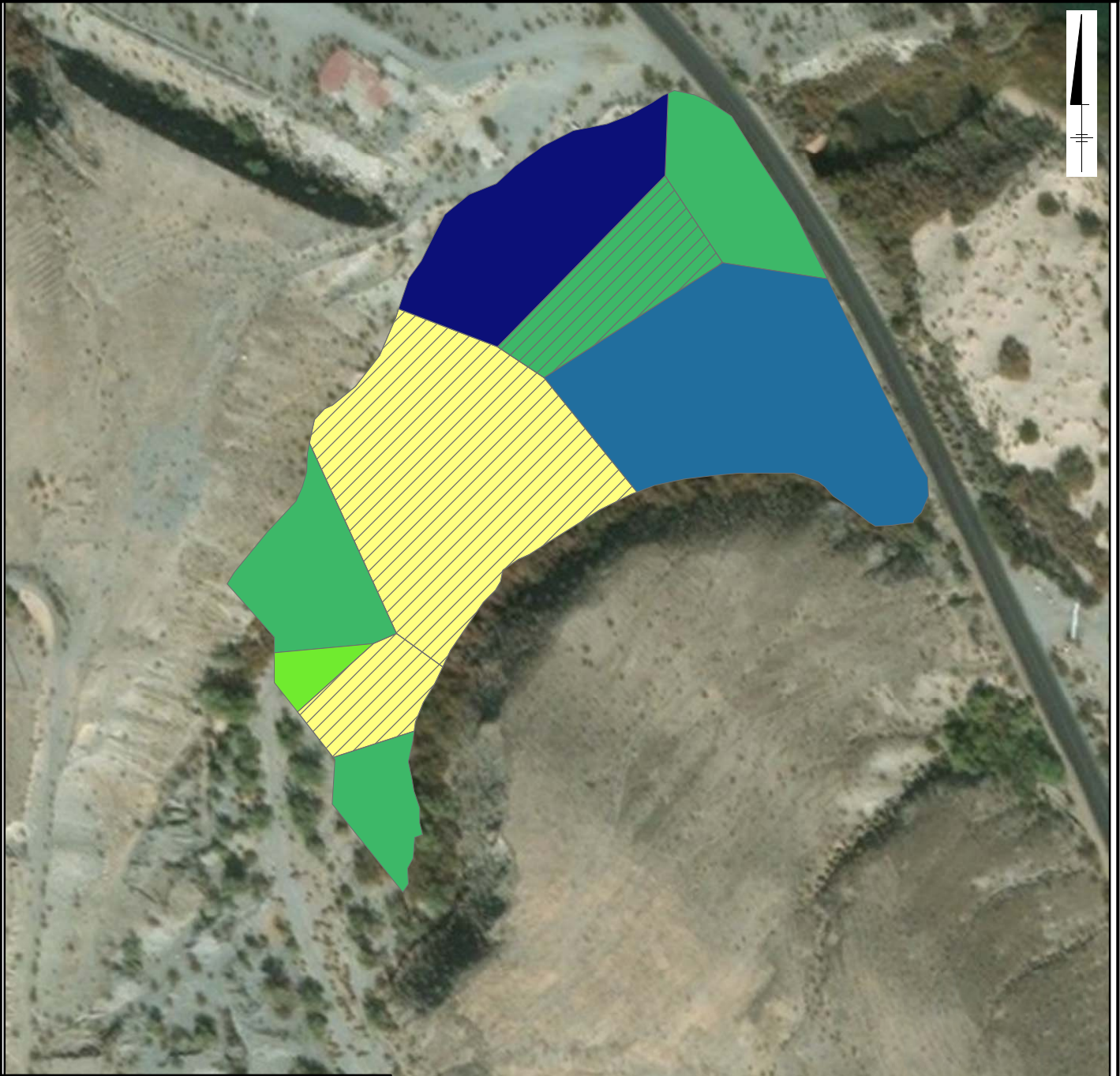
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FIGURE
TT-A361

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

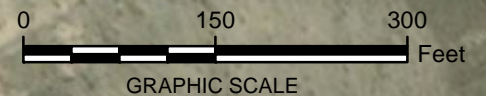


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.54 - 2.75
- $\geq 2.75 - 6.10$
- $\geq 6.10 - 12.90$
- $\geq 12.90 - 17.00$
- $\geq 17.00 - 31.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



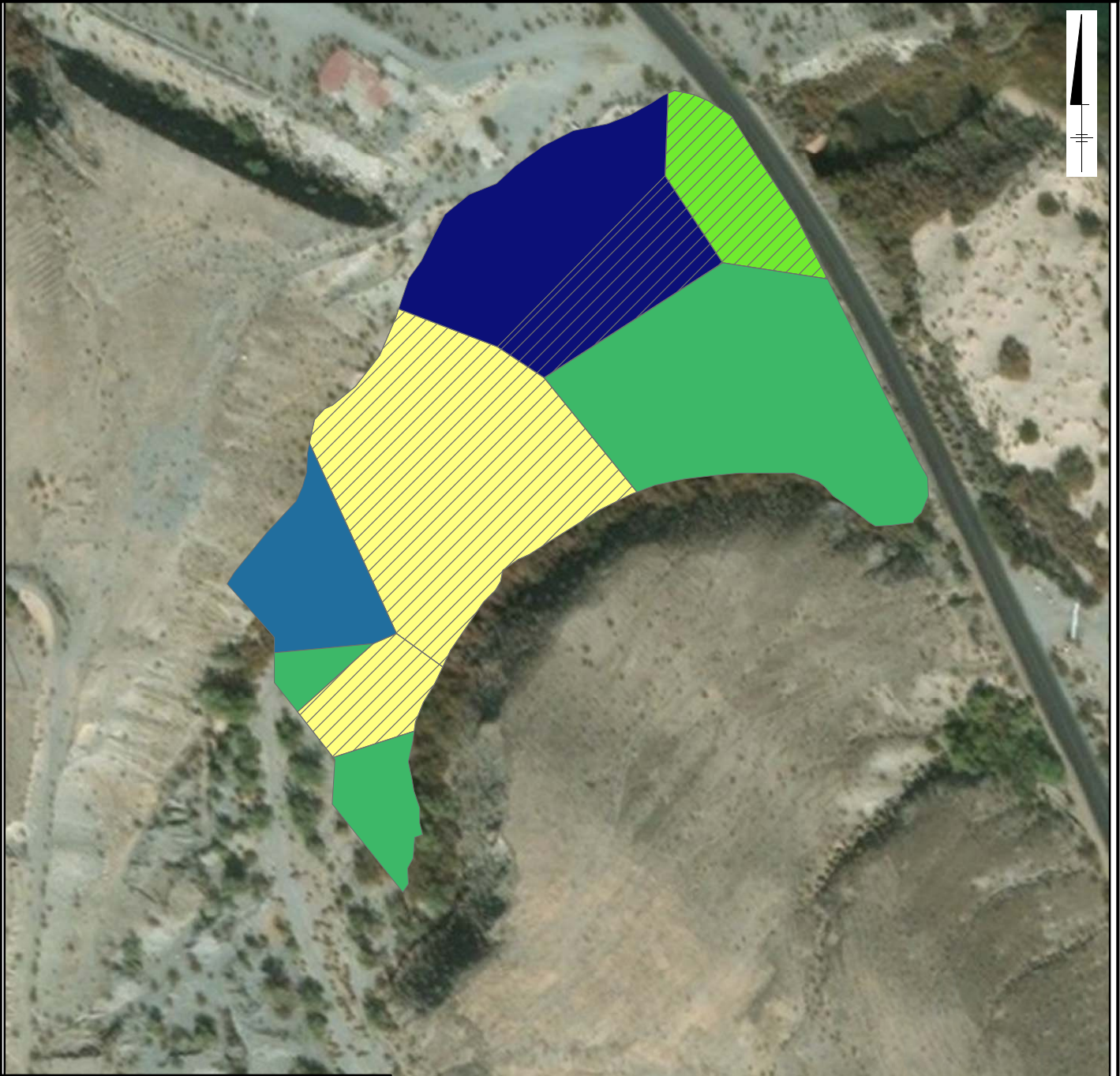
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FIGURE
TT-A3.62

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

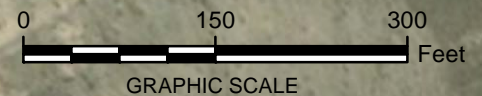


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.54 - 2.75
	≥2.75 - 3.58
	≥3.58 - 7.60
	≥7.60 - 10.70
	≥10.70 - 13.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



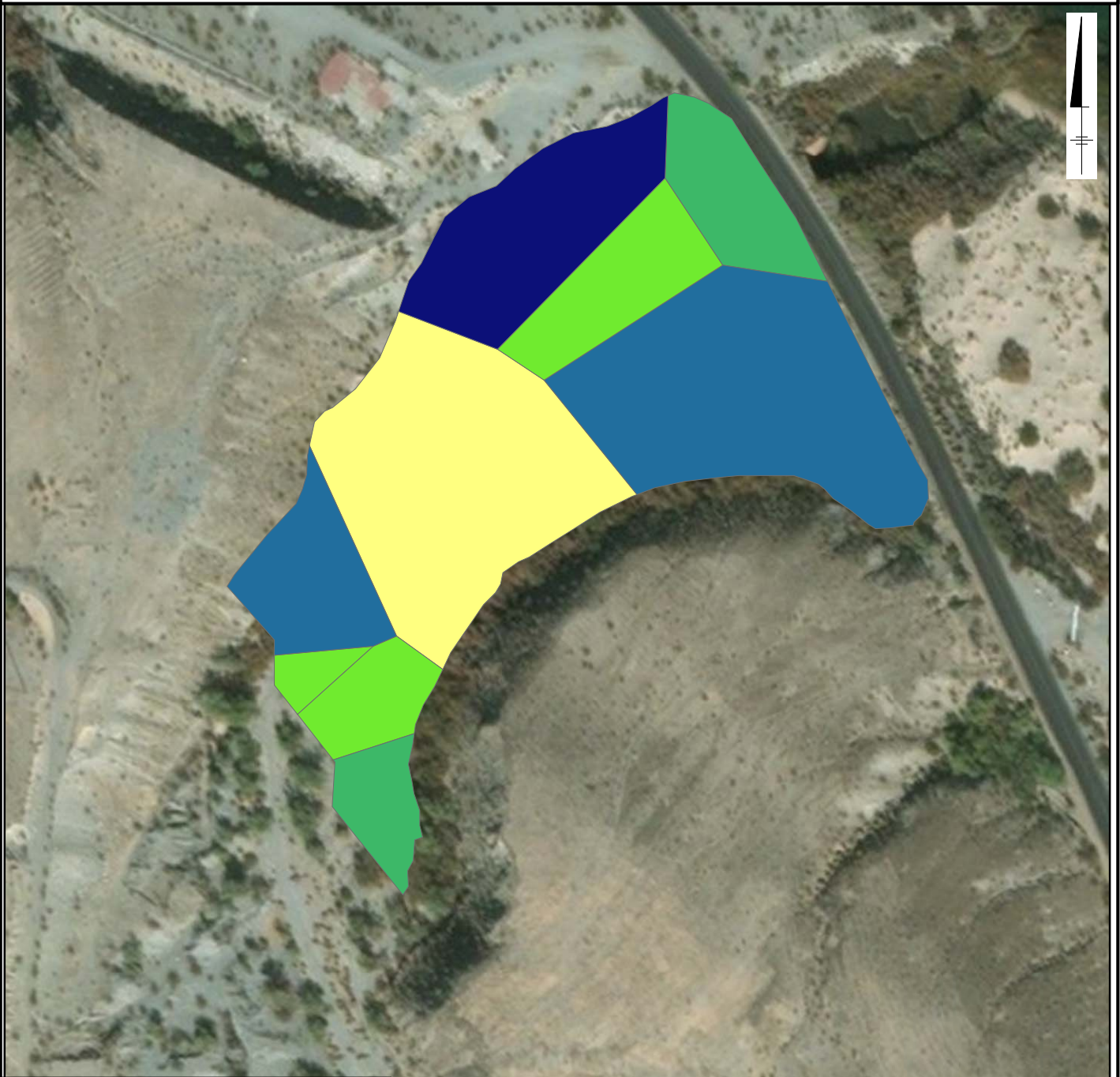
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FIGURE
TT-A3.63

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE

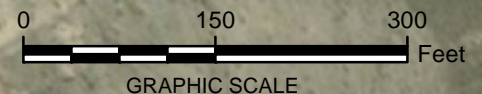


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	4.23 - 4.23
	≥4.23 - 6.25
	≥6.25 - 9.04
	≥9.04 - 11.40
	≥11.40 - 16.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



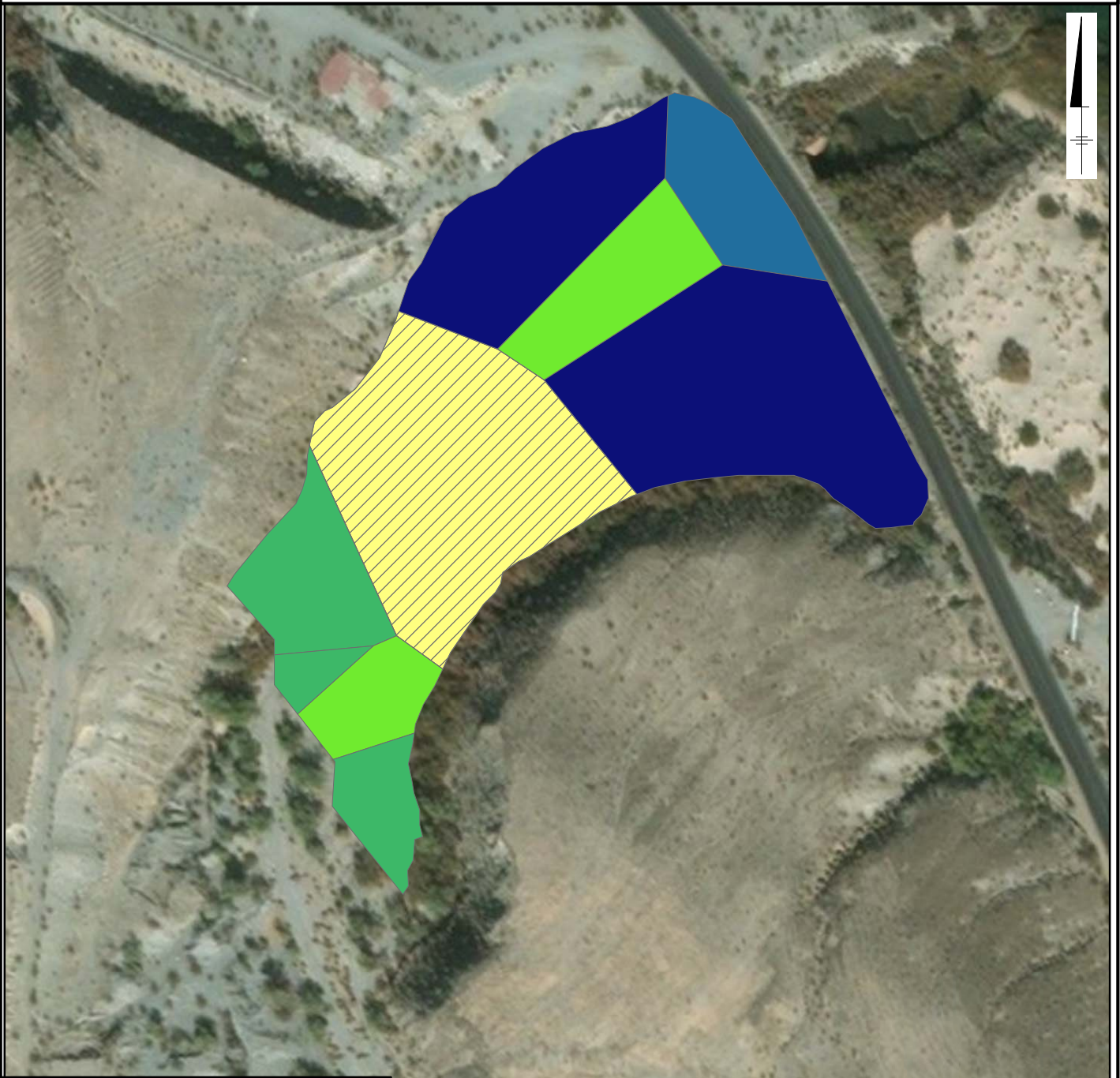
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FIGURE
TT-A364

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.75 - 2.75
-  $\geq 2.75 - 7.42$
-  $\geq 7.42 - 13.00$
-  $\geq 13.00 - 16.00$
-  $\geq 16.00 - 26.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

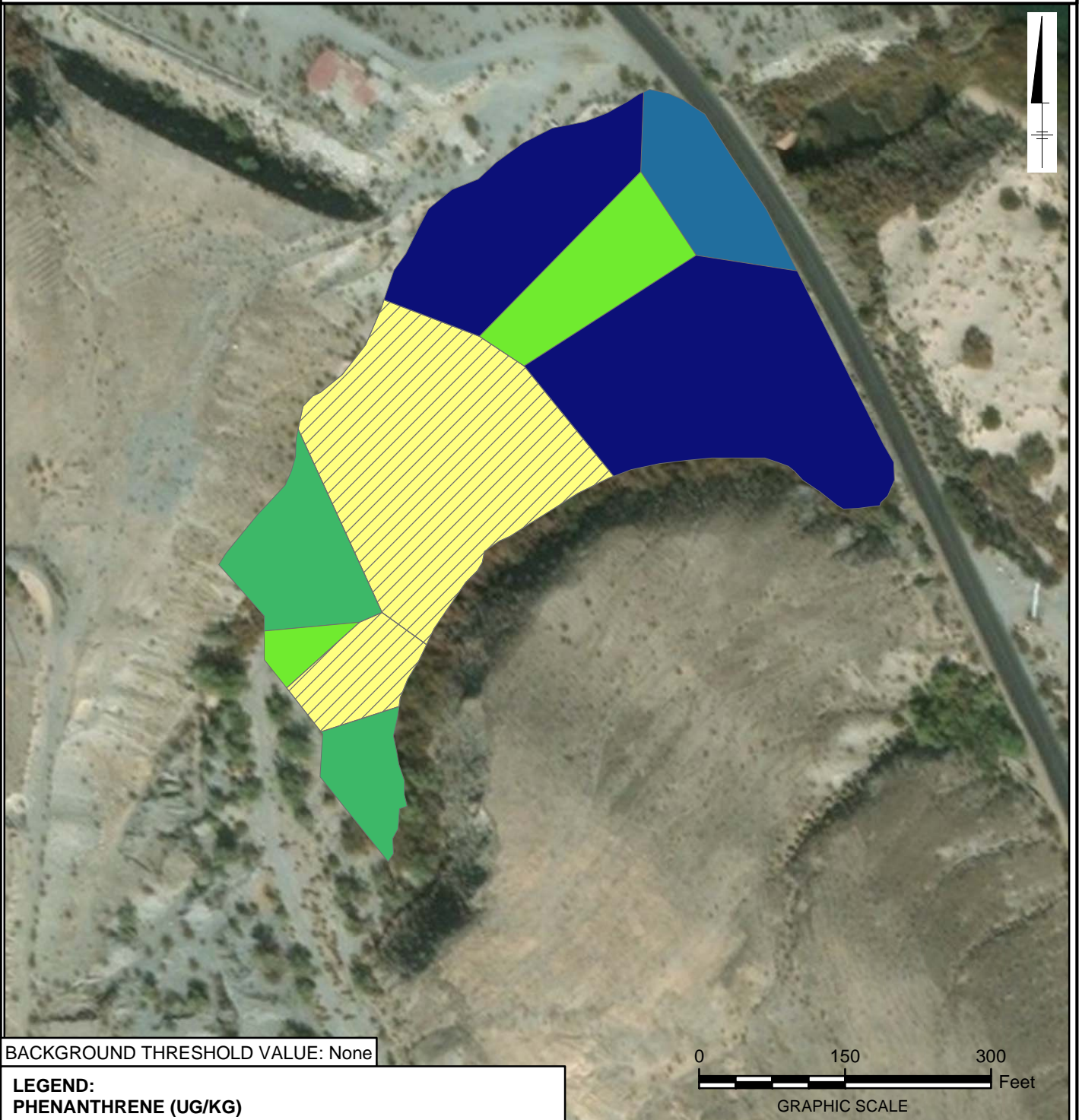
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AREA WEIGHTING**

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**FIGURE
TT-A3.65**

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.54 - 2.75
- $\geq 2.75 - 4.68$
- $\geq 4.68 - 6.35$
- $\geq 6.35 - 7.85$
- $\geq 7.85 - 12.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

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FIGURE
TT-A3.66

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

-  NOT DETECTED
-  2.75 - 2.75
-  $\geq 2.75 - 6.75$
-  $\geq 6.75 - 11.70$
-  $\geq 11.70 - 16.00$
-  $\geq 16.00 - 23.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

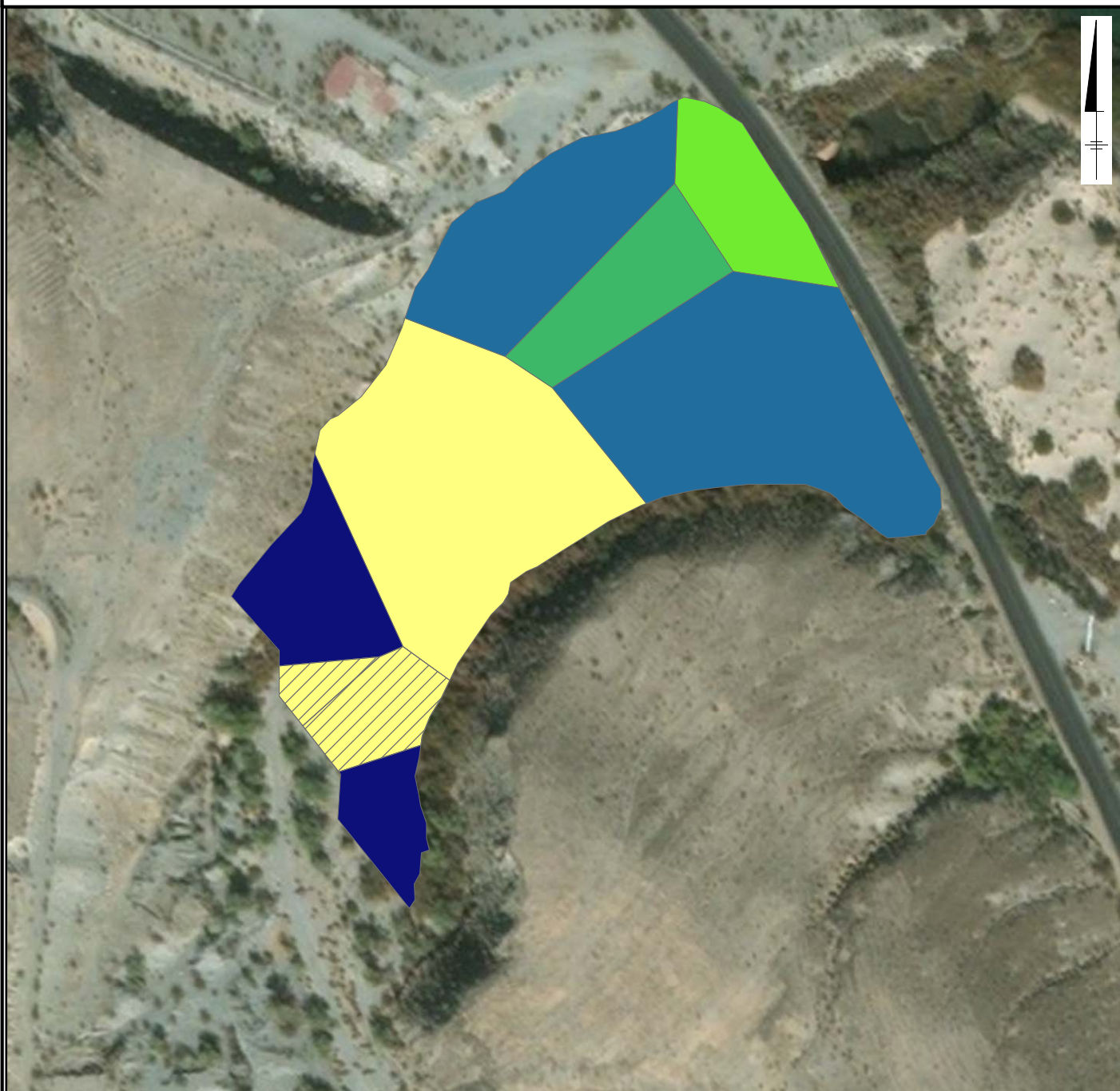
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FIGURE
TT-A3.67

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

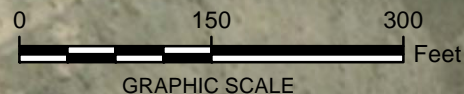


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 7.10
- ≥ 7.10 - 38.30
- ≥ 38.30 - 40.00
- ≥ 40.00 - 133.00
- ≥ 133.00 - 223.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
TT-A3.68

TAMARISK THICKET 0 - 0.5 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 0.00
- $\geq 0.00 - 7.80$
- $\geq 7.80 - 10.00$
- $\geq 10.00 - 12.00$
- $\geq 12.00 - 14.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

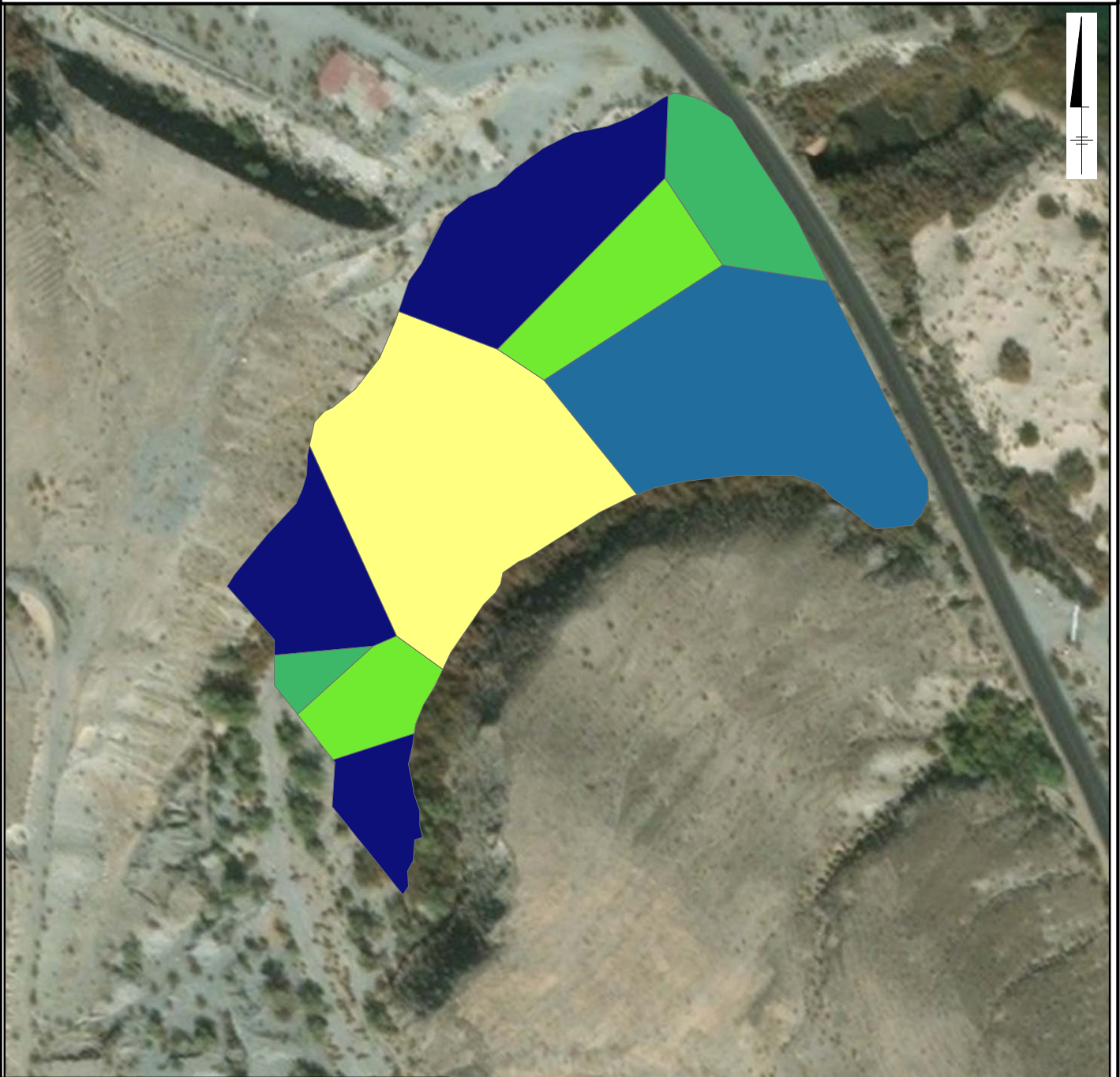
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FIGURE
TT-A3.69

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

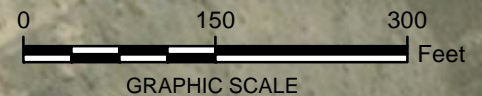


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 4.73 - 4.73
- ≥4.73 - 26.70
- ≥26.70 - 42.80
- ≥42.80 - 87.80
- ≥87.80 - 149.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



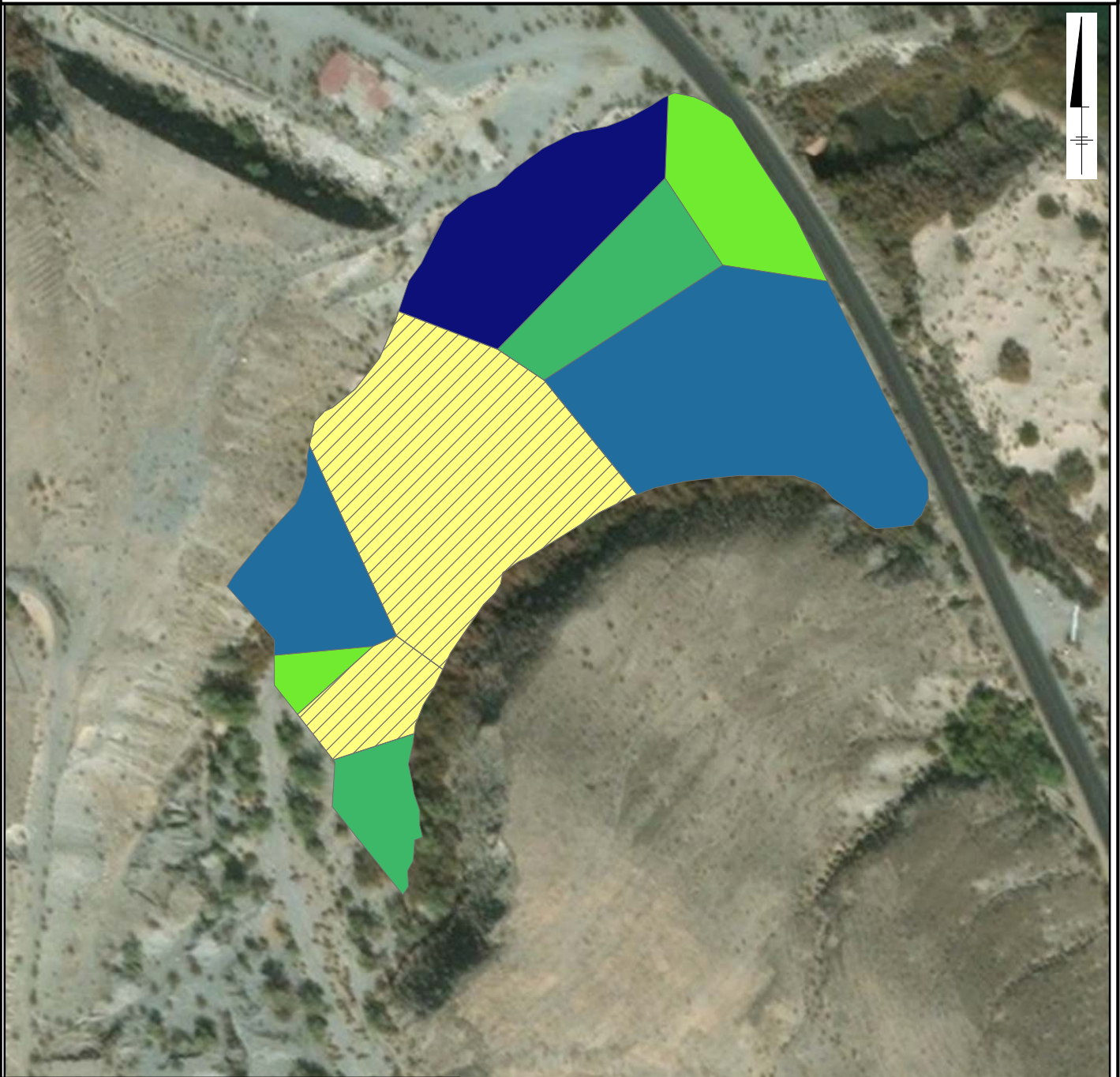
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FIGURE
TT-A3.70

TAMARISK THICKET 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

-  NOT DETECTED
-  0.00 - 0.00
-  $\geq 0.00 - 3.33$
-  $\geq 3.33 - 7.33$
-  $\geq 7.33 - 10.00$
-  $\geq 10.00 - 12.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300 Feet
GRAPHIC SCALE

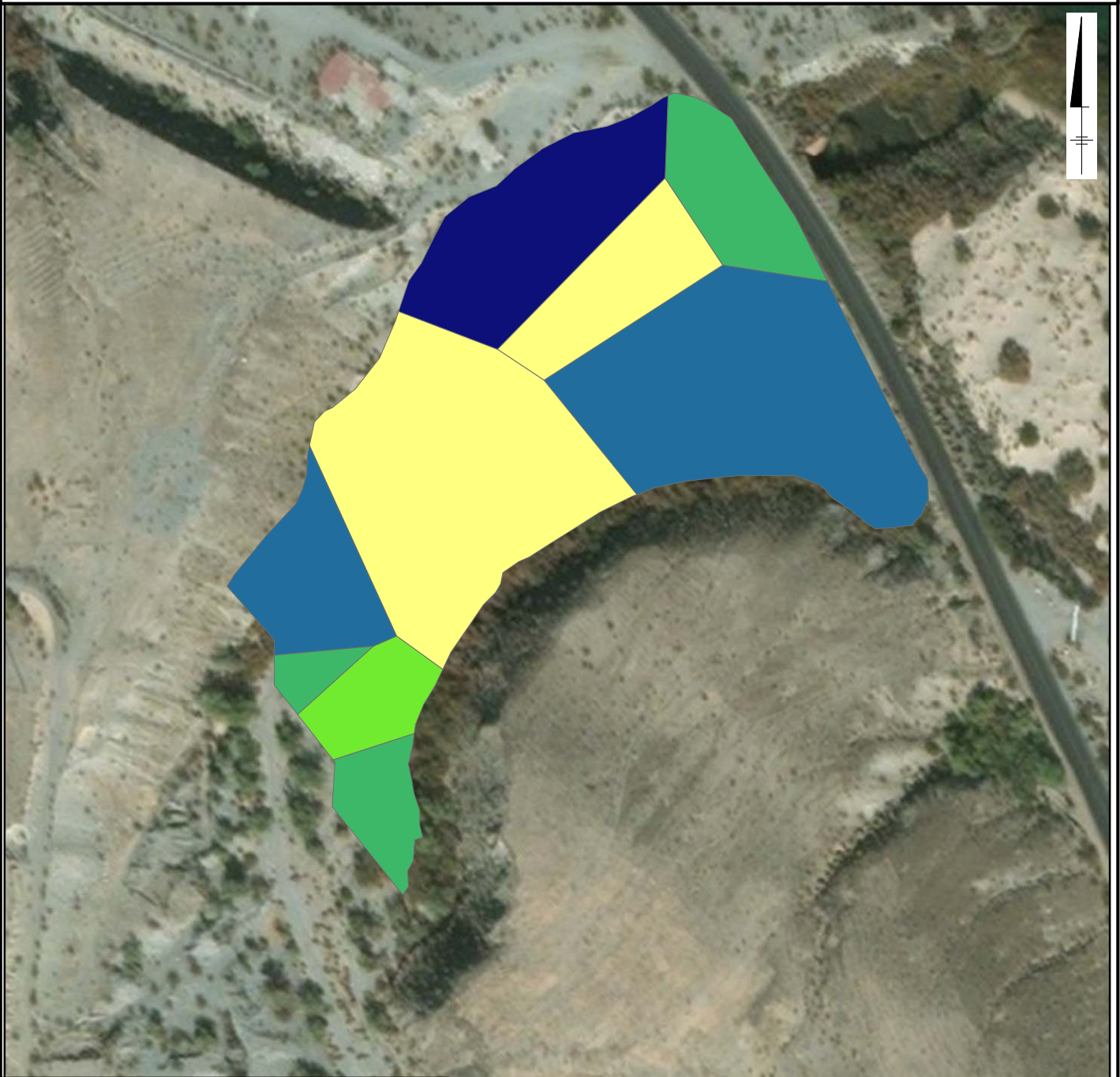
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FIGURE
TT-A3.71

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	2.37 - 13.30
	≥ 13.30 - 25.50
	≥ 25.50 - 63.00
	≥ 63.00 - 87.80
	≥ 87.80 - 133.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300 Feet
GRAPHIC SCALE

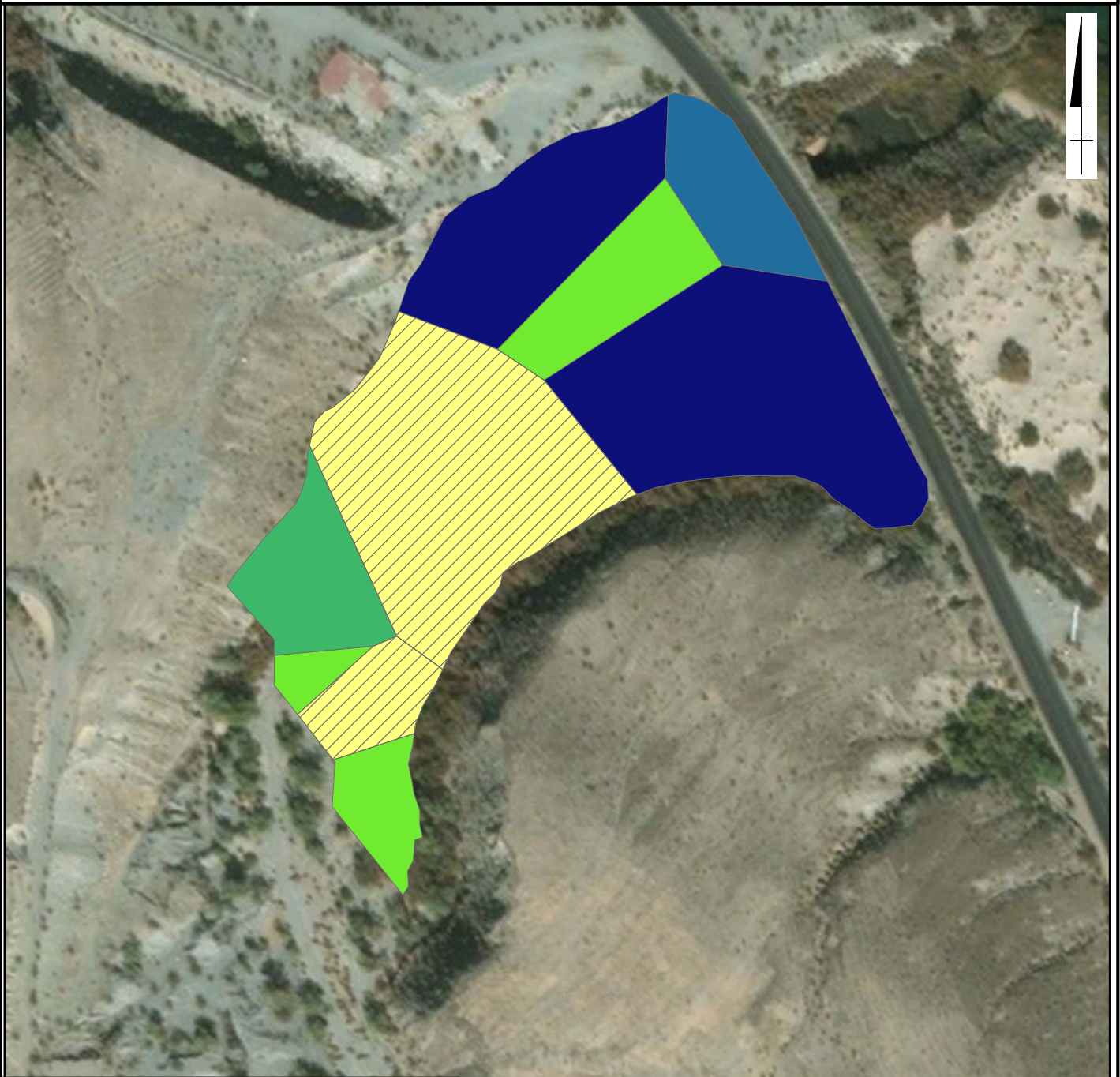
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FIGURE
TT-A3.72

TAMARISK THICKET 0 - 6 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 3.67
	≥3.67 - 4.67
	≥4.67 - 6.67
	≥6.67 - 12.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE TT-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 150 300
Feet
GRAPHIC SCALE

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FIGURE
TT-A3.73

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at Tamarisk Thicket Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment TT-B**Dose and Risk Calculations for Ecological Receptors at Tamarisk Thicket Using Depth-Weighted EPCs and Area-Weighted EPCs**

Table TT-B.1	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for Tamarisk Thicket
Table TT-B.2	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for Tamarisk Thicket
Table TT-B.3	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for Tamarisk Thicket
Table TT-B.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for Tamarisk Thicket
Table TT-B.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket
Table TT-B.6	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for Tamarisk Thicket
Table TT-B.7	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, Selected TRVs) for Tamarisk Thicket
Table TT-B.8	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (SUF = 1, BTAG TRVs) for Tamarisk Thicket
Table TT-B.9	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for Tamarisk Thicket
Table TT-B.10	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket
Table TT-B Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table TT-B.1

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Depth-Weighted Exposure Point Concentrations for Tamarisk Thicket

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Chromium, hexavalent	5.80E-01	1	6E-01	4.38E-01	0.4	1E+00
Chromium, total	3.80E+01	--	No SL	3.80E+01	57	7E-01
Copper	1.60E+01	70	2E-01	1.60E+01	80	2E-01
Lead	1.13E+01	120	9E-02	1.13E+01	1700	7E-03
Manganese	4.20E+02	220	2E+00	4.20E+02	450	9E-01
Zinc	6.13E+01	160	4E-01	6.13E+01	120	5E-01
Polychlorinated Biphenyls						
Total PCBs	3.54E-01	40	9E-03	5.90E-02	1	6E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	5.17E-01	--	No SL	5.00E-01	8800	6E-05

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
HQ = hazard quotient
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
no SL = no screening level available
PCB = polychlorinated biphenyl

Table TT-B.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Chromium, hexavalent	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	2.4E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	m 100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	m 100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	4.8E+01	100% Plants	1.0E-01	2.7E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	7.9E+01	100% Plants	1.0E-01	4.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	m 100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	m 100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	4.8E+01	100% Insects	9.3E-02	2.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	7.9E+01	100% Insects	9.3E-02	4.9E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Chromium, hexavalent	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	m 100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	m 100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	4.8E+01	100% Insects	2.0E-02	2.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	7.9E+01	100% Insects	2.0E-02	4.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Merriam's Kangaroo Rat	5.8E-01	100% Plants	2.4E-02	2.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	m 100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	m 100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	4.8E+01	100% Plants	2.4E-02	2.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	7.9E+01	100% Plants	2.4E-02	4.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.2
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Chromium, hexavalent	Gambel's Quail	9.1E-04	--	--	1.7E-03	2.7E-03	2.5E+00	2.5E+01	1E-03	1E-04
Chromium, total	Gambel's Quail	6.0E-02	--	--	1.5E-01	2.1E-01	2.7E+00	1.6E+01	8E-02	1E-02
Copper	Gambel's Quail	2.2E-01	--	--	6.4E-02	2.9E-01	4.1E+00	1.2E+01	7E-02	2E-02
Lead	Gambel's Quail	4.0E-02	--	--	4.5E-02	8.5E-02	1.6E+00	3.3E+00	5E-02	3E-02
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	1.8E+02	3.8E+02	2E-02	8E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.1E+00	6.6E+01	1.7E+02	3E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.0E-02	--	--	1.9E-01	2.0E-01	1.4E+01	1.4E+02	1E-02	1E-03
TEQ Mammals	Gambel's Quail	1.7E-02	--	--	3.2E-01	3.3E-01	--	--	--	--
Inorganics										
Chromium, hexavalent	Cactus Wren	--	2.5E-02	--	7.5E-03	3.2E-02	2.5E+00	2.5E+01	1E-02	1E-03
Chromium, total	Cactus Wren	--	2.1E+00	--	6.5E-01	2.8E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.6E+00	3.3E+00	8E-01	4E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	1.8E+02	3.8E+02	7E-02	3E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.2E+01	6.6E+01	1.7E+02	9E-01	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	4.9E+01	--	8.1E-01	5.0E+01	1.4E+01	1.4E+02	4E+00	4E-01
TEQ Mammals	Cactus Wren	--	8.9E+01	--	1.3E+00	9.0E+01	--	--	--	--
Inorganics										
Chromium, hexavalent	Desert Shrew	--	2.7E-02	--	1.8E-03	2.9E-02	9.2E+00	3.8E+01	3E-03	8E-04
Chromium, total	Desert Shrew	--	2.4E+00	--	1.5E-01	2.5E+00	2.4E+00	9.6E+00	1E+00	3E-01
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	9.4E+00	1.6E+01	2E-01	1E-01
Lead	Desert Shrew	--	1.2E+00	--	4.6E-02	1.2E+00	4.7E+00	8.9E+00	3E-01	1E-01
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	7.5E+01	3.0E+02	9E-01	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	5.4E+01	--	1.9E-01	5.4E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	9.9E+01	--	3.2E-01	9.9E+01	1.0E+00	1.0E+01	1E+02	1E+01
Inorganics										
Chromium, hexavalent	Merriam's Kangaroo Rat	2.0E-03	--	--	1.1E-03	3.1E-03	9.2E+00	3.8E+01	3E-04	8E-05
Chromium, total	Merriam's Kangaroo Rat	1.3E-01	--	--	7.5E-02	2.0E-01	2.4E+00	9.6E+00	8E-02	2E-02
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.2E-02	5.1E-01	9.0E+00	1.5E+01	6E-02	3E-02
Lead	Merriam's Kangaroo Rat	8.5E-02	--	--	2.2E-02	1.1E-01	4.7E+00	8.9E+00	2E-02	1E-02
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	5.2E+01	1.5E+02	7E-02	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	7.5E+01	3.0E+02	5E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	2.2E-02	--	--	9.4E-02	1.2E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	3.6E-02	--	--	1.6E-01	1.9E-01	1.0E+00	1.0E+01	2E-01	2E-02

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.3
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations (SUF =
1, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	2.2E-01	--	--	6.4E-02	2.9E-01	2.3E+00	5.2E+01	1E-01	5E-03
Lead	Gambel's Quail	4.0E-02	--	--	4.5E-02	8.5E-02	1.4E-02	8.8E+00	6E+00	1E-02
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	7.8E+01	7.8E+02	4E-02	4E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.1E+00	1.7E+01	1.7E+02	1E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Inorganics										
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	2.3E+00	5.2E+01	8E-01	3E-02
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.4E-02	8.8E+00	9E+01	1E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	7.8E+01	7.8E+02	2E-01	2E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.2E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Inorganics										
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	2.7E+00	6.3E+02	7E-01	3E-03
Lead	Desert Shrew	--	1.2E+00	--	4.6E-02	1.2E+00	1.0E+00	2.4E+02	1E+00	5E-03
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	1.4E+01	1.6E+02	5E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	9.6E+00	4.1E+02	7E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.2E-02	5.1E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	8.5E-02	--	--	2.2E-02	1.1E-01	1.0E+00	2.4E+02	1E-01	4E-04
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	1.4E+01	1.6E+02	3E-01	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	9.6E+00	4.1E+02	4E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Chromium, hexavalent	Gambel's Quail	4.4E-01	100% Plants	1.0E-01	2.4E-02	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Chromium, total	Gambel's Quail	3.8E+01	100% Plants	1.0E-01	1.6E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Manganese	Gambel's Quail	4.2E+02	m 100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	m 100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	4.8E+01	100% Plants	1.0E-01	2.7E-01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
TEQ Mammals	Gambel's Quail	7.9E+01	100% Plants	1.0E-01	4.4E-01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Inorganics									
Chromium, hexavalent	Cactus Wren	4.4E-01	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.8E+01	100% Insects	9.3E-02	1.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	m 100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	m 100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	4.8E+01	100% Insects	9.3E-02	2.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	7.9E+01	100% Insects	9.3E-02	4.9E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Chromium, hexavalent	Desert Shrew	4.4E-01	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.8E+01	100% Insects	2.0E-02	1.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	m 100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	m 100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	4.8E+01	100% Insects	2.0E-02	2.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	7.9E+01	100% Insects	2.0E-02	4.9E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Merriam's Kangaroo Rat	5.8E-01	100% Plants	2.4E-02	2.4E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	3.8E+01	100% Plants	2.4E-02	1.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	m 100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	m 100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	4.8E+01	100% Plants	2.4E-02	2.7E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	7.9E+01	100% Plants	2.4E-02	4.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Chromium, hexavalent	Gambel's Quail	9.1E-04	--	--	1.7E-03	3.8E-04	2.5E+00	2.5E+01	2E-04	2E-05
Chromium, total	Gambel's Quail	6.0E-02	--	--	1.5E-01	3.0E-02	2.7E+00	1.6E+01	1E-02	2E-03
Copper	Gambel's Quail	2.2E-01	--	--	6.4E-02	4.1E-02	4.1E+00	1.2E+01	1E-02	3E-03
Lead	Gambel's Quail	4.0E-02	--	--	4.5E-02	1.2E-02	1.6E+00	3.3E+00	7E-03	4E-03
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	4.2E-01	1.8E+02	3.8E+02	2E-03	1E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.9E-01	6.6E+01	1.7E+02	4E-03	2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	5.3E-05	9.0E-02	1.3E+00	6E-04	4E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	1.0E-02	--	--	1.9E-01	2.8E-02	1.4E+01	1.4E+02	2E-03	2E-04
TEQ Mammals	Gambel's Quail	1.7E-02	--	--	3.2E-01	4.7E-02	--	--	--	--
Inorganics										
Chromium, hexavalent	Cactus Wren	--	2.5E-02	--	7.5E-03	3.2E-02	2.5E+00	2.5E+01	1E-02	1E-03
Chromium, total	Cactus Wren	--	2.1E+00	--	6.5E-01	2.8E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.6E+00	3.3E+00	8E-01	4E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	1.8E+02	3.8E+02	7E-02	3E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.2E+01	6.6E+01	1.7E+02	9E-01	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	4.9E+01	--	8.1E-01	5.0E+01	1.4E+01	1.4E+02	4E+00	4E-01
TEQ Mammals	Cactus Wren	--	8.9E+01	--	1.3E+00	9.0E+01	--	--	--	--
Inorganics										
Chromium, hexavalent	Desert Shrew	--	2.7E-02	--	1.8E-03	2.9E-02	9.2E+00	3.8E+01	3E-03	8E-04
Chromium, total	Desert Shrew	--	2.4E+00	--	1.5E-01	2.5E+00	2.4E+00	9.6E+00	1E+00	3E-01
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	9.4E+00	1.6E+01	2E-01	1E-01
Lead	Desert Shrew	--	1.2E+00	--	4.6E-02	1.2E+00	4.7E+00	8.9E+00	3E-01	1E-01
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	7.5E+01	3.0E+02	9E-01	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	5.4E+01	--	1.9E-01	5.4E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	9.9E+01	--	3.2E-01	9.9E+01	1.0E+00	1.0E+01	1E+02	1E+01
Inorganics										
Chromium, hexavalent	Merriam's Kangaroo Rat	2.0E-03	--	--	1.1E-03	3.1E-03	9.2E+00	3.8E+01	3E-04	8E-05
Chromium, total	Merriam's Kangaroo Rat	1.3E-01	--	--	7.5E-02	2.0E-01	2.4E+00	9.6E+00	8E-02	2E-02
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.2E-02	5.1E-01	9.0E+00	1.5E+01	6E-02	3E-02
Lead	Merriam's Kangaroo Rat	8.5E-02	--	--	2.2E-02	1.1E-01	4.7E+00	8.9E+00	2E-02	1E-02
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	5.2E+01	1.5E+02	7E-02	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	7.5E+01	3.0E+02	5E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	2.2E-02	--	--	9.4E-02	1.2E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	3.6E-02	--	--	1.6E-01	1.9E-01	1.0E+00	1.0E+01	2E-01	2E-02

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Manganese	Gambel's Quail	4.2E+02 m	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02 m	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Inorganics									
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.7E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02 m	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02 m	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.7E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02 m	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02 m	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02 m	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01 m	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Depth-Weighted Exposure Point Concentrations
(Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	2.2E-01	--	--	6.4E-02	4.1E-02	2.3E+00	5.2E+01	2E-02	8E-04
Lead	Gambel's Quail	4.0E-02	--	--	4.5E-02	1.2E-02	1.4E-02	8.8E+00	9E-01	1E-03
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	4.2E-01	7.8E+01	7.8E+02	5E-03	5E-04
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.9E-01	1.7E+01	1.7E+02	2E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	5.3E-05	9.0E-02	1.3E+00	6E-04	4E-05
Inorganics										
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	2.3E+00	5.2E+01	8E-01	3E-02
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.4E-02	8.8E+00	9E+01	1E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	7.8E+01	7.8E+02	2E-01	2E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.2E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Inorganics										
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	2.7E+00	6.3E+02	7E-01	3E-03
Lead	Desert Shrew	--	1.2E+00	--	4.6E-02	1.2E+00	1.0E+00	2.4E+02	1E+00	5E-03
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	1.4E+01	1.6E+02	5E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	9.6E+00	4.1E+02	7E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.2E-02	5.1E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	8.5E-02	--	--	2.2E-02	1.1E-01	1.0E+00	2.4E+02	1E-01	4E-04
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	1.4E+01	1.6E+02	3E-01	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	9.6E+00	4.1E+02	4E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.6

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Area-Weighted Exposure Point Concentrations for Tamarisk Thicket

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Chromium, hexavalent	4.19E-01	1	4E-01	4.19E-01	0.4	1E+00
Chromium, total	3.61E+01	--	No SL	3.61E+01	57	6E-01
Copper	1.59E+01	70	2E-01	1.59E+01	80	2E-01
Lead	1.10E+01	120	9E-02	1.10E+01	1700	6E-03
Manganese	4.20E+02	220	2E+00	4.20E+02	450	9E-01
Zinc	6.07E+01	160	4E-01	6.07E+01	120	5E-01
Polychlorinated Biphenyls						
Total PCBs	3.54E-01	40	9E-03	5.90E-02	1	6E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	5.17E-01	--	No SL	5.00E-01	8800	6E-05

Notes:

	HQ greater than or equal to 1
	HQ greater than or equal to 10
	HQ greater than or equal to 100

Abbreviations:

AOC = area of concern
COPEC = constituent of potential ecological concern
EPC = exposure point concentration
HQ = hazard quotient
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
no SL = no screening level available
PCB = polychlorinated biphenyl

Table TT-B.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Chromium, hexavalent	Gambel's Quail	4.2E-01	100% Plants	1.0E-01	1.7E-02	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	3.6E+01	100% Plants	1.0E-01	1.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	m 100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	m 100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	3.7E+01	100% Plants	1.0E-01	2.1E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	3.4E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Cactus Wren	4.2E-01	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.6E+01	100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	m 100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	m 100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	3.7E+01	100% Insects	9.3E-02	2.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Chromium, hexavalent	Desert Shrew	4.2E-01	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.6E+01	100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	m 100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	m 100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	3.7E+01	100% Insects	2.0E-02	2.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Merriam's Kangaroo Rat	4.2E-01	100% Plants	2.4E-02	1.7E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	3.6E+01	100% Plants	2.4E-02	1.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	m 100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	m 100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	3.7E+01	100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	3.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.7
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF =
1, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Chromium, hexavalent	Gambel's Quail	6.6E-04	--	--	1.7E-03	2.3E-03	2.5E+00	2.5E+01	9E-04	9E-05
Chromium, total	Gambel's Quail	5.7E-02	--	--	1.4E-01	2.0E-01	2.7E+00	1.6E+01	8E-02	1E-02
Copper	Gambel's Quail	2.2E-01	--	--	6.3E-02	2.9E-01	4.1E+00	1.2E+01	7E-02	2E-02
Lead	Gambel's Quail	3.9E-02	--	--	4.4E-02	8.3E-02	1.6E+00	3.3E+00	5E-02	3E-02
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	1.8E+02	3.8E+02	2E-02	8E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.0E+00	6.6E+01	1.7E+02	3E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	8.0E-03	--	--	1.5E-01	1.6E-01	1.4E+01	1.4E+02	1E-02	1E-03
TEQ Mammals	Gambel's Quail	1.3E-02	--	--	2.4E-01	2.5E-01	--	--	--	--
Inorganics										
Chromium, hexavalent	Cactus Wren	--	2.4E-02	--	7.1E-03	3.1E-02	2.5E+00	2.5E+01	1E-02	1E-03
Chromium, total	Cactus Wren	--	2.0E+00	--	6.2E-01	2.6E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.6E+00	3.3E+00	7E-01	4E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	1.8E+02	3.8E+02	7E-02	3E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.1E+01	6.6E+01	1.7E+02	9E-01	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	3.6E+01	--	6.3E-01	3.7E+01	1.4E+01	1.4E+02	3E+00	3E-01
TEQ Mammals	Cactus Wren	--	6.5E+01	--	1.0E+00	6.6E+01	--	--	--	--
Inorganics										
Chromium, hexavalent	Desert Shrew	--	2.6E-02	--	1.7E-03	2.8E-02	9.2E+00	3.8E+01	3E-03	7E-04
Chromium, total	Desert Shrew	--	2.2E+00	--	1.5E-01	2.4E+00	2.4E+00	9.6E+00	1E+00	2E-01
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	9.4E+00	1.6E+01	2E-01	1E-01
Lead	Desert Shrew	--	1.1E+00	--	4.5E-02	1.2E+00	4.7E+00	8.9E+00	3E-01	1E-01
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	7.5E+01	3.0E+02	9E-01	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.0E+01	--	1.5E-01	4.1E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	7.2E+01	--	2.5E-01	7.2E+01	1.0E+00	1.0E+01	7E+01	7E+00
Inorganics										
Chromium, hexavalent	Merriam's Kangaroo Rat	1.4E-03	--	--	8.3E-04	2.2E-03	9.2E+00	3.8E+01	2E-04	6E-05
Chromium, total	Merriam's Kangaroo Rat	1.2E-01	--	--	7.1E-02	1.9E-01	2.4E+00	9.6E+00	8E-02	2E-02
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.1E-02	5.1E-01	9.0E+00	1.5E+01	6E-02	3E-02
Lead	Merriam's Kangaroo Rat	8.4E-02	--	--	2.2E-02	1.1E-01	4.7E+00	8.9E+00	2E-02	1E-02
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	5.2E+01	1.5E+02	7E-02	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	7.5E+01	3.0E+02	5E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.7E-02	--	--	7.3E-02	9.1E-02	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	2.8E-02	--	--	1.2E-01	1.5E-01	1.0E+00	1.0E+01	1E-01	1E-02

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.8
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	2.2E-01	--	--	6.3E-02	2.9E-01	2.3E+00	5.2E+01	1E-01	5E-03
Lead	Gambel's Quail	3.9E-02	--	--	4.4E-02	8.3E-02	1.4E-02	8.8E+00	6E+00	9E-03
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	7.8E+01	7.8E+02	4E-02	4E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.0E+00	1.7E+01	1.7E+02	1E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Inorganics										
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	2.3E+00	5.2E+01	8E-01	3E-02
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.4E-02	8.8E+00	9E+01	1E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	7.8E+01	7.8E+02	2E-01	2E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.1E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Inorganics										
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	2.7E+00	6.3E+02	6E-01	3E-03
Lead	Desert Shrew	--	1.1E+00	--	4.5E-02	1.2E+00	1.0E+00	2.4E+02	1E+00	5E-03
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	1.4E+01	1.6E+02	5E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	9.6E+00	4.1E+02	7E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.1E-02	5.1E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	8.4E-02	--	--	2.2E-02	1.1E-01	1.0E+00	2.4E+02	1E-01	4E-04
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	1.4E+01	1.6E+02	3E-01	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	9.6E+00	4.1E+02	4E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Chromium, hexavalent	Gambel's Quail	4.2E-01	100% Plants	1.0E-01	1.7E-02	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Chromium, total	Gambel's Quail	3.6E+01	100% Plants	1.0E-01	1.5E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Manganese	Gambel's Quail	4.2E+02 m	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02 m	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	3.7E+01	100% Plants	1.0E-01	2.1E-01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
TEQ Mammals	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	3.4E-01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Inorganics									
Chromium, hexavalent	Cactus Wren	4.2E-01	100% Insects	9.3E-02	1.3E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	3.6E+01	100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02 m	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02 m	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	3.7E+01	100% Insects	9.3E-02	2.0E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.5E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Chromium, hexavalent	Desert Shrew	4.2E-01	100% Insects	2.0E-02	1.3E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	3.6E+01	100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02 m	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02 m	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	3.7E+01	100% Insects	2.0E-02	2.0E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.5E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Merriam's Kangaroo Rat	4.2E-01	100% Plants	2.4E-02	1.7E-02	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	3.6E+01	100% Plants	2.4E-02	1.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02 m	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01 m	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	3.7E+01	100% Plants	2.4E-02	2.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	3.4E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.9
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Chromium, hexavalent	Gambel's Quail	6.6E-04	--	--	1.7E-03	3.3E-04	2.5E+00	2.5E+01	1E-04	1E-05
Chromium, total	Gambel's Quail	5.7E-02	--	--	1.4E-01	2.9E-02	2.7E+00	1.6E+01	1E-02	2E-03
Copper	Gambel's Quail	2.2E-01	--	--	6.3E-02	4.1E-02	4.1E+00	1.2E+01	1E-02	3E-03
Lead	Gambel's Quail	3.9E-02	--	--	4.4E-02	1.2E-02	1.6E+00	3.3E+00	7E-03	4E-03
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	4.2E-01	1.8E+02	3.8E+02	2E-03	1E-03
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.9E-01	6.6E+01	1.7E+02	4E-03	2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	5.3E-05	9.0E-02	1.3E+00	6E-04	4E-05
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	8.0E-03	--	--	1.5E-01	2.2E-02	1.4E+01	1.4E+02	2E-03	2E-04
TEQ Mammals	Gambel's Quail	1.3E-02	--	--	2.4E-01	3.6E-02	--	--	--	--
Inorganics										
Chromium, hexavalent	Cactus Wren	--	2.4E-02	--	7.1E-03	3.1E-02	2.5E+00	2.5E+01	1E-02	1E-03
Chromium, total	Cactus Wren	--	2.0E+00	--	6.2E-01	2.6E+00	2.7E+00	1.6E+01	1E+00	2E-01
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	4.1E+00	1.2E+01	4E-01	1E-01
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.6E+00	3.3E+00	7E-01	4E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	1.8E+02	3.8E+02	7E-02	3E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.1E+01	6.6E+01	1.7E+02	9E-01	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	3.6E+01	--	6.3E-01	3.7E+01	1.4E+01	1.4E+02	3E+00	3E-01
TEQ Mammals	Cactus Wren	--	6.5E+01	--	1.0E+00	6.6E+01	--	--	--	--
Inorganics										
Chromium, hexavalent	Desert Shrew	--	2.6E-02	--	1.7E-03	2.8E-02	9.2E+00	3.8E+01	3E-03	7E-04
Chromium, total	Desert Shrew	--	2.2E+00	--	1.5E-01	2.4E+00	2.4E+00	9.6E+00	1E+00	2E-01
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	9.4E+00	1.6E+01	2E-01	1E-01
Lead	Desert Shrew	--	1.1E+00	--	4.5E-02	1.2E+00	4.7E+00	8.9E+00	3E-01	1E-01
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	7.5E+01	3.0E+02	9E-01	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	4.0E+01	--	1.5E-01	4.1E+01	--	--	--	--
TEQ Mammals	Desert Shrew	--	7.2E+01	--	2.5E-01	7.2E+01	1.0E+00	1.0E+01	7E+01	7E+00
Inorganics										
Chromium, hexavalent	Merriam's Kangaroo Rat	1.4E-03	--	--	8.3E-04	2.2E-03	9.2E+00	3.8E+01	2E-04	6E-05
Chromium, total	Merriam's Kangaroo Rat	1.2E-01	--	--	7.1E-02	1.9E-01	2.4E+00	9.6E+00	8E-02	2E-02
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.1E-02	5.1E-01	9.0E+00	1.5E+01	6E-02	3E-02
Lead	Merriam's Kangaroo Rat	8.4E-02	--	--	2.2E-02	1.1E-01	4.7E+00	8.9E+00	2E-02	1E-02
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	5.2E+01	1.5E+02	7E-02	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	7.5E+01	3.0E+02	5E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	1.7E-02	--	--	7.3E-02	9.1E-02	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	2.8E-02	--	--	1.2E-01	1.5E-01	1.0E+00	1.0E+01	1E-01	1E-02

See Notes and Abbreviations following Table TT-C.10.

Table TT-B.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC ^a (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	1.6E+01	100% Plants	1.0E-01	5.8E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Lead	Gambel's Quail	1.1E+01	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Manganese	Gambel's Quail	4.2E+02	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Zinc	Gambel's Quail	6.1E+01	100% Plants	1.0E-01	4.7E+01	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.4E-01
Inorganics									
Copper	Cactus Wren	1.6E+01	100% Insects	9.3E-02	8.2E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	1.1E+01	100% Insects	9.3E-02	5.6E+00	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	6.1E+01	100% Insects	9.3E-02	3.3E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	1.6E+01	100% Insects	2.0E-02	8.2E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	1.1E+01	100% Insects	2.0E-02	5.6E+00	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	6.1E+01	100% Insects	2.0E-02	3.3E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	1.6E+01	100% Plants	2.4E-02	5.8E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	1.1E+01	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	6.1E+01	100% Plants	2.4E-02	4.7E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-B.10
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Area-Weighted Exposure Point Concentrations (Species-Specific SUF, BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose ^b (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless) ^c	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	2.2E-01	--	--	6.3E-02	4.1E-02	2.3E+00	5.2E+01	2E-02	8E-04
Lead	Gambel's Quail	3.9E-02	--	--	4.4E-02	1.2E-02	1.4E-02	8.8E+00	8E-01	1E-03
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	4.2E-01	7.8E+01	7.8E+02	5E-03	5E-04
Zinc	Gambel's Quail	1.8E+00	--	--	2.4E-01	2.9E-01	1.7E+01	1.7E+02	2E-02	2E-03
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	5.3E-05	9.0E-02	1.3E+00	6E-04	4E-05
Inorganics										
Copper	Cactus Wren	--	1.5E+00	--	2.7E-01	1.8E+00	2.3E+00	5.2E+01	8E-01	3E-02
Lead	Cactus Wren	--	1.0E+00	--	1.9E-01	1.2E+00	1.4E-02	8.8E+00	9E+01	1E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	7.8E+01	7.8E+02	2E-01	2E-02
Zinc	Cactus Wren	--	6.0E+01	--	1.0E+00	6.1E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Inorganics										
Copper	Desert Shrew	--	1.7E+00	--	6.5E-02	1.7E+00	2.7E+00	6.3E+02	6E-01	3E-03
Lead	Desert Shrew	--	1.1E+00	--	4.5E-02	1.2E+00	1.0E+00	2.4E+02	1E+00	5E-03
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	1.4E+01	1.6E+02	5E-01	5E-02
Zinc	Desert Shrew	--	6.7E+01	--	2.5E-01	6.7E+01	9.6E+00	4.1E+02	7E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	4.8E-01	--	--	3.1E-02	5.1E-01	2.7E+00	6.3E+02	2E-01	8E-04
Lead	Merriam's Kangaroo Rat	8.4E-02	--	--	2.2E-02	1.1E-01	1.0E+00	2.4E+02	1E-01	4E-04
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	1.4E+01	1.6E+02	3E-01	2E-02
Zinc	Merriam's Kangaroo Rat	3.9E+00	--	--	1.2E-01	4.0E+00	9.6E+00	4.1E+02	4E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04

See Notes and Abbreviations following Table TT-C.10.

Table TT-B Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times SIR) + (C_{\text{plants}} \times FIR \times F_{\text{plants}}) + (C_{\text{insects}} \times FIR \times F_{\text{insects}}) + (C_{\text{mammals}} \times FIR \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

ATTACHMENT C

Dose and Risk Calculations for Ecological Receptors at Tamarisk
Thicket Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment TT-C**Dose and Risk Calculations for Ecological Receptors at Tamarisk Thicket Using Maximum Depth-Weighted EPCs**

Table TT-C.1	Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for Tamarisk Thicket
Table TT-C.2	Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for Tamarisk Thicket
Table TT-C.3	Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for Tamarisk Thicket
Table TT-C.4	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, Selected TRVs) for Tamarisk Thicket
Table TT-C.5	Terrestrial Wildlife Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations (SUF = 1, BTAG TRVs) for Tamarisk Thicket
Table TT-C Table Notes	Notes for Terrestrial Wildlife Risk Calculations

Table TT-C.1

Baseline Scenario Maximum Exposure Point Concentrations for Soil and Biota for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Units	Soil Exposure Point Concentrations			Biota Exposure Point Concentrations ^{a,b}				
		0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	Plants			Insects	Mammals
					0-0.5 ft bgs	0-3 ft bgs	0-6 ft bgs	0-0.5 ft bgs	0-0.5 ft bgs
Inorganics									
Chromium, hexavalent	mg/kg	2.60E+00	1.84E+00	1.07E+00	1.07E-01	7.54E-02	4.39E-02	7.96E-01	4.68E-01
Chromium, total	mg/kg	7.10E+01	5.67E+01	5.32E+01	2.91E+00	2.32E+00	2.18E+00	2.17E+01	5.30E+00
Copper	mg/kg	2.20E+01	1.93E+01	1.67E+01	6.59E+00	6.26E+00	5.91E+00	1.13E+01	1.20E+01
Lead	mg/kg	2.30E+01	1.82E+01	1.35E+01	1.54E+00	1.35E+00	1.14E+00	1.01E+01	4.32E+00
Manganese	mg/kg	4.20E+02	4.20E+02	4.20E+02	3.32E+01	3.32E+01	3.32E+01	2.74E+01	8.61E+00
Zinc	mg/kg	8.40E+01	7.17E+01	6.03E+01	5.62E+01	5.15E+01	4.68E+01	3.66E+02	1.07E+02
Polychlorinated Biphenyls									
Total PCBs	mg/kg	5.90E-02	2.41E-01	3.54E-01	5.90E-04	2.41E-03	3.54E-03	8.70E-02	2.17E-03
Dioxins									
TEQ Avian	ng/kg	1.10E+02	7.36E+01	6.03E+01	6.16E-01	4.12E-01	3.38E-01	7.17E+02	1.00E+02
TEQ Mammals	ng/kg	1.80E+02	1.20E+02	8.47E+01	1.01E+00	6.72E-01	4.74E-01	1.28E+03	1.72E+02
2,3,7,8-TCDD	ng/kg	5.00E-01	5.17E-01	6.50E-01	--	--	--	--	--

Notes:

a. Calculated using selected soil EPC and uptake model. See Section 6 of the main report.

b. Biota EPCs presented as 0.0 indicate no bioaccumulation from soil.

Bold indicates EPC selected to estimate plant uptake from soil (maximum of surface, shallow, and subsurface I soil).**Abbreviations:**

-- = soil EPC or uptake model not available, biota EPCs could not be estimated

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

ft bgs = feet below ground surface

m = maximum depth-weighted concentration

mg/kg = milligrams per kilogram

nd = not detected in this depth interval

ng/kg = nanograms per kilogram

PCB = polychlorinated biphenyl

Table TT-C.2

Ecological Risk Estimate Summary for Baseline Scenario Using Maximum Exposure Point Concentrations (Plants and Soil Invertebrates; Wildlife SUF = 1, Selected TRVs and BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Plants	Soil Invertebrates	HQs based on Selected TRVs								HQs based on BTAG TRVs							
			Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat		Gambel's Quail		Cactus Wren		Desert Shrew		Merriam's Kangaroo Rat	
			SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1		SUF = 1	
	HQ	HQ	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL	NOAEL	LOAEL
Inorganics																		
Chromium, hexavalent	3E+00	7E+00	6E-03	6E-04	8E-02	8E-03	2E-02	4E-03	2E-03	4E-04	--	--	--	--	--	--	--	--
Chromium, total	No SL	1E+00	1E-01	3E-02	2E+00	3E-01	2E+00	5E-01	2E-01	4E-02	--	--	--	--	--	--	--	--
Copper	3E-01	3E-01	8E-02	3E-02	6E-01	2E-01	3E-01	2E-01	6E-02	4E-02	1E-01	7E-03	1E+00	5E-02	9E-01	4E-03	2E-01	9E-04
Lead	2E-01	1E-02	9E-02	5E-02	1E+00	7E-01	5E-01	2E-01	4E-02	2E-02	1E+01	2E-02	2E+02	3E-01	2E+00	9E-03	2E-01	7E-04
Manganese	2E+00	9E-01	2E-02	8E-03	7E-02	3E-02	1E-01	5E-02	7E-02	2E-02	4E-02	4E-03	2E-01	2E-02	5E-01	5E-02	3E-01	2E-02
Zinc	5E-01	7E-01	4E-02	1E-02	1E+00	4E-01	1E+00	3E-01	6E-02	2E-02	1E-01	1E-02	4E+00	4E-01	8E+00	2E-01	5E-01	1E-02
Polychlorinated Biphenyls																		
Total PCBs	9E-03	6E-02	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04	4E-03	3E-04	2E-01	1E-02	5E-02	1E-02	3E-03	8E-04
Dioxins																		
2,3,7,8-TCDD	No SL	6E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	--	--	3E-02	3E-03	1E+01	1E+00	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	--	--	--	--	--	--	3E+02	3E+01	4E-01	4E-02	--	--	--	--	--	--	--	--

Notes:

	NOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 1
	HQ or LOAEL HQ greater than 10
	HQ or LOAEL HQ greater than 100

Abbreviations:

-- = no toxicity value available, HQs could not be estimated
AOC = area of concern
BTAG = Biological Technical Assistance Group
COPEC = constituent of potential ecological concern
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
NOAEL = no-observed adverse effect level
PCB = polychlorinated biphenyl
SUF = site use factor
TRV = toxicity reference value

Table TT-C.3

Plants and Soil Invertebrates Risk Calculations for Baseline Scenario Using Maximum Exposure Point Concentrations for Tamarisk

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPEC	Terrestrial Plants			Terrestrial Invertebrates		
	Soil EPC	Benchmark	Hazard Quotient	Soil EPC	Benchmark	Hazard Quotient
	(mg/kg)	(mg/kg)		(mg/kg)	(mg/kg)	
Inorganics						
Chromium, hexavalent	2.60E+00	1	3E+00	2.60E+00	0.4	7E+00
Chromium, total	7.10E+01	--	No SL	7.10E+01	57	1E+00
Copper	2.20E+01	70	3E-01	2.20E+01	80	3E-01
Lead	2.30E+01	120	2E-01	2.30E+01	1700	1E-02
Manganese	4.20E+02	220	2E+00	4.20E+02	450	9E-01
Zinc	8.40E+01	160	5E-01	8.40E+01	120	7E-01
Polychlorinated Biphenyls						
Total PCBs	3.54E-01	40	9E-03	5.90E-02	1	6E-02
Dioxins (presented in ng/kg)						
2,3,7,8-TCDD	6.50E-01	--	No SL	5.00E-01	8800	6E-05

Notes:

	HQ greater than 1
	HQ greater than 10
	HQ greater than 100

Abbreviations:

AOC = area of concern

COPEC = constituent of potential ecological concern

EPC = exposure point concentration

HQ = hazard quotient

mg/kg = milligrams per kilogram

ng/kg = nanograms per kilogram

no SL = no screening level available

PCB = polychlorinated biphenyl

Table TT-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Chromium, hexavalent	Gambel's Quail	2.6E+00	100% Plants	1.0E-01	1.1E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Chromium, total	Gambel's Quail	7.1E+01	100% Plants	1.0E-01	2.9E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Copper	Gambel's Quail	2.2E+01	100% Plants	1.0E-01	6.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.3E+01	100% Plants	1.0E-01	1.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	8.4E+01	100% Plants	1.0E-01	5.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Gambel's Quail	1.1E+02	100% Plants	1.0E-01	6.2E-01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
TEQ Mammals	Gambel's Quail	1.8E+02	100% Plants	1.0E-01	1.0E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Cactus Wren	2.6E+00	100% Insects	9.3E-02	8.0E-01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Chromium, total	Cactus Wren	7.1E+01	100% Insects	9.3E-02	2.2E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Copper	Cactus Wren	2.2E+01	100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.3E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	8.4E+01	100% Insects	9.3E-02	3.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Cactus Wren	1.1E+02	100% Insects	9.3E-02	7.2E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
TEQ Mammals	Cactus Wren	1.8E+02	100% Insects	9.3E-02	1.3E+03	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Chromium, hexavalent	Desert Shrew	2.6E+00	100% Insects	2.0E-02	8.0E-01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Chromium, total	Desert Shrew	7.1E+01	100% Insects	2.0E-02	2.2E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Copper	Desert Shrew	2.2E+01	100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	8.4E+01	100% Insects	2.0E-02	3.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Desert Shrew	1.1E+02	100% Insects	2.0E-02	7.2E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
TEQ Mammals	Desert Shrew	1.8E+02	100% Insects	2.0E-02	1.3E+03	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Chromium, hexavalent	Merriam's Kangaroo Rat	2.6E+00	100% Plants	2.4E-02	1.1E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Chromium, total	Merriam's Kangaroo Rat	7.1E+01	100% Plants	2.4E-02	2.9E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Copper	Merriam's Kangaroo Rat	2.2E+01	100% Plants	2.4E-02	6.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+01	100% Plants	2.4E-02	1.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	8.4E+01	100% Plants	2.4E-02	5.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Dioxins (presented in ng/kg)									
TEQ Avian	Merriam's Kangaroo Rat	1.1E+02	100% Plants	2.4E-02	6.2E-01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
TEQ Mammals	Merriam's Kangaroo Rat	1.8E+02	100% Plants	2.4E-02	1.0E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-C.4
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
Selected TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Chromium, hexavalent	Gambel's Quail	4.1E-03	--	--	1.0E-02	1.4E-02	2.5E+00	2.5E+01	6E-03	6E-04
Chromium, total	Gambel's Quail	1.1E-01	--	--	2.8E-01	3.9E-01	2.7E+00	1.6E+01	1E-01	3E-02
Copper	Gambel's Quail	2.5E-01	--	--	8.8E-02	3.4E-01	4.1E+00	1.2E+01	8E-02	3E-02
Lead	Gambel's Quail	5.9E-02	--	--	9.2E-02	1.5E-01	1.6E+00	3.3E+00	9E-02	5E-02
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	1.8E+02	3.8E+02	2E-02	8E-03
Zinc	Gambel's Quail	2.2E+00	--	--	3.3E-01	2.5E+00	6.6E+01	1.7E+02	4E-02	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Gambel's Quail	2.4E-02	--	--	4.4E-01	4.6E-01	1.4E+01	1.4E+02	3E-02	3E-03
TEQ Mammals	Gambel's Quail	3.9E-02	--	--	7.2E-01	7.6E-01	--	--	--	--
Inorganics										
Chromium, hexavalent	Cactus Wren	--	1.5E-01	--	4.4E-02	1.9E-01	2.5E+00	2.5E+01	8E-02	8E-03
Chromium, total	Cactus Wren	--	4.0E+00	--	1.2E+00	5.2E+00	2.7E+00	1.6E+01	2E+00	3E-01
Copper	Cactus Wren	--	2.1E+00	--	3.8E-01	2.5E+00	4.1E+00	1.2E+01	6E-01	2E-01
Lead	Cactus Wren	--	1.9E+00	--	3.9E-01	2.2E+00	1.6E+00	3.3E+00	1E+00	7E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	1.8E+02	3.8E+02	7E-02	3E-02
Zinc	Cactus Wren	--	6.7E+01	--	1.4E+00	6.8E+01	6.6E+01	1.7E+02	1E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Cactus Wren	--	1.3E+02	--	1.9E+00	1.3E+02	1.4E+01	1.4E+02	1E+01	1E+00
TEQ Mammals	Cactus Wren	--	2.4E+02	--	3.1E+00	2.4E+02	--	--	--	--
Inorganics										
Chromium, hexavalent	Desert Shrew	--	1.6E-01	--	1.1E-02	1.7E-01	9.2E+00	3.8E+01	2E-02	4E-03
Chromium, total	Desert Shrew	--	4.4E+00	--	2.9E-01	4.7E+00	2.4E+00	9.6E+00	2E+00	5E-01
Copper	Desert Shrew	--	2.3E+00	--	8.9E-02	2.4E+00	9.4E+00	1.6E+01	3E-01	2E-01
Lead	Desert Shrew	--	2.0E+00	--	9.3E-02	2.1E+00	4.7E+00	8.9E+00	5E-01	2E-01
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	5.2E+01	1.5E+02	1E-01	5E-02
Zinc	Desert Shrew	--	7.4E+01	--	3.4E-01	7.5E+01	7.5E+01	3.0E+02	1E+00	3E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Dioxins (presented in ng/kg)										
TEQ Avian	Desert Shrew	--	1.5E+02	--	4.5E-01	1.5E+02	--	--	--	--
TEQ Mammals	Desert Shrew	--	2.6E+02	--	7.3E-01	2.6E+02	1.0E+00	1.0E+01	3E+02	3E+01
Inorganics										
Chromium, hexavalent	Merriam's Kangaroo Rat	8.8E-03	--	--	5.1E-03	1.4E-02	9.2E+00	3.8E+01	2E-03	4E-04
Chromium, total	Merriam's Kangaroo Rat	2.4E-01	--	--	1.4E-01	3.8E-01	2.4E+00	9.6E+00	2E-01	4E-02
Copper	Merriam's Kangaroo Rat	5.4E-01	--	--	4.3E-02	5.9E-01	9.0E+00	1.5E+01	6E-02	4E-02
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.5E-02	1.7E-01	4.7E+00	8.9E+00	4E-02	2E-02
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	5.2E+01	1.5E+02	7E-02	2E-02
Zinc	Merriam's Kangaroo Rat	4.6E+00	--	--	1.7E-01	4.8E+00	7.5E+01	3.0E+02	6E-02	2E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04
Dioxins (presented in ng/kg)										
TEQ Avian	Merriam's Kangaroo Rat	5.1E-02	--	--	2.2E-01	2.7E-01	--	--	--	--
TEQ Mammals	Merriam's Kangaroo Rat	8.3E-02	--	--	3.6E-01	4.4E-01	1.0E+00	1.0E+01	4E-01	4E-02

See Notes and Abbreviations following TableTT-C.5.

Table TT-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Soil EPC (mg/kg)	Diet Composition (fraction)		Tissue EPCs (mg/kg dw)	Body Weight (kg)	Intake Estimates (kg dw/kg-day)		Site Use Factor (unitless)
			Diet	Soil			Food Ingestion Rate	Soil Ingestion Rate	
Inorganics									
Copper	Gambel's Quail	2.2E+01	100% Plants	1.0E-01	6.6E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Lead	Gambel's Quail	2.3E+01	100% Plants	1.0E-01	1.5E+00	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Manganese	Gambel's Quail	4.2E+02	100% Plants	1.0E-01	3.3E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Zinc	Gambel's Quail	8.4E+01	100% Plants	1.0E-01	5.6E+01	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Gambel's Quail	5.9E-02	100% Plants	1.0E-01	3.5E-03	1.7E-01	3.8E-02	4.0E-03	1.0E+00
Inorganics									
Copper	Cactus Wren	2.2E+01	100% Insects	9.3E-02	1.1E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Lead	Cactus Wren	2.3E+01	100% Insects	9.3E-02	1.0E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Manganese	Cactus Wren	4.2E+02	100% Insects	9.3E-02	2.7E+01	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Zinc	Cactus Wren	8.4E+01	100% Insects	9.3E-02	3.7E+02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Cactus Wren	5.9E-02	100% Insects	9.3E-02	8.7E-02	3.9E-02	1.8E-01	1.7E-02	1.0E+00
Inorganics									
Copper	Desert Shrew	2.2E+01	100% Insects	2.0E-02	1.1E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Lead	Desert Shrew	2.3E+01	100% Insects	2.0E-02	1.0E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Manganese	Desert Shrew	4.2E+02	100% Insects	2.0E-02	2.7E+01	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Zinc	Desert Shrew	8.4E+01	100% Insects	2.0E-02	3.7E+02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Desert Shrew	5.9E-02	100% Insects	2.0E-02	8.7E-02	5.0E-03	2.0E-01	4.1E-03	1.0E+00
Inorganics									
Copper	Merriam's Kangaroo Rat	2.2E+01	100% Plants	2.4E-02	6.6E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Lead	Merriam's Kangaroo Rat	2.3E+01	100% Plants	2.4E-02	1.5E+00	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Manganese	Merriam's Kangaroo Rat	4.2E+02	100% Plants	2.4E-02	3.3E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Zinc	Merriam's Kangaroo Rat	8.4E+01	100% Plants	2.4E-02	5.6E+01	3.4E-02	8.2E-02	2.0E-03	1.0E+00
Polychlorinated Biphenyls									
Total PCBs	Merriam's Kangaroo Rat	3.5E-01	100% Plants	2.4E-02	3.5E-03	3.4E-02	8.2E-02	2.0E-03	1.0E+00

Table TT-C.5
Terrestrial Wildlife Risk Calculations for Baseline Scenario
Using Maximum Exposure Point Concentrations (SUF = 1,
BTAG TRVs) for Tamarisk Thicket

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPEC	Terrestrial Receptors	Dose From Dietary Components (mg/kg-day)				Total Dose (mg/kg-day)	TRV (mg/kg-day)		HQ (unitless)	
		Terrestrial Plants	Terrestrial Insects	Small Mammals	Soil		NOAEL	LOAEL	NOAEL	LOAEL
Inorganics										
Copper	Gambel's Quail	2.5E-01	--	--	8.8E-02	3.4E-01	2.3E+00	5.2E+01	1E-01	7E-03
Lead	Gambel's Quail	5.9E-02	--	--	9.2E-02	1.5E-01	1.4E-02	8.8E+00	1E+01	2E-02
Manganese	Gambel's Quail	1.3E+00	--	--	1.7E+00	2.9E+00	7.8E+01	7.8E+02	4E-02	4E-03
Zinc	Gambel's Quail	2.2E+00	--	--	3.3E-01	2.5E+00	1.7E+01	1.7E+02	1E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Gambel's Quail	1.4E-04	--	--	2.4E-04	3.7E-04	9.0E-02	1.3E+00	4E-03	3E-04
Inorganics										
Copper	Cactus Wren	--	2.1E+00	--	3.8E-01	2.5E+00	2.3E+00	5.2E+01	1E+00	5E-02
Lead	Cactus Wren	--	1.9E+00	--	3.9E-01	2.2E+00	1.4E-02	8.8E+00	2E+02	3E-01
Manganese	Cactus Wren	--	5.0E+00	--	7.2E+00	1.2E+01	7.8E+01	7.8E+02	2E-01	2E-02
Zinc	Cactus Wren	--	6.7E+01	--	1.4E+00	6.8E+01	1.7E+01	1.7E+02	4E+00	4E-01
Polychlorinated Biphenyls										
Total PCBs	Cactus Wren	--	1.6E-02	--	1.0E-03	1.7E-02	9.0E-02	1.3E+00	2E-01	1E-02
Inorganics										
Copper	Desert Shrew	--	2.3E+00	--	8.9E-02	2.4E+00	2.7E+00	6.3E+02	9E-01	4E-03
Lead	Desert Shrew	--	2.0E+00	--	9.3E-02	2.1E+00	1.0E+00	2.4E+02	2E+00	9E-03
Manganese	Desert Shrew	--	5.6E+00	--	1.7E+00	7.3E+00	1.4E+01	1.6E+02	5E-01	5E-02
Zinc	Desert Shrew	--	7.4E+01	--	3.4E-01	7.5E+01	9.6E+00	4.1E+02	8E+00	2E-01
Polychlorinated Biphenyls										
Total PCBs	Desert Shrew	--	1.8E-02	--	2.4E-04	1.8E-02	3.6E-01	1.3E+00	5E-02	1E-02
Inorganics										
Copper	Merriam's Kangaroo Rat	5.4E-01	--	--	4.3E-02	5.9E-01	2.7E+00	6.3E+02	2E-01	9E-04
Lead	Merriam's Kangaroo Rat	1.3E-01	--	--	4.5E-02	1.7E-01	1.0E+00	2.4E+02	2E-01	7E-04
Manganese	Merriam's Kangaroo Rat	2.7E+00	--	--	8.3E-01	3.6E+00	1.4E+01	1.6E+02	3E-01	2E-02
Zinc	Merriam's Kangaroo Rat	4.6E+00	--	--	1.7E-01	4.8E+00	9.6E+00	4.1E+02	5E-01	1E-02
Polychlorinated Biphenyls										
Total PCBs	Merriam's Kangaroo Rat	2.9E-04	--	--	7.0E-04	9.9E-04	3.6E-01	1.3E+00	3E-03	8E-04

See Notes and Abbreviations following TableTT-C.5.

Table TT-C Table Notes

Notes for Terrestrial Wildlife Risk Calculations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

^a Dioxin presented in ng/kg.

^b Total dose equation is presented below:

$$\text{Total Dose (mg/kg-day)} = [(EPC_{\text{soil}} \times \text{SIR}) + (C_{\text{plants}} \times \text{FIR} \times F_{\text{plants}}) + (C_{\text{insects}} \times \text{FIR} \times F_{\text{insects}}) + (C_{\text{mammals}} \times \text{FIR} \times F_{\text{mammals}})] \times \text{SUF}$$

^c HQ = Total Dose / TRV

Abbreviations:

AOC = area of concern

BTAG = Biological Technical Assistance Group

COPEC = constituent of potential ecological concern

dw = dry weight

EPC_{soil} = exposure point concentration in soil (mg/kg dw)

EPC_{plants} = exposure point concentration in plants (mg/kg dw)

EPC_{insects} = exposure point concentration in insects (mg/kg dw)

EPC_{mammals} = exposure point concentration in mammals (mg/kg dw)

F_{plants} = fraction of plants in diet

F_{insects} = fraction of insects in diet

F_{mammals} = fraction of mammals in diet

FIR = food ingestion rate (kg dw/kg bw-day)

HQ = hazard quotient (unitless)

kg = kilogram

kg dw/kg bw-day = kilograms per kilogram of body weight per day

LOAEL = lowest observed adverse effect level (mg/kg-day)

m = maximum detected concentration

mg/kg = milligrams per kilogram

mg/kg-day = milligrams per kilogram per day

ND = not detected

ng/kg = nanograms per kilogram

NOAEL = no observed adverse effect level (mg/kg-day)

PCB = polychlorinated biphenyl

SIR = soil ingestion rate (kg dw/kg bw-day)

SUF = site use factor (fraction)

TRV = toxicity reference value (mg/kg-day)

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Appendix NORR

Soil HHERA for North of Railroad Exposure Area



Pacific Gas and Electric Company

APPENDIX NORR HHERA FOR NORTH OF THE RAILROAD EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes, creating a complex, angular form that extends from the bottom edge towards the top right corner.

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SOIL HHRA FOR NORTH OF RAILROAD EXPOSURE AREA

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NORR-4.2d Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Hypothetical Future Residents: COPCs in NORR Subsurface II Soil (0 to 10 ft bgs)

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NORR-4.3d Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Hypothetical Future Residents: COPCs in NORR Subsurface II Soil (0 to 10 ft bgs)

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NORR-4.5 Summary of Risks and Hazards for Human Receptors at NORR for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

FIGURE

NORR-1.1 Soil Sampling Locations North of the Railroad Exposure Area

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SOIL HHRA FOR NORTH OF RAILROAD EXPOSURE AREA

ATTACHMENTS

- A Dataset and Exposure Point Concentration Calculations for the North of the Railroad HHRA
- B Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at North of the Railroad Using Depth-Weighted EPCs and Area-Weighted EPCs
- C Methodology for the Evaluation of Home-Produced Food at North of the Railroad

ACRONYMS AND ABBREVIATIONS

µg/dL	microgram/deciliter
AOC	Area of Concern
Arcadis	Arcadis U.S., Inc.
BCW	Bat Cave Wash
bgs	below ground surface
BNSF	Burlington Northern Santa Fe
BTV	background threshold value
CDI	chronic daily intake
COPC	constituent of potential concern
CrIII	trivalent chromium
CrVI	hexavalent chromium
CSM	conceptual site model
DOI	U.S. Department of Interior
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
FMIT	Fort Mojave Indian Tribe
FOD	frequency of detection
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
HQ	hazard quotient
ILCRs	incremental lifetime cancer risks
mg/kg	milligram per kilogram
NA	not applicable
NORR	North of the Railroad
OEHHA	Office of Environmental Health Hazard Assessment

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SOIL HHERA FOR NORTH OF RAILROAD EXPOSURE AREA

PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PG&E	Pacific Gas & Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
RCRA	Resource Conservation and Recovery Act
RFI/RI	RCRA Facility Investigation/ Remedial Investigation
TCS	Topock Compressor Station
TEQ	toxicity equivalents
TEQ human	dioxin toxicity equivalent for humans
TPH	total petroleum hydrocarbon
TPHd	total petroleum hydrocarbons as diesel
USBLM	U.S. Bureau of Land Management
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
wt	weighted

1 INTRODUCTION

This appendix presents the human health and ecological risk assessment (HHERA) for soil at the North of the Railroad (NORR) potential exposure area located outside the Topock Compressor Station (TCS) in Needles, California. The NORR human health risk assessment (HHRA) evaluates potential exposures to soil under a hypothetical future residential land use scenario, as directed by the Department of Toxic Substances Control (DTSC) and U.S. Department of Interior (DOI) (DOI/DTSC 2014), even though future unrestricted use is unlikely (DOI 2014). An ecological risk assessment (ERA) was not conducted for the NORR potential exposure area, because the U.S. Bureau of Land Management (USBLM) and Fort Mojave Indian Tribe (FMIT) property boundaries are not recognized by ecological receptors. The NORR potential exposure area is defined by the USBLM land within Bat Cave Wash (BCW) and north of the Burlington Northern Santa Fe (BNSF) railroad, excluding FMIT land. Therefore, the ERA conducted for the BCW potential exposure area also applies to the NORR potential exposure area and is not repeated here.

The NORR potential exposure area, shown on Figure NORR-1.1, is approximately 6.6 acres in total and includes sample locations shown in Table NORR-1.1 of this appendix and on Figure 3-1a of the Soil HHERA Report for the TCS (the “main report”). Available soil data from NORR were used to conduct a quantitative forward HHRA as presented herein. A summary of the HHRA results are presented in Section 5 of the main report.

The NORR potential exposure area is within BCW. Descriptions of the physical location and characteristics of the BCW potential exposure area and detailed discussions of the historical uses and sampling and analysis are provided in the main report and final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and the methodologies and results of the HHRA risk characterization for soil in the NORR potential exposure area. Tables and figures specific to the HHRA for the NORR potential exposure area are also presented in this appendix.

1.1 Summary of Site Use

The NORR potential exposure area is located outside the facility fenceline west of the TCS within BCW, as shown in Figure NORR-1.1. NORR comprises a portion of BCW north of the BNSF railroad and extends to the north toward the Colorado River. The background and summary of site use for the BCW are presented in the BCW HHRA (Appendix BCW) and are not repeated herein.

2 DATA EVALUATION AND COPC SELECTION

This section summarizes the data considered for the NORR HHRA and presents the constituents of potential concern (COPCs) for human health selected for evaluation in the NORR potential exposure area.

All soil sampling locations at the NORR potential exposure area are presented on Figure NORR-1.1 and in Table NORR-1.1. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and data quality evaluation will be presented in the forthcoming Resource Conservation and Recovery Act (RCRA) Facility Investigation/ Remedial Investigation (RFI/RI) Report Volume 3 (currently being prepared by Jacobs). The NORR HHRA evaluated all constituents detected in the soil as presented in the soil investigation data packages provided to DOI (Pacific Gas & Electric Company [PG&E] 2018). For the baseline scenario, only soil data from 0 to 10 feet below ground surface (ft bgs) were included in the HHRA. Because potential soil contact does not extend below 10 ft bgs, deeper soil data (i.e., depths greater than 10 ft bgs) were excluded from the risk evaluation, as noted in Table NORR-1.1.

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHRA. All available soil data for the NORR potential exposure area are presented in Attachment NORR-A1. Soil data for the NORR potential exposure area includes soil samples collected from BCW north of the BNSF railroad property including the Tamarisk Thicket but excluding FMIT land (Figure NORR-1.1). In addition to the soil data from BCW, samples classified as soil transitioning to sediment from two locations (Area of Concern [AOC] 1-BCW6 and SS-1) were included as part of the soil evaluation for the NORR potential exposure area.

For the NORR potential exposure area, soil data are available from 142 soil samples, of which soil data from 139 samples from 0 to 10 ft bgs and considered for use in the HHRA. Because potential soil contact does not extend below 10 ft bgs, deeper soil data (i.e., greater than 10 ft bgs) from three soil samples were excluded from the HHRA as noted in Table NORR-1.1.

Within the soil dataset used in this HHRA, some polycyclic aromatic hydrocarbon (PAH) analytical data did not meet data quality criteria; therefore, nondetect results were qualified as rejected with an “R” data qualifier, (will be discussed in the forthcoming Draft RFI/RI Report Volume 3, currently being prepared by Jacobs). This occurred for all PAHs in two samples (NORR-BCW24-245 and NORR-BCW26-253) and a subset of PAHs in two additional samples (NORR-BCW24-244 and NORR-BCW26-252). These “R” qualified PAH data were not included in the HHRA.

Data processed for the HHRA (e.g., calculation of total concentrations for benzo(a)pyrene equivalent, polychlorinated biphenyls [PCBs], and dioxin/furan toxicity equivalents [TEQs]) are described in detail in Section 3 of the main report.

The process for identifying COPCs included in the HHRA is detailed in Section 3.4 of the main report. COPCs selected for the BCW potential exposure area (Appendix BCW) were selected as COPCs for the NORR potential exposure area because the NORR potential exposure area is encompassed by, and is a component of, the BCW potential exposure area. COPCs for the BCW potential exposure area were selected in accordance with the RAWP (Arcadis 2008), as described in Section 3.4 of the main report. COPCs selected

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for the NORR HHRA are summarized in Tables NORR-2.1a through NORR-2.1d for the four soil exposure depths included in the baseline evaluation and discussed further in Section 4.2.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPCs in soil at the NORR potential exposure area were calculated as described in Section 4.2 of the main report. For this potential exposure area, one scenario was evaluated: 1) Baseline (no scouring).

For the HHRA baseline scenario, the following potential exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

The depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment NORR-A2. The summary statistics for these NORR potential exposure area soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). For the NORR potential exposure area, area-weighted EPCs were deemed necessary for the HHRA and, therefore, were calculated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment NORR-A3.

Soil summary statistics for constituents measured at the NORR potential exposure area¹ and depth- and area-weighted EPCs for COPCs calculated using depth-weighted data from the exposure depths listed above for the HHRA baseline scenario are presented in Table NORR-3.1. . If the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset. Table NORR -3.1 also presents the basis of the calculated depth- and area-weighted EPCs, including if the EPC is based on the maximum detected concentration.

¹ The list of constituents shown in the Section 3 tables is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS).

4 HUMAN HEALTH RISK ASSESSMENT

This section briefly summarizes the HHRA approach, presents the COPCs, EPCs, risk/hazard summary tables, results of the risk characterization, and uncertainties in the risk assessment for the NORR potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. HHRA methodologies specific to the evaluation of the hypothetical future resident exposed to COPCs through ingestion of homegrown produce/animal products are detailed in Attachment NORR-C of this appendix. Dose, exposure concentration, risk, and hazard calculation tables for potential human health receptors at the NORR potential exposure area are presented in Attachments NORR-B1 and NORR-B2 for depth- and area-weighted EPCs, respectively.

Note that risks/hazards presented for the hypothetical future resident living in the NORR potential exposure area are presented at the request of DOI, for informational purposes, and are not based on current or likely potential future site use. It is highly unlikely that the site will be used for residential purposes. As stated in the DOI (2015) Land Use Memo, "DOI will not utilize a future residential scenario on Federal lands within the project area when evaluating cleanup options in the Feasibility Study phase." All future residential assumptions, including the assumptions that the resident is a rural resident, meaning a potential receptor who obtains a significant portion of his/her diet from onsite produced food including vegetables, fruits, and poultry, are unrealistic and presented at the request of DOI. Therefore, as requested, although future residential land use is a highly unlikely scenario, a future hypothetical residential land-use scenario is evaluated for USBLM property.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the NORR potential exposure area. These included:

- **Hypothetical Future Resident** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and volatile organic compound (VOC) vapors in ambient outdoor air from soil.
- **Hypothetical Future Resident Consumer of Home-Produced Food** – Secondary exposure to soil by ingestion of onsite home-produced food including plants and poultry (meat and eggs).

Exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

The process for identifying COPCs included in the HHRA is detailed in Section 3.4 of the main report and Section 2 of this appendix. COPCs for the four exposure depths and one scenario (baseline) evaluated for the NORR HHRA are summarized in Tables NORR-4.1 (details are presented in Tables NORR-2.1a through NORR-2.1d).

COPCs included metals (hexavalent chromium, total chromium, cobalt, copper, lead, and zinc), inorganics (orthophosphate), PAHs, PCBs, dioxin TEQ, TPH as diesel, and TPH as motor oil in surface, shallow, subsurface I, and/or subsurface II soil.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted data used in the calculation of depth- and area-weighted EPCs are presented in Attachment NORR-A. Depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables NORR-4.2a through NORR-4.2d for the four exposure depths evaluated.

Area-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust and vapors and used to estimate risk in the HHRA are summarized in Tables NORR-4.5a through NORR-4.5d for the four exposure depths evaluated.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Hypothetical Future Resident** – Surface, shallow, subsurface I, and subsurface II soil for incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil.
- **Hypothetical Future Resident Consumer of Home-Produced Food** – Surface and shallow soil for secondary exposure to soil by ingestion of onsite home-produced food including plants and poultry (meat and eggs).

4.4 Estimation of Dose

The exposure concentration (EC) and chronic daily intake (CDI) for carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways other than for exposure to home-produced food. Dose for carcinogenic and noncarcinogenic effects for COPCs in home-produced food were calculated as described in Attachment NORR-C of this Appendix. The calculated EC, CDI, and dose from exposure COPCs in soil and home-produced food calculated using depth-weighted EPCs are presented Tables NORR-B1.1a through NORR-B1.1d (carcinogenic effects) and Tables NORR-B1.2a through NORR-B1.2g (noncarcinogenic effects) for the for hypothetical future residential receptor. The calculated EC, CDI, and dose from potential exposure to COPCs in soil and home-produced food using area-weighted EPCs are presented in Tables NORR-B2.1a through NORR-B2.1d (carcinogenic effects) and Tables NORR-B2.2a through NORR-B2.2g (noncarcinogenic effects) for hypothetical future residential receptor. Exposure parameters used in the EC and CDI calculations are presented in Table 5-1 of the main report. Exposure parameters specific to the dose from home-produced food calculations are presented in Attachment C.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to the DTSC guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For potential human receptors potentially exposed to soil present in the NORR potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer hazard quotients (HQs) were calculated for each COPC and potentially complete exposure pathway. Cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} . Note that risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (U.S. Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table NORR-4.4 summarizes cumulative ILCRs and HIs estimated for potential exposure to soil and consumption of home-produced food for the hypothetical future resident at the NORR potential exposure area in the baseline scenario, calculated using depth-weighted EPCs. For potential exposures to soil, the dose, exposure concentration, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. For potential exposure to COPCs through consumption of home-produced food, the dose, food concentration, ILCR, and HI equations are presented in detail in Attachment NORR-C of this appendix. The detailed cancer risk estimates (Tables NORR-B1.3a through NORR-B1.3c) and noncancer hazard estimates (Tables NORR-B1.4a through NORR-B1.4f) are presented in Attachment NORR-B1.

Risk/hazard estimates for the baseline scenario are summarized in the tables and discussed below. Assuming lifetime soil contact is limited to the NORR potential exposure area, the depth-weighted estimated cumulative ILCRs for the hypothetical future resident potentially contacting soil and home-produced food are

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above the *de minimis* level of 1×10^{-6} for all exposure depths. HI estimates are also above 1 at all exposure depths except for hypothetical future resident potential exposure to subsurface I and subsurface II soil.

Hypothetical Future Residents

Baseline Scenario Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		NORR Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Hypothetical Future Resident Exposure to Soil	Surface	2E-05	CrVI (1E-06) TEQ Human (1E-05)	2	TEQ Human (1)
	Shallow	1E-05	CrVI (1E-06) Total PCBs (1E-06) TEQ Human (1E-05)	2	TEQ Human (1)
	Subsurface I	9E-06	CrVI (1E-06) Total PCBs (2E-06) TEQ Human (5E-06)	1	NA
	Subsurface II	7E-06	CrVI (7E-07) Total PCBs (1E-06) TEQ Human (5E-06)	1	NA
Hypothetical Future Resident Consumption of Home-Produced Food	Surface	1E-03	CrVI (1E-03) Total PCBs (2E-06) TEQ Human (2E-06)	6	CrVI (1) Total PCBs (0.4) TPHd (5)
	Shallow	1E-03	CrVI (1E-03) Total PCBs (2E-06) TEQ Human (2E-06)	7	CrVI (1) Total PCBs (0.4) TPHd (5)

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

CrVI = hexavalent chromium

NA =not applicable

TEQ human = dioxin toxicity equivalents for humans

TPHd = total petroleum hydrocarbons as diesel

Assuming lifetime soil contact is limited to the NORR potential exposure area, the depth-weighted estimated cumulative ILCRs for the hypothetical future resident potentially exposed to COPCs in soil are above 1×10^{-6} , the point of departure for risk management decisions (Table NORR 4.4). However, these risks are below or slightly above 1×10^{-5} (i.e. 2×10^{-5} for surface soil), which is well within the risk management range of 1×10^{-6} to 1×10^{-4} . These risk estimates include contact with surface, shallow, subsurface I, and subsurface II soil via incidental ingestion, dermal contact, inhalation of particulates, and inhalation of VOC vapors in ambient outdoor air. Risk estimates above *de minimis* levels were primarily attributed to exposure to dioxin TEQ and hexavalent chromium in soil via the soil ingestion pathway, and total PCBs in soil via the dermal contact and soil ingestion pathways (Table NORR-B1.3a).

Risk estimates for hypothetical future resident exposure to dioxin TEQ in soil in the NORR potential exposure area are less than or equal to 1×10^{-5} for all exposure depths, the point of departure for risk management

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decisions specific to dioxins under normal residential scenarios that do not include consumption of home-produced food. For this evaluation, the point of departure for risk management is 1×10^{-6} for all COPCs including dioxin TEQ because residential consumption of home-produced food is also assumed to occur in this exposure area and is evaluated below.

Assuming that lifetime exposure to soil is limited to the NORR potential exposure area, the depth-weighted estimated cumulative ILCRs for the hypothetical future resident potentially exposed to COPCs in home-produced food are above 1×10^{-6} , the point of departure for risk management decisions for all exposure depths (Table NORR 4.4), and also above the upper bound of 1×10^{-4} for the risk management range with estimates at 1×10^{-3} . Risk estimates above *de minimis* levels were primarily attributed to potential exposure to Hexavalent chromium, total PCBs, and dioxin TEQ in homegrown produce (Tables NORR-B1.3b and NORR-B1.3c).

Assuming lifetime soil contact is limited to the NORR potential exposure area, the depth-weighted estimated cumulative HIs for the hypothetical future resident potentially exposed to COPCs in soil via incidental ingestion, dermal contact, and inhalation of particulates and VOC vapors in ambient outdoor air are above an HI of 1 for surface and shallow soil exposure depths and equal to an HI of 1 for subsurface I and subsurface II soil (Table NORR 4.4). Noncancer hazard estimates above 1 were primarily attributed to exposure to dioxin TEQ in soil via the soil ingestion pathway (Tables NORR-B1.4a and NORR-B1.4b), for hypothetical future resident child and adult, respectively).

Assuming that lifetime exposure to soil is limited to in the NORR potential exposure area, the depth-weighted estimated cumulative HIs for the hypothetical future resident potentially exposed to COPCs in home-produced food are above an HI of 1 for all exposure depths (Table NORR 4.8a). Noncancer hazard estimates above 1 were primarily attributed to exposure to TPH as diesel, hexavalent chromium, and PCBs via consumption of homegrown produce (Tables NORR-B1.4c and B1.4d for hypothetical future resident child and Tables NORR-B1.4e and B1.4f for hypothetical future resident adult).

Elevated concentrations of dioxin TEQ appear to be limited in area and depth. Accordingly, the depth-weighted dioxin TEQ EPCs and corresponding estimated ILCRs and HIs may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted estimated cumulative ILCRs and HIs for the hypothetical future resident exposed to soil and/or home-produced food were estimated, as discussed below in Section 4.6.2.

Substantial proportions of the estimated risks above *de minimis* levels are attributable to background concentrations of hexavalent chromium in soil. Specifically, the majority (i.e., approximately 100%) of the ILCRs for hexavalent chromium for hypothetical future residential exposure to soil (1×10^{-6}) and home-produced food (1×10^{-3}) may be attributed to background concentrations of Hexavalent chromium in soil. The hexavalent chromium background cancer risk of 1×10^{-6} for soil exposure and 1×10^{-3} for home-produced food is based on a background mean concentration of 0.42 milligram per kilogram [mg/kg] compared to the depth-weighted EPCs of 0.37 mg/kg, 0.43 mg/kg, 0.29 mg/kg, and 0.20 mg/kg for surface, shallow, subsurface I, and subsurface II soil, respectively). Further note that Hexavalent chromium was detected at concentrations greater than the background threshold value (BTV) of 0.83 mg/kg in very limited areas of the NORR potential exposure area. Hexavalent chromium exceeds the BTV in four of 134 (Table NORR 2.1d) soil samples at the NORR potential exposure area (0 to 10 ft bgs). Concentrations of hexavalent chromium were detected above the BTV in surface soil (0 to 0.5 ft bgs) at soil sample locations AOC1-BCW4 (1.4 mg/kg),

AOC1-BCW6 (2.6 mg/kg), and AOC1-BCW19 (1.4 mg/kg), and at 2 ft bgs in soil sample location AOC1-BCW9 (1.2 mg/kg).

In addition, for PCBs, the maximum depth-weighted concentration was used as the soil EPCs for all exposure depths in the NORR potential exposure area due to low frequency of detection (FOD). PCBs were detected in only two of 46 samples (0 to 10 ft bgs) at two locations (AOC1-BCW10 and AOC1-BCW-12, Table NORR 2.1d), which precluded the calculation of a depth-weighted average concentration. The use of maximum depth-weighted concentration as the EPC likely overestimates the potential cancer risks for exposure to PCBs in soil.

Finally, note that the concentrations of TPH as diesel in homegrown produce and the corresponding noncancer hazards were primarily attributed to the outdoor vapor concentrations of this COPC calculated from the maximum concentration in NORR potential exposure area soil. The maximum concentration of TPH as diesel was used to calculate EPCs for the NORR potential exposure area due to the low FOD, which precluded the calculation of an average concentration for TPH as diesel in this area.

In addition, the HHRA used a conservative approach for the calculation of outdoor vapor concentrations, which assumes an infinite source of each volatile COPC at the site. For volatile COPCs with a limited source area and depth such as TPH as diesel at the NORR potential exposure area, which was detected in a limited area down to a maximum depth of 3 ft bgs, it may be more appropriate to assume a finite source for the calculation of outdoor vapor concentrations (USEPA 1996). Outdoor vapor concentrations estimated based on maximum concentrations and the infinite source assumption for TPH as diesel likely overestimates the mass of chemical potentially available for contact and the associated noncancer hazards for exposure to TPH as diesel in home-produced food. As discussed in detail in Section 4.6.3, below, when the estimated concentration of TPH as diesel in home-produced food is adjusted to account for a limited source depth, the depth-weighted estimated HQs for hypothetical future resident potentially exposed to TPH as diesel in home-produced food from the NORR potential exposure area is reduced from 5 to 0.2 for all exposure depths.

The depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the NORR potential exposure area are not expected to result in an increase in blood lead levels above the Office of Environmental Health Hazard Assessment (OEHHA) benchmark value of 1 micrograms per deciliter ($\mu\text{g}/\text{dL}$) for the hypothetical future resident child receptor (Tables NORR-B1.5a through NORR-B1.5d).

The depth-weighted EPCs for lead in home-produced food from the NORR potential exposure area are expected to result in an increase in blood lead concentration at the 90th percentile for the hypothetical future resident child of 1.2 $\mu\text{g}/\text{dL}$ and 1.1 $\mu\text{g}/\text{dL}$ for surface and shallow soil, respectively, equivalent to the OEHHA benchmark value of 1 $\mu\text{g}/\text{dL}$ (Tables NORR-B1.5e through NORR-B1.5f).

4.6.2 Risk Characterization for Exposure to Soil (Baseline Scenario and Area-Weighted EPCs)

Table NORR-4.5 summarizes cumulative ILCRs and HIs estimated for potential exposure to soil and consumption of home-produced food for each potential human receptor at the NORR potential exposure area. Risks and hazards were calculated using area-weighted EPCs, for receptors where the depth-weighted estimated cumulative ILCRs were above 1×10^{-6} and/or the cumulative HIs were above 1. Therefore, area-weighted ILCRs and HIs were provided for hypothetical future residents potentially contacting soil and home-produced food. For potential exposures to soil, the dose, exposure concentration, ILCR, and HI equations are

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presented in detail in Section 5.5.1 of the main report. For potential exposure through consumption of home-produced food, the dose, food concentration, ILCR, and HI equations are presented in detail in Attachment C of this appendix. The detailed cancer risk estimates (Tables NORR-B2.3a through NORR-B2.3c) and noncancer hazard estimates (Tables NORR-B2.4a through NORR-B2.4f) are presented in Attachment NORR-B2.

Area-weighted risk and hazard estimates for the baseline scenario are summarized in the tables and discussed below. Assuming lifetime soil contact is limited to the NORR potential exposure area, the area-weighted estimated cumulative ILCRs for the hypothetical future resident potentially contacting soil or home-produced food are above the *de minimis* level of 1×10^{-6} at all exposure depths. HI estimates are equivalent to 1 for hypothetical future resident potential exposure to soil at all exposure depths. HI estimates are above 1 at all exposure depths for hypothetical future resident potential exposure to home-produced food.

For the NORR potential exposure area, the baseline scenario area-weighted estimated cumulative ILCRs and HIs for the hypothetical future resident potentially contacting soil or home-produced food are summarized in the tables and discussed below. In general, the area-weighted approach resulted in a reduction in the risk or hazard estimates up to 2 times lower than the depth-weighted estimates for certain exposure depths.

Hypothetical Future Residents

Baseline Scenario Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		NORR Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Hypothetical Future Resident Exposure to Soil	Surface	1E-05	CrVI (1E-06), TEQ human (9E-06)	1	NA
	Shallow	1E-05	CrVI (1E-06) PCBs (1E-06) TEQ human (7E-06)	1	NA
	Subsurface I	7E-06	CrVI (8E-07) PCBs (2E-06) TEQ human (5E-06)	1	NA
	Subsurface II	6E-06	CrVI (7E-07) PCBs (1E-06) TEQ human (4E-06)	1	NA
Hypothetical Future Resident Exposure to Home-Produced Food	Surface	1E-03	CrVI (1E-03) PCBs (2E-06) TEQ Human (1E-06)	6	CrVI (1) PCBs (0.4) TPHd (5)
	Shallow	9E-04	CrVI (9E-04) PCBs (2E-06) TEQ Human (1E-06)	6	CrVI (0.9) PCBs (0.4) TPHd (5)

Note:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

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Assuming that lifetime soil contact is limited to the NORR potential exposure area, the area-weighted estimated cumulative ILCRs for the hypothetical future resident potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil via incidental ingestion, dermal contact, and inhalation of particulates and VOC vapors in ambient outdoor air are above 1×10^{-6} , the point of departure for risk management decisions (Table NORR 4.5). However, these estimated risks are at or below 1×10^{-5} , which is well within the risk management range of 1×10^{-6} to 1×10^{-4} . Risk estimates above *de minimis* levels were primarily attributed to potential exposure to dioxin TEQ, PCBs, and Hexavalent chromium in soil via the soil ingestion pathway (Table NORR-B2.3a).

Risk estimates for hypothetical future resident exposure to dioxin TEQ in soil in the NORR potential exposure area are less than or equal to 1×10^{-5} for all exposure depths, the point of departure for risk management decisions specific to dioxins under normal residential scenarios that do not include consumption of home-produced food. For this evaluation, the point of departure for risk management is 1×10^{-6} for all COPCs including dioxin TEQ because residential consumption of home-produced food is also assumed to occur in this exposure area and is evaluated below.

Assuming lifetime exposure to soil is limited to the NORR potential exposure area, the area-weighted estimated cumulative ILCRs for all exposure depths for the hypothetical future resident potentially exposed to COPCs in home-produced food are above 1×10^{-6} , the point of departure for risk management decisions (Table NORR 4.5), and also above the upper bound of 1×10^{-4} for the risk management range. Risk estimates above *de minimis* levels were primarily attributed to exposure to hexavalent chromium, PCBs, and dioxin TEQ in homegrown produce (Tables NORR-B2.3b and NORR-B2.3c).

Assuming lifetime soil contact is limited to the NORR potential exposure area, the area-weighted estimated cumulative HIs for the hypothetical future resident potentially exposed to COPCs in soil are equal to an HI of 1 (Table NORR 4.5). This estimate includes potential contact with surface, shallow, subsurface I, and subsurface II soil via incidental ingestion, dermal contact, inhalation of particulates, and inhalation of VOC vapors in ambient outdoor air (Tables NORR-B2.4a and NORR-B1.4b, for hypothetical future resident child and adult, respectively). As stated earlier, the area-weighted estimated cumulative HIs are up to 2 times lower than the depth-weighted estimated cumulative HIs for certain exposure depths. As stated for the depth-weighted results, concentrations of dioxin TEQ which resulted in estimated cumulative HIs above 1 using depth-weighted EPCs for the baseline scenario appear to be limited in area and depth. Accordingly, the depth-weighted dioxin TEQ EPCs and corresponding estimated HIs may be biased high.

Assuming lifetime exposure to soil is limited to the NORR potential exposure area, the area-weighted estimated cumulative HIs for the hypothetical future resident potentially exposed to COPCs in home-produced food (Tables NORR-B2.4c and B2.4d for hypothetical future resident child and Tables NORR-B2.4c and B2.4d for hypothetical future resident adult) are above an HI of 1 for all exposure depths. Noncancer hazard estimates above an HI of 1 were primarily attributed to exposure to TPH as diesel and hexavalent chromium via consumption of home-grown produce.

As stated earlier, substantial proportions of the estimated risks above *de minimis* levels are attributable to background concentrations of hexavalent chromium in soil. Specifically, the majority (i.e., approximately 100%) of the ILCRs for hexavalent chromium for hypothetical future residential exposure to soil (1×10^{-6}) and home-produced food (1×10^{-3}) may be attributed to background concentrations of hexavalent chromium in soil. The background cancer risk of 1×10^{-6} for soil exposure and 1×10^{-3} for home-produced food is based on a background mean concentration of 0.42 mg/kg compared to the area-weighted EPCs of 0.37 mg/kg, 0.31

mg/kg, 0.25 mg/kg, and 0.20 mg/kg for surface, shallow, subsurface I, and subsurface II soil, respectively). Further, hexavalent chromium was detected at concentrations greater than the BTV of 0.83 mg/kg in very limited areas of the NORR potential exposure area. Hexavalent chromium exceeds the BTV in four of 134 (Table NORR 2.1d) soil samples at the NORR potential exposure area. Hexavalent chromium concentrations were detected above the BTV in surface soil (0 to 0.5 ft bgs) at soil sample locations AOC1-BCW4 (1.4 mg/kg), AOC1-BCW6 (2.6 mg/kg), and AOC1-BCW19 (1.4 mg/kg), and at 2 ft bgs in soil sample location AOC1-BCW9 (1.2 mg/kg).

In addition, for PCBs, the maximum depth-weighted concentration was used as the soil EPCs for all exposure depths in the NORR potential exposure area due to low FOD. PCBs were detected in only two of 46 samples (0 to 10 ft bgs), at two locations (AOC1-BCW10 and AOC1-BCW12) (Table NORR 2.1d), which precluded the calculation of a depth-weighted average concentration. The use of maximum depth-weighted concentrations likely overestimates the potential cancer risks for exposure to PCBs in soil.

Finally, as discussed in detail in Section 4.6.1 above, outdoor vapor concentrations estimated based on maximum concentrations and the infinite source assumption for TPH as diesel likely overestimate the potential noncancer hazards for exposure to TPH as diesel in home-produced food. For the NORR potential exposure area, when the estimated concentration of TPH as diesel in home-produced food is adjusted to account for a limited source depth, the depth-weighted estimated HQs for hypothetical future resident potentially exposed to TPH as diesel in home-produced food is reduced from 5 to 0.2 for all exposure depths (see Section 4.6.7 for details).

The area-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the NORR potential exposure area are not expected to result in an increase in blood lead levels above the OEHHHA benchmark value of 1 µg/dL for the hypothetical future resident child receptor (Tables NORR-B2.5a through NORR-B2.5d).

The area-weighted EPCs for lead in home-produced food at NORR potential exposure area are not expected to result in an increase in blood lead levels above OEHHHA's benchmark value of 1 µg/dL for the hypothetical future resident child receptor (Tables NORR-B2.5e through NORR-B2.5f). As stated earlier, concentrations of lead that resulted in exceedance of the OEHHHA's benchmark value of 1 µg/dL using depth-weighted EPCs for the baseline scenario appear to be limited in area and depth. Accordingly, the depth-weighted lead EPCs and corresponding estimated increase in blood lead levels may be biased high.

4.6.3 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment, regarding the representativeness of the sampling data, potential human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance and reflect a 90th or 95th percentile value rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher estimates for cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the NORR potential exposure area are discussed in detail below.

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For this potential exposure area, the hypothetical future resident potentially exposed to COPCs in soil through consumption of home-produced food, risk estimates above *de minimis* levels were primarily attributed to exposure to hexavalent chromium (Table NORR-B1.3b). The NORR HHRA uses soil to plant uptake factors recommended by OEHHHA (2012, 2015) to estimate the concentration of hexavalent chromium in edible plant parts for the evaluation of hypothetical future resident exposure to hexavalent chromium via consumption of homegrown produce. As discussed in OEHHHA guidance (2012) and Appendix E (Technical Memorandum, The Potential for Chromium Uptake by Arrowweed and Potential Exposure Pathways) of the RAWP Addendum 2 (Arcadis 2015), plant uptake studies support that plants can absorb hexavalent chromium from soil. However, there is significant uncertainty associated with the estimation of the magnitude of hexavalent chromium absorption by plants. Factors that may introduce uncertainty into the calculation of plant uptake factors for hexavalent chromium are discussed briefly here.

In summary, studies vary in their conclusions on what form of chromium is more likely to be taken up in plant roots, and the absolute quantity of hexavalent chromium that is reduced to trivalent chromium (CrIII) in plant tissue. Once absorbed by root tissues, it appears that most of the hexavalent chromium is reduced to trivalent chromium and retained by the roots in a tightly bound or insoluble form, or in a soluble complex that is not translocated to a large degree to the above-ground plant parts (OEHHHA 2012). However, studies indicate variability in hexavalent chromium absorption based on plant type, plant age, cultivation time, extraction methods, sample preparation, growth media, pH conditions, concentration of chromium sources, oxidation conditions, presence of other chemical species in growth medium, and the extrapolation of laboratory experiments to natural habitats. The growth medium (i.e., soil, solution, or agar) for a study has an important impact on potential plant uptake of hexavalent chromium and trivalent chromium, soil being the least facilitative for uptake. Additional uncertainty is introduced in the analytical methods used to measure hexavalent chromium in plant tissues as most studies only measure total chromium contents of plant parts due to the difficulty in estimating the actual speciation of chromium in biological tissues during analysis (OEHHHA 2012). As described in the OEHHHA guidance, it is currently unknown what proportion of chromium as hexavalent chromium will be found in edible crops following absorption and translocation from the roots. OEHHHA has, therefore, developed plant uptake factors under the conservative assumption that the chromium found in crop studies due to root uptake is in the form of hexavalent chromium only. Therefore, risks associated with exposure to hexavalent chromium via consumption of home-produced food are likely overestimated in the HHRA for the NORR potential exposure area.

Another significant source of uncertainty is the use of a conservative approach for the calculation of outdoor vapor concentrations of volatile COPCs detected in soil, which assumes an infinite source of each volatile COPC at the site. For highly volatile COPCs with a limited source area and depth such as TPH as diesel in the NORR potential exposure area (detected in a limited area down to a maximum depth of 3 ft bgs), it may be more appropriate to assume a finite source for the calculation of outdoor vapor concentrations (USEPA 1996). As stated earlier, for the NORR potential exposure area, the concentrations of TPH as diesel in homegrown produce and corresponding noncancer hazards were primarily attributed to the outdoor vapor concentrations of this COPC calculated from the maximum concentration in soil. Outdoor vapor concentrations estimated based on maximum concentrations and the infinite source assumption for TPH as diesel likely overestimate the potential noncancer hazards for exposure to TPH as diesel in home-produced food. Outdoor vapor concentrations are calculated by dividing the soil EPC by the volatilization factor as described in Section 4 of the main report. Assuming a limited source depth of 3 ft bgs for TPH as diesel, based on the deepest detection of TPH in the NORR potential exposure area soil, the outdoor vapor concentration and

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corresponding HI are approximately 20 times lower than those estimated using the infinite source assumption. When the estimated outdoor vapor concentration of TPH as diesel is adjusted to account for a limited source depth, the depth- and area-weighted estimated HQs for the hypothetical future resident potentially exposed to TPH as diesel in home-produced food from the NORR potential exposure area is reduced from 5 to 0.2.

Additional uncertainties for the NORR potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table NORR-3.1 for the baseline scenario.

For the NORR potential exposure area in the baseline scenario, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: one PAH (benzo(g,h,i)perylene), total PCBs, TPH as diesel, TPH as motor oil, and dioxin TEQ
- Shallow soil: total PCBs, TPH as diesel, TPH as motor oil, and dioxin TEQ
- Subsurface I soil: two metals (cadmium and molybdenum), total PCBs, TPH and diesel, TPH as motor oil, and dioxin TEQ
- Subsurface II soil: two metals (cadmium and molybdenum), total PCBs, TPH as diesel, TPH as motor oil, and inorganics (orthophosphate).

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs listed above may not appropriately represent exposures and resulting risks/hazards. As discussed previously in this section and in Section 4.6 above, this approach to estimating EPCs likely results in an overestimate of risks/hazards because maximum concentrations were used to estimate risks/hazards for several risk drivers (i.e., total PCBs, TPH as diesel, and dioxin TEQ) in the NORR potential exposure area.

5 ECOLOGICAL RISK ASSESSMENT

As stated in Section 1 and consistent with the RAWP documents (Arcadis 2008, 2009, 2015), an additional ERA was not conducted for the NORR potential exposure area. For potential small home-range receptors, exposure to environmental media in the NORR potential exposure area is evaluated as part of the BCW exposure area (Appendix BCW) and Tamarisk Thicket potential exposure area (Appendix TT). Exposure of potential large home-range receptors is evaluated as part of the BCW and AOC 4 potential exposure area (Appendix BCW+AOC4) and the Outside the Compressor Station potential exposure area (Appendix OCS).

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Potential cumulative cancer risks and noncancer hazards for human receptors were estimated, as presented above in Section 4. For ecological receptors, potential risks were not estimated for the NORR potential exposure area, per the RAWP (Arcadis 2008). Uncertainties related to the HHRA at the site are discussed in detail in Section 5.6 of the main report, and uncertainties specific to the NORR potential exposure area are discussed in this appendix. For the NORR potential exposure area, an HHRA was conducted per the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline) was evaluated. Risks were estimated for hypothetical future residential exposure to COPCs in soil via incidental ingestion, dermal contact, inhalation of particulates, inhalation of VOC vapors in ambient outdoor air, and consumption of home-produced food using depth-weighted EPCs and area-weighted EPCs.

At the NORR potential exposure area, the COPCs identified for the HHRA include metals (hexavalent chromium, total chromium, cobalt, copper, lead, and zinc), and inorganics (orthophosphate), PAHs, PCBs, dioxin TEQ, TPH as diesel, and TPH as motor oil. A summary of these results and conclusions regarding potential risk associated with exposure to these COPCs in the NORR potential exposure area soil based on the risk/hazard estimates and uncertainties inherent in the risk assessment process are presented below.

For the NORR potential exposure area, the cumulative ILCRs and HIs associated with potential exposure to COPCs in soil using depth- and area-weighted EPCs under the baseline scenario for the hypothetical future resident were estimated. Assuming lifetime soil contact is limited to the NORR potential exposure area for the hypothetical future resident, the estimated potential ILCR and HI results are summarized in the table and discussed below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		NORR Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Hypothetical Future Resident Exposure to Soil	Surface	2×10^{-5} (CrVI and dioxin TEQ)	1×10^{-5} (CrVI and dioxin TEQ)	2 (Dioxin TEQ)	≤ 1
	Shallow	1×10^{-5} (CrVI, total PCBs, and dioxin TEQ)	1×10^{-5} (CrVI, total PCBs, and dioxin TEQ)	2 (Dioxin TEQ)	≤ 1
	Subsurface I	9×10^{-6} (CrVI, total PCBs, and dioxin TEQ)	7×10^{-6} (CrVI, total PCBs, and dioxin TEQ)	≤ 1	≤ 1
	Subsurface II	7×10^{-6} (CrVI, total PCBs, and dioxin TEQ)	6×10^{-6} (CrVI, total PCBs, and dioxin TEQ)	≤ 1	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		NORR Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Hypothetical Future Resident Consumption of Home-Produced Food	Surface	1×10^{-3} (CrVI total PCBs, and dioxin TEQ)	1×10^{-3} (CrVI, total PCBs, and dioxin TEQ)	6 (CrVI, total PCBs, and TPHd)	6 (CrVI, total PCBs, and TPHd)
	Shallow	1×10^{-3} (CrVI, total PCBs, and dioxin TEQ)	9×10^{-4} (CrVI, total PCBs, and dioxin TEQ)	7 (CrVI, total PCBs, and TPHd)	6 (CrVI, total PCBs, and TPHd)

Note:

wt = weighted

Depth-Weighted

Potential exposures that are below or at *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – Hypothetical Future Resident Exposure to Soil (subsurface I and subsurface II)
- **ILCR $\leq 1 \times 10^{-6}$** – None.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following

- **HI > 1 and ≤ 3** – Hypothetical Future Resident Exposure to Soil (surface and shallow)
- **HI > 3** – Hypothetical Future Resident Exposure to Home-Produced Food (surface and shallow)
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – None
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Hypothetical Future Resident Exposure to Soil (shallow, subsurface I, and subsurface II)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – Hypothetical Future Resident Exposure to Soil (surface).

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – Hypothetical Future Resident Exposure to Home-Produced Food (surface and shallow).

For the NORR potential exposure area, the depth-weighted estimated risks above *de minimis* levels for the hypothetical future resident potentially exposed to COPCs in soil and home-produced food were due to hexavalent chromium, total PCBs, and/or dioxin TEQ. Therefore, potential risks and hazards for hypothetical future resident potentially exposed to soil and home-produced food were estimated using area-weighted EPCs and are as follows:

Area-Weighted

Potential exposures that are below or at *de minimis* levels include the following:

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- **HI ≤ 1 for all soil depths** – Hypothetical Future Resident Exposure to Soil (surface, shallow, subsurface I, and subsurface II)
- **ILCR $\leq 1 \times 10^{-6}$** - None.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – Hypothetical Future Resident Exposure to Home-Produced Food (surface and shallow)
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – None
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Hypothetical Future Resident Exposure to Soil (surface, shallow, subsurface I, and subsurface II)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – Hypothetical Future Resident Exposure to Home-Produced Food (surface and shallow).

OVERALL SUMMARY

For the NORR potential exposure area, risk drivers for both depth- and area-weighted evaluations are hexavalent chromium, total PCBs, and/or dioxin TEQ. All potential receptors and exposure depths had estimated risks/hazards above *de minimis* levels with one exception. Using both depth- and area-weighted EPCs, the estimated cumulative HIs were at or below 1 for the hypothetical future resident potentially contacting COPCs in subsurface I and subsurface II soil.

The estimated cumulative ILCRs and HIs associated with potential exposure to COPCs in soil at the NORR potential exposure area, using area-weighted EPCs for the hypothetical future resident, are above the point of departure for risk management decisions of 1×10^{-6} and an HI of 1, respectively. However, the estimated cumulative ILCRs for this receptor at or below 1×10^{-5} and within the risk management range of 1×10^{-6} to 1×10^{-4} .

Using depth- and area-weighted EPCs and food consumption and uptake modeling (as described in Attachment C of this appendix), for the hypothetical future resident consuming home-produced food, the risk estimates are 1×10^{-3} and HIs are 6 to 7. These values are above the risk management ranges of 1×10^{-6} to 1×10^{-4} and HI of 1, respectively. Note that cancer risk estimates above the risk management range were primarily attributed to exposure to hexavalent chromium in home-produced food and that the area of hexavalent chromium detected above background is limited with only four of 134 samples detected above the BTV.

Noncancer hazard estimates above 1 were primarily attributed to exposure to TPH as diesel, hexavalent chromium, and PCBs in home-produced food. Significant uncertainties associated with the estimation of hypothetical future resident exposure to TPH as diesel, hexavalent chromium, and PCBs in home-produced food may result in an overestimate of potential cancer risks and noncancer hazards calculated for these exposures. These uncertainties are described in detail in Section 4.6.3 of this appendix and include the assumption of an infinite source of TPH as diesel, and the use of maximum depth-weighted concentrations to

APPENDIX NORR

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estimate exposure to PCBs and TPH as diesel. In addition, several conservative assumptions associated with food uptake modeling were used for hexavalent chromium and TPH as diesel. When the estimated outdoor vapor concentration of TPH as diesel is adjusted to account for a limited source depth, the depth- and area-weighted estimated HQs for the hypothetical future resident potentially exposed to TPH as diesel in home-produced food from the NORR potential exposure area is reduced from 5 to 0.2.

The depth- and area-weighted EPCs for lead in all soil at the NORR potential exposure area are not expected to result in an increase in blood lead levels above OEHHA benchmark value of 1 µg/dL for a hypothetical future resident child receptor.

For the NORR potential exposure area, the depth- and area-weighted risk estimates are not substantially different, with area-weighted ILCRs being approximately 1.2 to 2 times lower than depth-weighted estimates for the same receptor and exposure depth. As shown in the table above, this difference reduced the risk category for the hypothetical future resident potentially contacting soil from 2×10^{-5} to 1×10^{-5} and the HIs from 2 down to 1. However, the overall outcome for the risk estimates for the NORR potential exposure area does not substantially change.

The risks/hazards presented for the hypothetical future resident living in the NORR potential exposure area are presented at the request of DOI for informational purposes. It is highly unlikely that the site will be used for residential purposes in the future. As stated in the DOI (2015) Land Use Memo, "DOI will not utilize a future residential scenario on Federal lands within the project area when evaluating cleanup options in the Feasibility Study phase."

7 REFERENCES

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TABLES



Table NORR-1.1
Samples and Sampling Locations Included in the NORR Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-5-365	01/09/17	AOC1-5	0	0.5	0.5	0-0.5	--
AOC1-5-366	01/09/17	AOC1-5	2	3	3	0-03	--
AOC1-5-367	01/09/17	AOC1-5	5	6	6	0-06	--
AOC1-5-368	01/09/17	AOC1-5	9	10	10	0-10	--
AOC1-5-369	01/09/17	AOC1-5	14	15	15	NE	Excluded from HHRA (> 10 ft bgs)
AOC1-6-370	01/09/17	AOC1-6	0	0.5	0.5	0-0.5	--
AOC1-6-371	01/09/17	AOC1-6	2	3	3	0-03	--
AOC1-6-372	01/09/17	AOC1-6	5	6	6	0-06	--
AOC1-6-373	01/09/17	AOC1-6	9	10	10	0-10	--
AOC1-6-374	01/09/17	AOC1-6	14	15	15	NE	Excluded from HHRA (> 10 ft bgs)
AOC1-7-375	01/09/17	AOC1-7	0	0.5	0.5	0-0.5	--
AOC1-7-376	01/09/17	AOC1-7	2	3	3	0-03	--
AOC1-7-377	01/09/17	AOC1-7	2	3	3	0-03	--
AOC1-7-378	01/09/17	AOC1-7	5	6	6	0-06	--
AOC1-7-379	01/09/17	AOC1-7	9	10	10	0-10	--
AOC1-7-380	01/09/17	AOC1-7	14	15	15	NE	Excluded from HHRA (> 10 ft bgs)
AOC1-BCW10-187	02/04/16	AOC1-BCW10	0	0.5	0.5	0-0.5	--
AOC1-BCW10-188	02/04/16	AOC1-BCW10	2	3	3	0-03	--
AOC1-BCW10-189	02/04/16	AOC1-BCW10	5	6	6	0-06	--
AOC1-BCW10-190	02/04/16	AOC1-BCW10	9	10	10	0-10	--
AOC1-BCW10-191	02/04/16	AOC1-BCW10	9	10	10	0-10	--
AOC1-BCW11-192	02/04/16	AOC1-BCW11	0	0.5	0.5	0-0.5	--
AOC1-BCW11-193	02/04/16	AOC1-BCW11	2	3	3	0-03	--
AOC1-BCW11-194	02/04/16	AOC1-BCW11	5	6	6	0-06	--
AOC1-BCW11-195	02/04/16	AOC1-BCW11	9	10	10	0-10	--
AOC1-BCW12-196	02/04/16	AOC1-BCW12	0	0.5	0.5	0-0.5	--
AOC1-BCW12-197	02/04/16	AOC1-BCW12	2	3	3	0-03	--
AOC1-BCW12-198	02/04/16	AOC1-BCW12	5	6	6	0-06	--
AOC1-BCW12-199	02/04/16	AOC1-BCW12	9	10	10	0-10	--
AOC1-BCW13-200	02/04/16	AOC1-BCW13	0	0.5	0.5	0-0.5	--
AOC1-BCW13-201	02/04/16	AOC1-BCW13	2	3	3	0-03	--
AOC1-BCW13-202	02/04/16	AOC1-BCW13	5	6	6	0-06	--
AOC1-BCW13-203	02/04/16	AOC1-BCW13	9	10	10	0-10	--
AOC1-BCW14-204	02/04/16	AOC1-BCW14	0	0.5	0.5	0-0.5	--
AOC1-BCW14-205	02/04/16	AOC1-BCW14	2	3	3	0-03	--
AOC1-BCW14-206	02/04/16	AOC1-BCW14	5	6	6	0-06	--
AOC1-BCW14-207	02/04/16	AOC1-BCW14	9	10	10	0-10	--
AOC1-BCW15-208	02/04/16	AOC1-BCW15	0	0.5	0.5	0-0.5	--
AOC1-BCW15-209	02/04/16	AOC1-BCW15	2	3	3	0-03	--
AOC1-BCW15-210	02/04/16	AOC1-BCW15	5	6	6	0-06	--

Table NORR-1.1
Samples and Sampling Locations Included in the NORR Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW15-211	02/04/16	AOC1-BCW15	9	10	10	0-10	--
AOC1-BCW16-212	02/04/16	AOC1-BCW16	0	0.5	0.5	0-0.5	--
AOC1-BCW16-213	02/04/16	AOC1-BCW16	2	3	3	0-03	--
AOC1-BCW16-214	02/04/16	AOC1-BCW16	5	6	6	0-06	--
AOC1-BCW16-215	02/04/16	AOC1-BCW16	9	10	10	0-10	--
AOC1-BCW17-216	02/04/16	AOC1-BCW17	0	0.5	0.5	0-0.5	--
AOC1-BCW17-217	02/04/16	AOC1-BCW17	2	3	3	0-03	--
AOC1-BCW17-218	02/04/16	AOC1-BCW17	5	6	6	0-06	--
AOC1-BCW17-219	02/04/16	AOC1-BCW17	9	10	10	0-10	--
AOC1-BCW18-220	02/05/16	AOC1-BCW18	0	0.5	0.5	0-0.5	--
AOC1-BCW18-221	02/05/16	AOC1-BCW18	2	3	3	0-03	--
AOC1-BCW18-222	02/05/16	AOC1-BCW18	5	6	6	0-06	--
AOC1-BCW18-223	02/05/16	AOC1-BCW18	9	10	10	0-10	--
AOC1-BCW19-224	02/05/16	AOC1-BCW19	0	0.5	0.5	0-0.5	--
AOC1-BCW19-225	02/05/16	AOC1-BCW19	2	3	3	0-03	--
AOC1-BCW19-226	02/05/16	AOC1-BCW19	5	6	6	0-06	--
AOC1-BCW19-227	02/05/16	AOC1-BCW19	9	10	10	0-10	--
AOC1-BCW20-228	02/05/16	AOC1-BCW20	0	0.5	0.5	0-0.5	--
AOC1-BCW20-229	02/05/16	AOC1-BCW20	2	3	3	0-03	--
AOC1-BCW20-230	02/05/16	AOC1-BCW20	5	6	6	0-06	--
AOC1-BCW20-231	02/05/16	AOC1-BCW20	9	10	10	0-10	--
AOC1-BCW2-104	10/04/08	AOC1-BCW2	0	0.5	0.5	0-0.5	--
AOC1-BCW2-105	10/04/08	AOC1-BCW2	2	3	3	0-03	--
AOC1-BCW2-106	10/04/08	AOC1-BCW2	5	6	6	0-06	--
AOC1-BCW2-107	10/04/08	AOC1-BCW2	9	10	10	0-10	--
AOC1-BCW21-232	02/05/16	AOC1-BCW21	0	0.5	0.5	0-0.5	--
AOC1-BCW21-233	02/05/16	AOC1-BCW21	2	3	3	0-03	--
AOC1-BCW21-234	02/05/16	AOC1-BCW21	5	6	6	0-06	--
AOC1-BCW21-235	02/05/16	AOC1-BCW21	9	10	10	0-10	--
AOC1-BCW22-236	02/05/16	AOC1-BCW22	0	0.5	0.5	0-0.5	--
AOC1-BCW22-237	02/05/16	AOC1-BCW22	2	3	3	0-03	--
AOC1-BCW22-238	02/05/16	AOC1-BCW22	5	6	6	0-06	--
AOC1-BCW22-239	02/05/16	AOC1-BCW22	9	10	10	0-10	--
AOC1-BCW23-240	02/05/16	AOC1-BCW23	0	0.5	0.5	0-0.5	--
AOC1-BCW23-241	02/05/16	AOC1-BCW23	2	3	3	0-03	--
AOC1-BCW23-242	02/05/16	AOC1-BCW23	5	6	6	0-06	--
AOC1-BCW23-243	02/05/16	AOC1-BCW23	9	10	10	0-10	--
AOC1-BCW24-244	02/05/16	AOC1-BCW24	0	0.5	0.5	0-0.5	--
AOC1-BCW24-245	02/05/16	AOC1-BCW24	2	3	3	0-03	--
AOC1-BCW24-246	02/05/16	AOC1-BCW24	5	6	6	0-06	--

Table NORR-1.1
Samples and Sampling Locations Included in the NORR Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW24-247	02/05/16	AOC1-BCW24	9	10	10	0-10	--
AOC1-BCW25-248	02/05/16	AOC1-BCW25	0	0.5	0.5	0-0.5	--
AOC1-BCW25-249	02/05/16	AOC1-BCW25	2	3	3	0-03	--
AOC1-BCW25-250	02/05/16	AOC1-BCW25	5	6	6	0-06	--
AOC1-BCW25-251	02/05/16	AOC1-BCW25	9	10	10	0-10	--
AOC1-BCW26-252	02/04/16	AOC1-BCW26	0	0.5	0.5	0-0.5	--
AOC1-BCW26-253	02/04/16	AOC1-BCW26	2	3	3	0-03	--
AOC1-BCW26-254	02/04/16	AOC1-BCW26	5	6	6	0-06	--
AOC1-BCW26-255	02/04/16	AOC1-BCW26	9	10	10	0-10	--
AOC1-BCW27-256	02/05/16	AOC1-BCW27	0	0.5	0.5	0-0.5	--
AOC1-BCW27-257	02/05/16	AOC1-BCW27	2	3	3	0-03	--
AOC1-BCW27-258	02/05/16	AOC1-BCW27	5	6	6	0-06	--
AOC1-BCW27-259	02/05/16	AOC1-BCW27	9	10	10	0-10	--
AOC1-BCW28-260	02/05/16	AOC1-BCW28	0	0.5	0.5	0-0.5	--
AOC1-BCW28-261	02/05/16	AOC1-BCW28	2	3	3	0-03	--
AOC1-BCW28-262	02/05/16	AOC1-BCW28	5	6	6	0-06	--
AOC1-BCW28-263	02/05/16	AOC1-BCW28	9	10	10	0-10	--
AOC1-BCW29-264	02/04/16	AOC1-BCW29	0	0.5	0.5	0-0.5	--
AOC1-BCW29-265	02/04/16	AOC1-BCW29	2	3	3	0-03	--
AOC1-BCW29-266	02/04/16	AOC1-BCW29	5	6	6	0-06	--
AOC1-BCW29-267	02/04/16	AOC1-BCW29	9	10	10	0-10	--
AOC1-BCW30-268	02/04/16	AOC1-BCW30	0	0.5	0.5	0-0.5	--
AOC1-BCW30-269	02/04/16	AOC1-BCW30	2	3	3	0-03	--
AOC1-BCW30-270	02/04/16	AOC1-BCW30	5	6	6	0-06	--
AOC1-BCW30-271	02/04/16	AOC1-BCW30	9	10	10	0-10	--
AOC1-BCW3-108	10/04/08	AOC1-BCW3	0	0.5	0.5	0-0.5	--
AOC1-BCW3-109	10/04/08	AOC1-BCW3	2	3	3	0-03	--
AOC1-BCW3-110	10/04/08	AOC1-BCW3	5	6	6	0-06	--
AOC1-BCW3-111	10/04/08	AOC1-BCW3	9	10	10	0-10	--
AOC1-BCW3-112	10/04/08	AOC1-BCW3	9	10	10	0-10	--
AOC1-BCW4-113	10/04/08	AOC1-BCW4	0	0.5	0.5	0-0.5	--
AOC1-BCW4-114	10/04/08	AOC1-BCW4	2	3	3	0-03	--
AOC1-BCW4-115	10/04/08	AOC1-BCW4	5	6	6	0-06	--
AOC1-BCW4-116	10/04/08	AOC1-BCW4	9	10	10	0-10	--
AOC1-BCW5-117	10/04/08	AOC1-BCW5	0	0.5	0.5	0-0.5	--
AOC1-BCW5-118	10/04/08	AOC1-BCW5	2	3	3	0-03	--
AOC1-BCW5-119	10/04/08	AOC1-BCW5	5	6	6	0-06	--
AOC1-BCW5-120	10/04/08	AOC1-BCW5	9	10	10	0-10	--
AOC1-BCW5-121	10/04/08	AOC1-BCW5	9	10	10	0-10	--
AOC1-BCW6-122	08/22/08	AOC1-BCW6	0	0.5	0.5	0-0.5	--

Table NORR-1.1
Samples and Sampling Locations Included in the NORR Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC1-BCW6-123	08/22/08	AOC1-BCW6	2	3	3	0-03	--
AOC1-BCW8-280	02/04/16	AOC1-BCW8	0	0.5	0.5	0-0.5	--
AOC1-BCW8-281	02/04/16	AOC1-BCW8	2	3	3	0-03	--
AOC1-BCW8-282	02/04/16	AOC1-BCW8	5	6	6	0-06	--
AOC1-BCW8-283	02/04/16	AOC1-BCW8	9	10	10	0-10	--
AOC1-BCW8-284	02/04/16	AOC1-BCW8	9	10	10	0-10	--
AOC1-BCW9-285	02/04/16	AOC1-BCW9	0	0.5	0.5	0-0.5	--
AOC1-BCW9-286	02/04/16	AOC1-BCW9	2	3	3	0-03	--
AOC1-BCW9-287	02/04/16	AOC1-BCW9	5	6	6	0-06	--
AOC1-BCW9-288	02/04/16	AOC1-BCW9	9	10	10	0-10	--
SS-1-0.5	06/29/97	SS-1	0.5	0.5	0.5	0-0.5	--
SS-1-1.5	06/29/97	SS-1	1.5	1.5	1.5	0-03	--
SS-2-0.5	06/29/97	SS-2	0.5	0.5	0.5	0-0.5	--
SS-2-1.5	06/29/97	SS-2	1.5	1.5	1.5	0-03	--
SSB-8-1	07/10/97	SSB-8	1	1	0.5	0-0.5	--
SSB-8-10	07/10/97	SSB-8	10	10	10	0-10	--
SSB-8-3	07/10/97	SSB-8	3	3	3	0-03	--
SSB-8-6	07/10/97	SSB-8	6	6	6	0-06	--
SSB-9-1	07/10/97	SSB-9	1	1	0.5	0-0.5	--
SSB-9-10	07/10/97	SSB-9	10	10	10	0-10	--
SSB-9-3	07/10/97	SSB-9	3	3	3	0-03	--
SSB-9-6	07/10/97	SSB-9	6	6	6	0-06	--

Abbreviations:

AOC = area of concern
ft bgs = feet below ground surface
HHRA = human health risk assessment
NE = not evaluated in the HHRA

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	3 / 3	6,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 31	ND	mg/kg	No	Not Detected
Arsenic	30 / 31	1.3 - 13	mg/kg	No	Within Background
Barium	31 / 31	56 - 320	mg/kg	No	Within Background
Beryllium	0 / 31	ND	mg/kg	No	Not Detected
Cadmium	0 / 31	ND	mg/kg	No	Not Detected
Calcium ^b	3 / 3	9,100 - 35,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	7 / 35	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	35 / 35	12 - 71	mg/kg	Yes	Above Background
Cobalt	31 / 31	4.6 - 9.6	mg/kg	Yes	Above Background
Copper	35 / 35	7.0 - 22	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	3 / 3	18,000 - 29,000	mg/kg	No	Within Background
Lead	31 / 31	1.5 - 23	mg/kg	Yes	Above Background
Magnesium ^b	3 / 3	4,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	3 / 3	180 - 420	mg/kg	No	Within Background
Mercury (inorganic)	0 / 31	ND	mg/kg	No	Not Detected
Molybdenum	0 / 31	ND	mg/kg	No	Not Detected
Nickel	35 / 35	6.8 - 18	mg/kg	No	Within Background
Potassium ^b	3 / 3	1,300 - 4,000	mg/kg	No	Within Background
Selenium	0 / 31	ND	mg/kg	No	Not Detected
Silver	0 / 31	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 3	150 - 660	mg/kg	No	Within Background
Thallium	0 / 31	ND	mg/kg	No	Not Detected
Vanadium	31 / 31	21 - 42	mg/kg	No	Within Background
Zinc	35 / 35	26 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 1	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 1	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 1	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 3	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 1	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 1	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 1	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 1	ND	ug/kg	No	Not Detected
Acetone	0 / 1	ND	ug/kg	No	Not Detected
Acrolein	0 / 1	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 1	ND	ug/kg	No	Not Detected
Benzene	0 / 1	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
bis (2-chloroethyl) ether	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 6	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 1	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 1	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 1	ND	ug/kg	No	Not Detected
Bromoform	0 / 1	ND	ug/kg	No	Not Detected
Bromomethane	0 / 1	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 1	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 1	ND	ug/kg	No	Not Detected
Chloro methane	0 / 1	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 1	ND	ug/kg	No	Not Detected
Chloroethane	0 / 1	ND	ug/kg	No	Not Detected
Chloroform	0 / 1	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 1	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 1	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 1	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 1	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 3	ND	ug/kg	No	Not Detected
Isophorone	0 / 6	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 1	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 1	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 1	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 1	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 1	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 1	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 6	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 1	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 1	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Styrene	0 / 1	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 1	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 1	ND	ug/kg	No	Not Detected
Toluene	0 / 1	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 1	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 1	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 1	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 1	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 1	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 1	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 3	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 6	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 6	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 6	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 6	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 6	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 6	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 6	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 6	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 6	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 6	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
3,3-Dichlorobenzidene	0 / 6	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 6	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 6	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 6	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 6	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 6	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 6	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 6	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 6	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 6	ND	ug/kg	No	Not Detected
Acetophenone	0 / 3	ND	ug/kg	No	Not Detected
Atrazine	0 / 3	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 3	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 6	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 6	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 6	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 6	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 6	ND	ug/kg	No	Not Detected
Caprolactam	0 / 3	ND	ug/kg	No	Not Detected
Carbazole	0 / 3	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 6	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 6	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 6	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 6	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 6	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 6	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 6	ND	ug/kg	No	Not Detected
Phenol	0 / 6	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 7	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 8	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 8	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 8	ND	ug/kg	No	Not Detected
Anthracene	0 / 8	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	4 / 10	7.2 - 22	ug/kg	No	Within Background
Benzo (a) pyrene ^c	4 / 10	8.0 - 20	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	5 / 10	11 - 31	ug/kg	No	Within Background
Benzo (ghi) perylene	2 / 8	16 - 17	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	4 / 10	7.6 - 27	ug/kg	No	Within Background
Chrysene ^c	7 / 10	7.1 - 29	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	2 / 8	5.9 - 6.1	ug/kg	No	Within Background
Fluoranthene	6 / 10	10 - 34	ug/kg	Yes	Detected
Fluorene	0 / 8	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	2 / 8	14	ug/kg	No	Within Background
Naphthalene	0 / 8	ND	ug/kg	No	Not Detected
Phenanthrene	5 / 10	7.8 - 14	ug/kg	Yes	Detected
Pyrene	6 / 10	10 - 30	ug/kg	Yes	Detected
B(a)P Equivalent ^d	7 / 10	6.1 - 72	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 14	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 14	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 14	ND	ug/kg	No	Not Detected
Aldrin	0 / 14	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 14	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 14	ND	ug/kg	No	Not Detected
beta-BHC	0 / 14	ND	ug/kg	No	Not Detected
delta-BHC	0 / 14	ND	ug/kg	No	Not Detected
Dieldrin	0 / 14	ND	ug/kg	No	Not Detected

Table NORR-2.1a

Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Endo sulfan I	0 / 14	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 14	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 14	ND	ug/kg	No	Not Detected
Endrin	0 / 14	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 14	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 3	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 14	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 14	ND	ug/kg	No	Not Detected
Heptachlor	0 / 14	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 14	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 14	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 6	ND	ug/kg	No	Not Detected
Toxaphene	0 / 14	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	1 / 16	59	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	2 / 5	16 - 29	mg/kg	Yes	Detected
TPH as motor oil	5 / 5	18 - 31	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^f	24 / 24	0.42 - 180	ng/kg	Yes	Above Background

Table NORR-2.1a**Chemicals Included in the Risk Assessment: NoRR Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	3 / 3	6,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 62	ND	mg/kg	No	Not Detected
Arsenic	60 / 62	1.1 - 13	mg/kg	No	Within Background
Barium	62 / 62	56 - 320	mg/kg	No	Within Background
Beryllium	0 / 62	ND	mg/kg	No	Not Detected
Cadmium	0 / 62	ND	mg/kg	No	Not Detected
Calcium ^b	3 / 3	9,100 - 35,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	18 / 70	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	70 / 70	10 - 71	mg/kg	Yes	Above Background
Cobalt	62 / 62	4.6 - 11	mg/kg	Yes	Above Background
Copper	70 / 70	6.1 - 22	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	3 / 3	18,000 - 29,000	mg/kg	No	Within Background
Lead	61 / 62	1.2 - 23	mg/kg	Yes	Above Background
Magnesium ^b	3 / 3	4,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	3 / 3	180 - 420	mg/kg	No	Within Background
Mercury (inorganic)	0 / 62	ND	mg/kg	No	Not Detected
Molybdenum	0 / 62	ND	mg/kg	No	Not Detected
Nickel	70 / 70	6.8 - 18	mg/kg	No	Within Background
Potassium ^b	3 / 3	1,300 - 4,000	mg/kg	No	Within Background
Selenium	0 / 62	ND	mg/kg	No	Not Detected
Silver	0 / 62	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 3	150 - 660	mg/kg	No	Within Background
Thallium	0 / 62	ND	mg/kg	No	Not Detected
Vanadium	62 / 62	21 - 42	mg/kg	No	Within Background
Zinc	70 / 70	26 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 11	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 11	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 6	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 6	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 11	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 11	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 3	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 6	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 11	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 11	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 3	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 6	ND	ug/kg	No	Not Detected
Acetone	0 / 6	ND	ug/kg	No	Not Detected
Acrolein	0 / 6	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 6	ND	ug/kg	No	Not Detected
Benzene	0 / 6	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
bis (2-chloroethyl) ether	0 / 11	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 11	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 6	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 6	ND	ug/kg	No	Not Detected
Bromoform	0 / 6	ND	ug/kg	No	Not Detected
Bromomethane	0 / 6	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 6	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 6	ND	ug/kg	No	Not Detected
Chloro methane	0 / 6	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 6	ND	ug/kg	No	Not Detected
Chloroethane	0 / 6	ND	ug/kg	No	Not Detected
Chloroform	0 / 6	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 6	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 6	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 6	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 6	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 11	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 3	ND	ug/kg	No	Not Detected
Isophorone	0 / 11	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 3	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 6	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 6	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 6	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 11	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 6	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 6	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Styrene	0 / 6	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 6	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 6	ND	ug/kg	No	Not Detected
Toluene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 6	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 6	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 6	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 6	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 6	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 6	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 3	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 11	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 11	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 11	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 11	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 11	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 11	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 11	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 11	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 11	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 11	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 11	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
3,3-Dichlorobenzidene	0 / 11	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 11	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 11	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 11	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 11	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 11	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 11	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 11	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 11	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 11	ND	ug/kg	No	Not Detected
Acetophenone	0 / 3	ND	ug/kg	No	Not Detected
Atrazine	0 / 3	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 3	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 11	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 11	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 11	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 11	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 11	ND	ug/kg	No	Not Detected
Caprolactam	0 / 3	ND	ug/kg	No	Not Detected
Carbazole	0 / 3	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 11	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 11	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 11	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 11	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 11	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 11	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 11	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 11	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 11	ND	ug/kg	No	Not Detected
Phenol	0 / 11	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 14	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 15	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 15	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 15	ND	ug/kg	No	Not Detected
Anthracene	0 / 15	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	6 / 17	5.7 - 22	ug/kg	No	Within Background
Benzo (a) pyrene ^c	6 / 17	7.9 - 20	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	7 / 17	9.7 - 31	ug/kg	No	Within Background
Benzo (ghi) perylene	4 / 15	5.5 - 17	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	5 / 17	7.6 - 27	ug/kg	No	Within Background
Chrysene ^c	10 / 17	7.1 - 29	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	2 / 15	5.9 - 6.1	ug/kg	No	Within Background
Fluoranthene	9 / 17	9.3 - 34	ug/kg	Yes	Detected
Fluorene	0 / 15	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	4 / 15	5.1 - 14	ug/kg	No	Within Background
Naphthalene	0 / 15	ND	ug/kg	No	Not Detected
Phenanthrene	7 / 17	6.2 - 14	ug/kg	Yes	Detected
Pyrene	9 / 17	9.3 - 30	ug/kg	Yes	Detected
B(a)P Equivalent ^d	10 / 17	6.1 - 72	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 25	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 25	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 25	ND	ug/kg	No	Not Detected
Aldrin	0 / 25	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 25	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 25	ND	ug/kg	No	Not Detected
beta-BHC	0 / 25	ND	ug/kg	No	Not Detected
delta-BHC	0 / 25	ND	ug/kg	No	Not Detected
Dieldrin	0 / 25	ND	ug/kg	No	Not Detected

Table NORR-2.1b

Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Endo sulfan I	0 / 25	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 25	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 25	ND	ug/kg	No	Not Detected
Endrin	0 / 25	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 25	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 3	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 25	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 25	ND	ug/kg	No	Not Detected
Heptachlor	0 / 25	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 25	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 25	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 11	ND	ug/kg	No	Not Detected
Toxaphene	0 / 25	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	2 / 30	59 - 690	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 10	11 - 29	mg/kg	Yes	Detected
TPH as gasoline	0 / 5	ND	mg/kg	No	Not Detected
TPH as motor oil	9 / 10	11 - 31	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^f	48 / 48	0.12 - 180	ng/kg	Yes	Above Background

Table NORR-2.1b**Chemicals Included in the Risk Assessment: NoRR Shallow Soil (0 to 3 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	3 / 3	6,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 92	ND	mg/kg	No	Not Detected
Arsenic	86 / 92	1.1 - 13	mg/kg	No	Within Background
Barium	92 / 92	51 - 420	mg/kg	No	Within Background
Beryllium	0 / 92	ND	mg/kg	No	Not Detected
Cadmium	1 / 92	1.1	mg/kg	No	Within Background
Calcium ^b	3 / 3	9,100 - 35,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	20 / 102	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	102 / 102	9.6 - 71	mg/kg	Yes	Above Background
Cobalt	92 / 92	4.6 - 14	mg/kg	Yes	Above Background
Copper	102 / 102	5.7 - 23	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	3 / 3	18,000 - 29,000	mg/kg	No	Within Background
Lead	89 / 92	1.0 - 23	mg/kg	Yes	Above Background
Magnesium ^b	3 / 3	4,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	3 / 3	180 - 420	mg/kg	No	Within Background
Mercury (inorganic)	0 / 92	ND	mg/kg	No	Not Detected
Molybdenum	1 / 92	1.5	mg/kg	No	Within Background
Nickel	102 / 102	6.8 - 19	mg/kg	No	Within Background
Potassium ^b	3 / 3	1,300 - 4,000	mg/kg	No	Within Background
Selenium	0 / 92	ND	mg/kg	No	Not Detected
Silver	0 / 92	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 3	150 - 660	mg/kg	No	Within Background
Thallium	0 / 92	ND	mg/kg	No	Not Detected
Vanadium	92 / 92	21 - 46	mg/kg	No	Within Background
Zinc	102 / 102	24 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 10	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 10	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,2,2-Tetrachloroethane	0 / 10	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 10	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 10	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 10	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 10	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 10	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 10	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 10	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 10	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 10	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 10	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 10	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 10	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 10	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 3	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 10	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 10	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 3	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 10	ND	ug/kg	No	Not Detected
Acetone	0 / 10	ND	ug/kg	No	Not Detected
Acrolein	0 / 10	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 10	ND	ug/kg	No	Not Detected
Benzene	0 / 10	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
bis (2-chloroethyl) ether	0 / 15	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 15	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 10	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 10	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 10	ND	ug/kg	No	Not Detected
Bromoform	0 / 10	ND	ug/kg	No	Not Detected
Bromomethane	0 / 10	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 10	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 10	ND	ug/kg	No	Not Detected
Chloro methane	0 / 10	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 10	ND	ug/kg	No	Not Detected
Chloroethane	0 / 10	ND	ug/kg	No	Not Detected
Chloroform	0 / 10	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 10	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 10	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 10	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 10	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 10	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 10	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 15	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 3	ND	ug/kg	No	Not Detected
Isophorone	0 / 15	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 10	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 3	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 10	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 10	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 10	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 10	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-Butylbenzene	0 / 10	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 15	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 10	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 10	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 10	ND	ug/kg	No	Not Detected
Styrene	0 / 10	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 10	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 10	ND	ug/kg	No	Not Detected
Toluene	0 / 10	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 10	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 10	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 10	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 10	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 10	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 10	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 3	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 15	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 15	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 15	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 15	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 15	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 15	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 15	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 15	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
3,3-Dichlorobenzidene	0 / 15	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 15	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 15	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 15	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 15	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 15	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 15	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 15	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 15	ND	ug/kg	No	Not Detected
Acetophenone	0 / 3	ND	ug/kg	No	Not Detected
Atrazine	0 / 3	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 3	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 15	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 15	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 15	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 15	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 15	ND	ug/kg	No	Not Detected
Caprolactam	0 / 3	ND	ug/kg	No	Not Detected
Carbazole	0 / 3	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 15	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 15	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 15	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 15	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 15	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 15	ND	ug/kg	No	Not Detected
Phenol	0 / 15	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 20	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 21	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 21	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 21	ND	ug/kg	No	Not Detected
Anthracene	0 / 21	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^c	6 / 23	5.7 - 22	ug/kg	No	Within Background
Benzo (a) pyrene ^c	6 / 23	7.9 - 20	ug/kg	No	Within Background
Benzo (b) fluoranthene ^c	7 / 23	9.7 - 31	ug/kg	No	Within Background
Benzo (ghi) perylene	4 / 21	5.5 - 17	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^c	5 / 23	7.6 - 27	ug/kg	No	Within Background
Chrysene ^c	10 / 23	7.1 - 29	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^c	2 / 21	5.9 - 6.1	ug/kg	No	Within Background
Fluoranthene	10 / 23	8.0 - 34	ug/kg	Yes	Detected
Fluorene	0 / 21	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^c	4 / 21	5.1 - 14	ug/kg	No	Within Background
Naphthalene	0 / 21	ND	ug/kg	No	Not Detected
Phenanthrene	7 / 23	6.2 - 14	ug/kg	Yes	Detected
Pyrene	10 / 23	6.4 - 30	ug/kg	Yes	Detected
B(a)P Equivalent ^d	10 / 23	6.1 - 72	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 36	ND	ug/kg	No	Not Detected
4,4-DDE	0 / 36	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 36	ND	ug/kg	No	Not Detected
Aldrin	0 / 36	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 36	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 36	ND	ug/kg	No	Not Detected
beta-BHC	0 / 36	ND	ug/kg	No	Not Detected
delta-BHC	0 / 36	ND	ug/kg	No	Not Detected
Dieldrin	0 / 36	ND	ug/kg	No	Not Detected

Table NORR-2.1c

Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Endo sulfan I	0 / 36	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 36	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 36	ND	ug/kg	No	Not Detected
Endrin	0 / 36	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 36	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 3	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 36	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 36	ND	ug/kg	No	Not Detected
Heptachlor	0 / 36	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 36	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 36	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 15	ND	ug/kg	No	Not Detected
Toxaphene	0 / 36	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^e	2 / 38	59 - 690	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 14	11 - 29	mg/kg	Yes	Detected
TPH as gasoline	0 / 9	ND	mg/kg	No	Not Detected
TPH as motor oil	10 / 14	11 - 31	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^f	60 / 62	0.12 - 180	ng/kg	Yes	Above Background

Table NORR-2.1c**Chemicals Included in the Risk Assessment: NoRR Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^d Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^e Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^f Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Acid Volatile Sulfides	0 / 2	ND	mg/kg	No	Not Detected
Aluminum	3 / 3	6,500 - 14,000	mg/kg	No	Within Background
Antimony	0 / 122	ND	mg/kg	No	Not Detected
Arsenic	113 / 122	1.1 - 13	mg/kg	No	Within Background
Barium	124 / 124	40 - 420	mg/kg	No	Within Background
Beryllium	0 / 122	ND	mg/kg	No	Not Detected
Cadmium	2 / 122	1.1 - 1.3	mg/kg	No	Within Background
Calcium ^b	3 / 3	9,100 - 35,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	20 / 134	0.22 - 2.6	mg/kg	Yes	Above Background
Chromium, total	134 / 134	7.9 - 71	mg/kg	Yes	Above Background
Cobalt	122 / 122	4.5 - 14	mg/kg	Yes	Above Background
Copper	133 / 134	4.9 - 25	mg/kg	Yes	Above Background
Cyanide	0 / 2	ND	mg/kg	No	Not Detected
Iron ^b	5 / 5	14,200 - 29,000	mg/kg	No	Within Background
Lead	112 / 124	1.0 - 23	mg/kg	Yes	Above Background
Magnesium ^b	3 / 3	4,700 - 11,000	mg/kg	No	Within Background
Manganese ^b	5 / 5	180 - 420	mg/kg	No	Within Background
Mercury (inorganic)	0 / 122	ND	mg/kg	No	Not Detected
Molybdenum	3 / 124	0.071 - 1.5	mg/kg	No	Within Background
Nickel	134 / 134	5.6 - 19	mg/kg	No	Within Background
Orthophosphate	2 / 2	204 - 252	mg/kg	Yes	Detected
Potassium ^b	3 / 3	1,300 - 4,000	mg/kg	No	Within Background
Selenium	0 / 122	ND	mg/kg	No	Not Detected
Silver	0 / 122	ND	mg/kg	No	Not Detected
Sodium ^b	2 / 3	150 - 660	mg/kg	No	Within Background
Sulfate ^c	2 / 2	9.2 - 12	mg/kg	No	No Toxicity Values Available
Thallium	0 / 122	ND	mg/kg	No	Not Detected
Vanadium	124 / 124	19 - 46	mg/kg	No	Within Background

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Zinc	134 / 134	21 - 84	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,1,1-Trichloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 14	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 14	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 14	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 14	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 19	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 19	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 14	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 14	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 14	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 19	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 14	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 19	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 3	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 14	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 19	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 19	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 14	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 3	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 14	ND	ug/kg	No	Not Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Acetone	0 / 14	ND	ug/kg	No	Not Detected
Acrolein	0 / 14	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 14	ND	ug/kg	No	Not Detected
Benzene	0 / 14	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 19	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 19	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 14	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 14	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 14	ND	ug/kg	No	Not Detected
Bromoform	0 / 14	ND	ug/kg	No	Not Detected
Bromomethane	0 / 14	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 14	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 14	ND	ug/kg	No	Not Detected
Chloro methane	0 / 14	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 14	ND	ug/kg	No	Not Detected
Chloroethane	0 / 14	ND	ug/kg	No	Not Detected
Chloroform	0 / 14	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 14	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 14	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 14	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 14	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 14	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 14	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 19	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 3	ND	ug/kg	No	Not Detected
Isophorone	0 / 19	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 14	ND	ug/kg	No	Not Detected
Methyl acetate	0 / 3	ND	ug/kg	No	Not Detected
Methyl ethyl ketone	0 / 14	ND	ug/kg	No	Not Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Methyl isobutyl ketone	0 / 14	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 14	ND	ug/kg	No	Not Detected
Methylcyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 14	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 14	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 19	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 14	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 14	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 14	ND	ug/kg	No	Not Detected
Styrene	0 / 14	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 14	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 14	ND	ug/kg	No	Not Detected
Toluene	0 / 14	ND	ug/kg	No	Not Detected
trans-1,2-Dichloroethene	0 / 14	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 14	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 14	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 14	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 14	ND	ug/kg	No	Not Detected
Xylenes, total	0 / 14	ND	ug/kg	No	Not Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 3	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 3	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 3	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 19	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 19	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 19	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 19	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 19	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 19	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 19	ND	ug/kg	No	Not Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
2-Methylphenol	0 / 19	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 19	ND	ug/kg	No	Not Detected
2-Nitrophenol	0 / 19	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 19	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 19	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 19	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 19	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 19	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 19	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 19	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 19	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 19	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 19	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 19	ND	ug/kg	No	Not Detected
Acetophenone	0 / 3	ND	ug/kg	No	Not Detected
Atrazine	0 / 3	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 3	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 19	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 19	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 19	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	0 / 19	ND	ug/kg	No	Not Detected
Butylbenzylphthalate	0 / 19	ND	ug/kg	No	Not Detected
Caprolactam	0 / 3	ND	ug/kg	No	Not Detected
Carbazole	0 / 3	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 19	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 19	ND	ug/kg	No	Not Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Dimethyl phthalate	0 / 19	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 19	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 19	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 19	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 19	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 19	ND	ug/kg	No	Not Detected
n-nitrosodiphenylamine	0 / 19	ND	ug/kg	No	Not Detected
Phenol	0 / 19	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	0 / 26	ND	ug/kg	No	Not Detected
2-Methyl naphthalene	0 / 27	ND	ug/kg	No	Not Detected
Acenaphthene	0 / 27	ND	ug/kg	No	Not Detected
Acenaphthylene	0 / 27	ND	ug/kg	No	Not Detected
Anthracene	0 / 27	ND	ug/kg	No	Not Detected
Benzo (a) anthracene ^d	6 / 29	5.7 - 22	ug/kg	No	Within Background
Benzo (a) pyrene ^d	6 / 29	7.9 - 20	ug/kg	No	Within Background
Benzo (b) fluoranthene ^d	7 / 29	9.7 - 31	ug/kg	No	Within Background
Benzo (ghi) perylene	4 / 27	5.5 - 17	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	5 / 29	7.6 - 27	ug/kg	No	Within Background
Chrysene ^d	10 / 29	7.1 - 29	ug/kg	No	Within Background
Dibenzo (a,h) anthracene ^d	2 / 27	5.9 - 6.1	ug/kg	No	Within Background
Fluoranthene	10 / 29	8.0 - 34	ug/kg	Yes	Detected
Fluorene	0 / 27	ND	ug/kg	No	Not Detected
Indeno (1,2,3-cd) pyrene ^d	4 / 27	5.1 - 14	ug/kg	No	Within Background
Naphthalene	0 / 27	ND	ug/kg	No	Not Detected
Phenanthrene	7 / 29	6.2 - 14	ug/kg	Yes	Detected
Pyrene	10 / 29	6.4 - 30	ug/kg	Yes	Detected
B(a)P Equivalent ^e	10 / 29	6.1 - 72	ug/kg	No	Within Background
Pesticides					
4,4-DDD	0 / 47	ND	ug/kg	No	Not Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
4,4-DDE	0 / 47	ND	ug/kg	No	Not Detected
4,4-DDT	0 / 47	ND	ug/kg	No	Not Detected
Aldrin	0 / 47	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 47	ND	ug/kg	No	Not Detected
alpha-Chlordane	0 / 47	ND	ug/kg	No	Not Detected
beta-BHC	0 / 47	ND	ug/kg	No	Not Detected
delta-BHC	0 / 47	ND	ug/kg	No	Not Detected
Dieldrin	0 / 47	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 47	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 47	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 47	ND	ug/kg	No	Not Detected
Endrin	0 / 47	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 47	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 3	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 47	ND	ug/kg	No	Not Detected
gamma-Chlordane	0 / 47	ND	ug/kg	No	Not Detected
Heptachlor	0 / 47	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 47	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 47	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 19	ND	ug/kg	No	Not Detected
Toxaphene	0 / 47	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	2 / 46	59 - 690	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	3 / 18	11 - 29	mg/kg	Yes	Detected
TPH as gasoline	0 / 13	ND	mg/kg	No	Not Detected
TPH as motor oil	10 / 18	11 - 31	mg/kg	Yes	Detected

Table NORR-2.1d

Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Dioxins/Furans					
TEQ Human ^g	67 / 76	0.088 - 180	ng/kg	Yes	Above Background

Table NORR-2.1d**Chemicals Included in the Risk Assessment: NoRR Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for sulfate, thus sulfate was not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

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			Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL		Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-0.5	3 / 3	100	6500	14000	NA	NA	10000	10000	9500	14250000	3775	--	--	--	--		
Antimony	mg/kg	0-0.5	0 / 31	0	NA	NA	1	2.85	NA	NA	NA	NA	NA	--	--	--	--		
Arsenic	mg/kg	0-0.5	30 / 31	97	1.3	13	0.5	0.5	4.147	4.029	3.85	4.262	2.064	--	--	--	--		
Barium	mg/kg	0-0.5	31 / 31	100	56	320	NA	NA	171.7	171.7	180	4048	63.62	--	--	--	--		
Beryllium	mg/kg	0-0.5	0 / 31	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Cadmium	mg/kg	0-0.5	0 / 31	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Chromium, hexavalent	mg/kg	0-0.5	7 / 35	20	0.22	2.6	0.025	0.2	0.956	0.211	0.45	0.756	0.869	X	0.371	95% KM (t) UCL	0.368	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-0.5	35 / 35	100	12	71	NA	NA	32.07	32.07	30	190.2	13.79	X	36	95% Student's-t UCL	32.5	Bootstrap BCA 95UCL	
Cobalt	mg/kg	0-0.5	31 / 31	100	4.6	9.6	NA	NA	7.977	7.977	8.3	1.472	1.213	X	8.35	95% Student's-t UCL	8.12	Bootstrap BCA 95UCL	
Copper	mg/kg	0-0.5	35 / 35	100	7	22	NA	NA	14.19	14.19	15	14.82	3.85	X	15.3	95% Student's-t UCL	14.3	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-0.5	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--		
Iron	mg/kg	0-0.5	3 / 3	100	18000	29000	NA	NA	22333	22333	20000	34333333	5859	--	--	--	--		
Lead	mg/kg	0-0.5	31 / 31	100	1.5	23	NA	NA	9.055	9.055	8.7	24.45	4.945	X	10.6	95% Student's-t UCL	8.66	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-0.5	3 / 3	100	180	420	NA	NA	300	300	300	14400	120	--	--	--	--		
Mercury	mg/kg	0-0.5	0 / 31	0	NA	NA	0.0495	0.07	NA	NA	NA	NA	NA	--	--	--	--		
Molybdenum	mg/kg	0-0.5	0 / 31	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Nickel	mg/kg	0-0.5	35 / 35	100	6.8	18	NA	NA	13.69	13.69	14	7.438	2.727	--	--	--	--		
Selenium	mg/kg	0-0.5	0 / 31	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Silver	mg/kg	0-0.5	0 / 31	0	NA	NA	0.5	1.4	NA	NA	NA	NA	NA	--	--	--	--		
Thallium	mg/kg	0-0.5	0 / 31	0	NA	NA	1	2.85	NA	NA	NA	NA	NA	--	--	--	--		
Vanadium	mg/kg	0-0.5	31 / 31	100	21	42	NA	NA	32.71	32.71	33	32.21	5.676	--	--	--	--		
Zinc	mg/kg	0-0.5	35 / 35	100	26	84	NA	NA	53.4	53.4	55	221.6	14.89	X	57.7	95% Student's-t UCL	53.4	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
1,3,5-Trimethylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Acetone	µg/kg	0-0.5	0 / 1	0	NA	NA	31.5	31.5	NA	NA	NA	NA	NA	--	--	--	--		
Bromomethane	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Chloro methane	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Chloroform	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Ethyl- benzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Isopropylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Methyl acetate	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Methyl ethyl ketone	µg/kg	0-0.5	0 / 1	0	NA	NA	31.5	31.5	NA	NA	NA	NA	NA	--	--	--	--		
Methylene chloride	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
N-Butylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
N-Propylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
sec-Butylbenzene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Toluene	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Xylene, m,p-	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Xylene, o-	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		
Xylenes, total	µg/kg	0-0.5	0 / 1	0	NA	NA	3.15	3.15	NA	NA	NA	NA	NA	--	--	--	--		

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-0.5	0 / 6	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	0 / 6	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--	--	
Butylbenzylphthalate	µg/kg	0-0.5	0 / 6	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 6	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-0.5	0 / 6	0	NA	NA	165	235	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-0.5	5 / 10	50	7.8	14	0	0	10.96	5.48	11	5.308	2.304	X	9.16	95% KM (t) UCL	7.28	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-0.5	7 / 10	70	7.1	223	0	0	102.6	71.82	87.8	6713	81.93	X	121	95% KM (t) UCL	93.4	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-0.5	0 / 7	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--	--	
2-Methyl naphthalene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	170	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	170	NA	NA	NA	NA	NA	--	--	--	--	--	
Acenaphthylene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	170	NA	NA	NA	NA	NA	--	--	--	--	--	
Anthracene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	170	NA	NA	NA	NA	NA	--	--	--	--	--	
Benzo (a) anthracene	µg/kg	0-0.5	4 / 10	40	7.2	22	2.5	170	12.75	7.056	10.9	41.88	6.471	X	11.5	95% KM (t) UCL	90.3	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-0.5	4 / 10	40	8	20	2.5	170	15	8.75	16	28	5.292	X	14	95% KM (t) UCL	103	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-0.5	5 / 10	50	11	31	2.5	170	22	14.69	24	64	8	X	22.7	95% KM (t) UCL	107	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-0.5	2 / 8	25	16	17	2.5	170	16.5	7.167	16.5	0.5	0.707	X	17	Max Detect	17	Max Detect	
Benzo (k) fluoranthene	µg/kg	0-0.5	4 / 10	40	7.6	27	2.5	170	15.9	9.2	14.5	66.84	8.176	X	15.5	95% KM (t) UCL	104	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-0.5	7 / 10	70	7.1	29	2.5	170	14.63	11.93	11	67.96	8.244	X	17.5	95% KM (t) UCL	94.2	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-0.5	2 / 8	25	5.9	6.1	2.5	170	6	3.667	6	0.02	0.141	X	6.1	Max Detect	6.1	Max Detect	
Fluoranthene	µg/kg	0-0.5	6 / 10	60	10	34	2.5	170	23	16.17	23.5	83.2	9.121	X	24.1	95% KM (t) UCL	108	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	170	NA	NA	NA	NA	NA	--	--	--	--	--	
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	2 / 8	25	14	14	2.5	170	14	6.333	14	0	0	X	14	Max Detect	14	Max Detect	
Naphthalene	µg/kg	0-0.5	0 / 8	0	NA	NA	2.5	3.55	NA	NA	NA	NA	NA	--	--	--	--	--	
Phenanthrene	µg/kg	0-0.5	5 / 10	50	7.8	14	2.5	170	10.96	7.2	11	5.308	2.304	X	10.3	95% KM (t) UCL	89.7	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-0.5	6 / 10	60	10	30	2.5	170	20	14.17	19.5	62	7.874	X	20.9	95% KM (t) UCL	106	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-0.5	7 / 10	70	6.1	72	5.8	390	26.3	21.74	21	503.6	22.44	--	--	--	--	--	
Pesticides																			
4,4-DDE	µg/kg	0-0.5	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--	
4,4-DDT	µg/kg	0-0.5	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--	
Alpha-Chlordane	µg/kg	0-0.5	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--	
Dieldrin	µg/kg	0-0.5	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-0.5	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-0.5	1 / 16	6	59	59	17	23	59	19.63	59	NA	NA	X	59	Max Detect	59	Max Detect	
Dioxins																			
TEQ Human	ng/kg	0-0.5	24 / 24	100	0.42	180	NA	NA	44.31	44.31	26.5	2223	47.15	X	69.6	95% Adjusted Gamma UCL	47.8	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-0.5	24 / 24	100	0.37	110	NA	NA	26.85	26.85	16.5	868.2	29.47	X	42	95% Adjusted Gamma UCL	29	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-0.5	24 / 24	100	0.42	180	NA	NA	44.31	44.31	26.5	2223	47.15	X	69.6	95% Adjusted Gamma UCL	48.9	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-0.5	2 / 24	8	0.27	0.5	0.03	0.5	0.385	0.06	0.385	0.0265	0.163	X	0.5	Max Detect	0.5	Max Detect	
Total Petroleum Hydrocarbons																			

Table NORR-3.1

Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
TPH as diesel	mg/kg	0-0.5	2 / 5	40	15.8	28.9	5	5	22.35	11.94	22.35	85.81	9.263	X	28.9	Max Detect	28.9	Max Detect
TPH as motor oil	mg/kg	0-0.5	5 / 5	100	17.5	31	NA	NA	23.6	23.6	21.6	42.97	6.555	X	31	Max Detect	31	Max Detect
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	3 / 3	100	6500	14000	NA	NA	10000	10000	9500	14250000	3775	--	--	--	--	--
Antimony	mg/kg	0-3	0 / 31	0	NA	NA	1	2.87	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-3	31 / 31	100	0.933	11.8	NA	NA	3.74	3.74	3.63	3.563	1.888	--	--	--	--	--
Barium	mg/kg	0-3	31 / 31	100	58	290	NA	NA	160.5	160.5	167	2978	54.57	--	--	--	--	--
Beryllium	mg/kg	0-3	0 / 31	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-3	0 / 31	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-3	18 / 35	51	0.143	1.84	0.025	0.202	0.411	0.225	0.229	0.187	0.432	X	0.434	KM H-UCL	0.306	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	35 / 35	100	14.6	56.7	NA	NA	29.82	29.82	28.3	111.5	10.56	X	32.8	95% Student's-t UCL	30.1	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-3	31 / 31	100	5.27	9.33	NA	NA	7.914	7.914	8.07	0.749	0.865	X	8.18	95% Student's-t UCL	8.07	Bootstrap BCA 95UCL
Copper	mg/kg	0-3	35 / 35	100	7.77	19.3	NA	NA	13.34	13.34	14.3	9.817	3.133	X	14.2	95% Student's-t UCL	13.4	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-3	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-3	3 / 3	100	18000	29000	NA	NA	22333	22333	20000	34333333	5859	--	--	--	--	--
Lead	mg/kg	0-3	31 / 31	100	1.17	18.2	NA	NA	8.009	8.009	7.87	13.11	3.62	X	9.11	95% Student's-t UCL	7.54	Bootstrap BCA 95UCL
Manganese	mg/kg	0-3	3 / 3	100	180	420	NA	NA	300	300	300	14400	120	--	--	--	--	--
Mercury	mg/kg	0-3	0 / 31	0	NA	NA	0.0497	0.07	NA	NA	NA	NA	NA	--	--	--	--	--
Molybdenum	mg/kg	0-3	0 / 31	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Nickel	mg/kg	0-3	35 / 35	100	8.53	16.3	NA	NA	12.95	12.95	13.3	3.302	1.817	--	--	--	--	--
Selenium	mg/kg	0-3	0 / 31	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-3	0 / 31	0	NA	NA	0.5	1.42	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-3	0 / 31	0	NA	NA	1	2.87	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-3	31 / 31	100	25.3	40	NA	NA	32.36	32.36	32.7	16.42	4.052	--	--	--	--	--
Zinc	mg/kg	0-3	35 / 35	100	28	71.7	NA	NA	49.32	49.32	50.3	129.6	11.38	X	52.6	95% Student's-t UCL	49.2	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-3	0 / 6	0	NA	NA	25.5	32	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-3	0 / 3	0	NA	NA	2.6	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl ethyl ketone	µg/kg	0-3	0 / 6	0	NA	NA	25.5	32	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--

Table NORR-3.1

Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Toluene	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-3	0 / 6	0	NA	NA	2.55	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-3	0 / 6	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	0 / 6	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-3	0 / 6	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-3	0 / 6	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-3	0 / 6	0	NA	NA	165	237	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-3	7 / 10	70	2.07	9.33	0	0	5.99	4.193	6.67	6.753	2.599	X	6.32	95% KM (t) UCL	5.01	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-3	9 / 10	90	4.73	149	0	0	60.7	54.63	42.8	2518	50.18	X	84.4	95% KM (t) UCL	62.3	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-3	0 / 7	0	NA	NA	2.52	3.57	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	170	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	170	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-3	6 / 10	60	3.57	15.5	2.7	170	8.203	6.369	8.025	18.78	4.334	X	9.14	95% KM (t) UCL	89.3	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-3	6 / 10	60	4.3	14.2	2.7	170	9.733	7.975	10.45	20.62	4.541	X	11.3	95% KM (t) UCL	91.2	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-3	6 / 10	60	4.9	31	2.52	170	16.55	12.76	16.9	76.91	8.77	X	19	95% KM (t) UCL	106	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-3	4 / 8	50	3.5	12.2	2.7	170	7.858	6.205	7.865	21.42	4.629	X	9.81	95% KM (t) UCL	131	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-3	5 / 10	50	5.33	18.8	2.52	170	11.25	7.974	11.5	27.12	5.208	X	12	95% KM (t) UCL	91.3	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-3	9 / 10	90	4.37	20.2	170	170	10.32	10.32	7.75	32.18	5.673	X	13.8	95% KM (t) UCL	91.3	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-3	2 / 8	25	4.77	4.92	2.52	170	4.845	3.295	4.845	0.0113	0.106	X	4.92	Max Detect	4.92	Max Detect
Fluoranthene	µg/kg	0-3	8 / 10	80	4.77	26	2.7	170	16.2	14.7	17	61.13	7.819	X	20	95% KM (t) UCL	106	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	170	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	4 / 8	50	3.37	10.2	2.7	170	6.968	5.601	7.15	14.02	3.744	X	8.54	95% KM (t) UCL	131	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-3	0 / 8	0	NA	NA	2.52	3.43	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-3	7 / 10	70	3.73	12	2.52	170	8.013	6.792	8.18	8.559	2.926	X	8.97	95% KM (t) UCL	89.6	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-3	8 / 10	80	4.77	23	2.7	170	14.07	12.81	13.85	43.95	6.63	X	17.3	95% KM (t) UCL	94.5	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-3	9 / 10	90	6.23	50.5	390	390	18.09	18.09	14	191.3	13.83	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-3	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-3	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-3	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-3	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-3	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-3	2 / 16	13	45.3	241	17	23	143.2	32.77	143.2	19149	138.4	X	241	Max Detect	241	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-3	24 / 24	100	0.327	120	NA	NA	32.99	32.99	21.45	1039	32.23	X	51.2	95% Adjusted Gamma UCL	35.4	Bootstrap BCA 95UCL

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
TEQ Avian	ng/kg	0-3	24 / 24	100	0.307	73.6	NA	NA	20.22	20.22	12.5	421.4	20.53	X	31.2	95% Adjusted Gamma UCL	21.9	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-3	24 / 24	100	0.327	120	NA	NA	32.99	32.99	21.45	1039	32.23	X	51.2	95% Adjusted Gamma UCL	35.3	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-3	3 / 24	13	0.189	0.517	0.0285	0.343	0.326	0.0668	0.273	0.029	0.17	X	0.517	Max Detect	0.517	Max Detect
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-3	2 / 5	40	12.2	22.8	5	5	17.5	10	17.5	56.18	7.495	X	22.8	Max Detect	22.8	Max Detect
TPH as gasoline	mg/kg	0-3	0 / 5	0	NA	NA	0.46	0.65	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-3	5 / 5	100	13.5	27.6	NA	NA	20.12	20.12	18	32.93	5.738	X	27.6	Max Detect	27.6	Max Detect
Soil Depth Interval: 0-6 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-6	3 / 3	100	6500	14000	NA	NA	10000	10000	9500	14250000	3775	--	--	--	--	--
Antimony	mg/kg	0-6	0 / 31	0	NA	NA	1	2.88	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-6	31 / 31	100	1.27	10.5	NA	NA	3.339	3.339	3.2	2.849	1.688	--	--	--	--	--
Barium	mg/kg	0-6	31 / 31	100	58.2	260	NA	NA	146.3	146.3	151	2293	47.89	--	--	--	--	--
Beryllium	mg/kg	0-6	0 / 31	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-6	1 / 31	3	0.683	0.683	0.5	1.43	0.683	0.506	0.683	NA	NA	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-6	18 / 35	51	0.143	1.07	0.025	0.203	0.35	0.193	0.282	0.0549	0.234	X	0.293	95% GROS Adjusted Gamma UCL	0.248	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-6	35 / 35	100	12.4	53.2	NA	NA	26.27	26.27	24.7	79.23	8.901	X	28.8	95% Student's-t UCL	26.9	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-6	31 / 31	100	6.1	9.58	NA	NA	7.892	7.892	7.75	0.739	0.86	X	8.15	95% Student's-t UCL	8.15	Bootstrap BCA 95UCL
Copper	mg/kg	0-6	35 / 35	100	7.38	16.7	NA	NA	12.19	12.19	12.7	7.507	2.74	X	13	95% Student's-t UCL	12.3	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-6	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-6	3 / 3	100	18000	29000	NA	NA	22333	22333	20000	34333333	5859	--	--	--	--	--
Lead	mg/kg	0-6	31 / 31	100	1.1	13.5	NA	NA	6.41	6.41	6.63	8.635	2.938	X	7.31	95% Student's-t UCL	6.13	Bootstrap BCA 95UCL
Manganese	mg/kg	0-6	3 / 3	100	180	420	NA	NA	300	300	300	14400	120	--	--	--	--	--
Mercury	mg/kg	0-6	0 / 31	0	NA	NA	0.0498	0.07	NA	NA	NA	NA	NA	--	--	--	--	--
Molybdenum	mg/kg	0-6	1 / 31	3	0.667	0.667	0.5	1.43	0.667	0.506	0.667	NA	NA	--	--	--	--	--
Nickel	mg/kg	0-6	35 / 35	100	8.62	15.5	NA	NA	12.13	12.13	12	2.254	1.501	--	--	--	--	--
Selenium	mg/kg	0-6	0 / 31	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-6	0 / 31	0	NA	NA	0.5	1.43	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-6	0 / 31	0	NA	NA	1	2.88	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-6	31 / 31	100	24.2	37.8	NA	NA	31.9	31.9	33	10.84	3.292	--	--	--	--	--
Zinc	mg/kg	0-6	35 / 35	100	29.8	60.3	NA	NA	44.61	44.61	44.3	67	8.186	X	47	95% Student's-t UCL	44.4	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-6	0 / 6	0	NA	NA	25.3	32	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-6	0 / 3	0	NA	NA	2.6	3.2	NA	NA	NA	NA	NA	--	--	--	--	--

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Methyl ethyl ketone	µg/kg	0-6	0 / 6	0	NA	NA	25.3	32	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-6	0 / 6	0	NA	NA	2.53	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-6	0 / 6	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	0 / 6	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-6	0 / 6	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-6	0 / 6	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-6	0 / 6	0	NA	NA	166	238	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-6	7 / 10	70	2.6	6.67	0	0	4.006	2.804	3.67	1.818	1.348	X	4.13	95% KM (t) UCL	2.93	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-6	9 / 10	90	2.37	74.3	0	0	39	35.1	44.3	544.7	23.34	X	49.8	95% KM (t) UCL	34.1	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-6	0 / 7	0	NA	NA	2.53	3.58	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-6	6 / 10	60	4.12	9.8	2.75	170	6.842	5.478	6.455	5.002	2.236	X	7.18	95% KM (t) UCL	88.5	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-6	6 / 10	60	5.22	14	2.75	170	8.255	6.766	7.855	9.321	3.053	X	9.04	95% KM (t) UCL	89.5	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-6	6 / 10	60	6.1	31	2.54	170	14.13	10.76	10.5	80.71	8.984	X	16.4	95% KM (t) UCL	105	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-6	4 / 8	50	4.02	7.35	2.75	170	5.878	4.835	6.07	2.525	1.589	X	6.49	95% KM (t) UCL	130	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-6	5 / 10	50	6.75	13	2.54	170	9.018	6.487	7.6	7.438	2.727	X	9.06	95% KM (t) UCL	89.6	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-6	9 / 10	90	4.23	16	170	170	8.47	8.47	7.57	14.37	3.791	X	10.8	95% KM (t) UCL	90.7	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-6	2 / 8	25	3.65	3.74	2.53	170	3.695	2.918	3.695	0.00405	0.0636	X	3.74	Max Detect	3.74	Max Detect
Fluoranthene	µg/kg	0-6	8 / 10	80	5.92	26	2.75	170	14.13	12.87	12.5	45.11	6.716	X	17.4	95% KM (t) UCL	95.5	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	4 / 8	50	3.82	6.38	2.75	170	5.363	4.492	5.625	1.535	1.239	X	5.84	95% KM (t) UCL	130	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-6	0 / 8	0	NA	NA	2.53	3.32	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-6	7 / 10	70	4.35	12	2.54	170	7.23	6.188	6.35	8.301	2.881	X	8.2	95% KM (t) UCL	89.1	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-6	8 / 10	80	5.92	23	2.75	170	12.16	11.11	11.2	29.89	5.467	X	14.8	95% KM (t) UCL	92.5	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-6	9 / 10	90	6.37	28.8	390	390	14.12	14.12	14	48.77	6.983	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-6	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-6	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-6	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--

Table NORR-3.1

Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Dieldrin	µg/kg	0-6	0 / 14	0	NA	NA	1	1.4	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-6	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-6	2 / 16	13	31.7	354	17	23	192.9	38.98	192.9	51939	227.9	X	354	Max Detect	354	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-6	24 / 24	100	0.233	84.7	NA	NA	21.69	21.69	16.25	447.4	21.15	X	29.1	95% Student's-t UCL	24	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-6	24 / 24	100	0.243	60.3	NA	NA	13.61	13.61	8.95	203.2	14.26	X	20.9	95% Adjusted Gamma UCL	15.4	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-6	24 / 24	100	0.233	84.7	NA	NA	21.69	21.69	16.25	447.4	21.15	X	29.1	95% Student's-t UCL	24.2	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-6	4 / 24	17	0.114	0.65	0.0266	0.227	0.372	0.0854	0.362	0.0675	0.26	X	0.15	95% KM (t) UCL	0.186	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-6	2 / 5	40	8.6	15.7	5	5	12.15	7.86	12.15	25.21	5.02	X	15.7	Max Detect	15.7	Max Detect
TPH as gasoline	mg/kg	0-6	0 / 5	0	NA	NA	0.459	0.65	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-6	5 / 5	100	9.27	22.2	NA	NA	16.07	16.07	16.7	24.7	4.97	X	22.2	Max Detect	22.2	Max Detect
Soil Depth Interval: 0-10 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-10	3 / 3	100	6500	14000	NA	NA	10000	10000	9500	14250000	3775	--	--	--	--	--
Antimony	mg/kg	0-10	0 / 31	0	NA	NA	1.01	2.89	NA	NA	NA	NA	NA	--	--	--	--	--
Arsenic	mg/kg	0-10	31 / 31	100	0.98	10	NA	NA	3.017	3.017	3.05	2.598	1.612	--	--	--	--	--
Barium	mg/kg	0-10	33 / 33	100	43.9	253	NA	NA	131.1	131.1	130	2525	50.25	--	--	--	--	--
Beryllium	mg/kg	0-10	0 / 31	0	NA	NA	0.5	1.44	NA	NA	NA	NA	NA	--	--	--	--	--
Cadmium	mg/kg	0-10	2 / 31	6	0.655	0.795	0.5	1.44	0.725	0.515	0.725	0.0098	0.099	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-10	18 / 35	51	0.128	0.764	0.025	0.203	0.273	0.154	0.245	0.0245	0.157	X	0.203	95% KM (t) UCL	0.2	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-10	35 / 35	100	11.5	39.5	NA	NA	22.72	22.72	21.3	44.15	6.644	X	24.6	95% Student's-t UCL	23.4	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-10	31 / 31	100	6.24	10.7	NA	NA	7.971	7.971	7.89	0.953	0.976	X	8.27	95% Student's-t UCL	8.31	Bootstrap BCA 95UCL
Copper	mg/kg	0-10	35 / 35	100	7.04	16.8	NA	NA	11.22	11.22	11.1	6.08	2.466	X	11.9	95% Student's-t UCL	11.3	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-10	0 / 2	0	NA	NA	0.5	3.35	NA	NA	NA	NA	NA	--	--	--	--	--
Iron	mg/kg	0-10	5 / 5	100	14200	29000	NA	NA	19360	19360	18000	33988000	5830	--	--	--	--	--
Lead	mg/kg	0-10	33 / 33	100	1.29	11.6	NA	NA	4.686	4.686	4.69	4.747	2.179	X	5.33	95% Student's-t UCL	4.68	Bootstrap BCA 95UCL
Manganese	mg/kg	0-10	5 / 5	100	180	420	NA	NA	275	275	270	8900	94.34	--	--	--	--	--
Mercury	mg/kg	0-10	0 / 31	0	NA	NA	0.05	0.07	NA	NA	NA	NA	NA	--	--	--	--	--
Molybdenum	mg/kg	0-10	3 / 33	9	0.071	0.905	0.5	1.44	0.357	0.109	0.096	0.225	0.474	--	--	--	--	--
Nickel	mg/kg	0-10	35 / 35	100	8.43	15.4	NA	NA	11.66	11.66	11.2	2.72	1.649	--	--	--	--	--
Selenium	mg/kg	0-10	0 / 31	0	NA	NA	0.5	1.44	NA	NA	NA	NA	NA	--	--	--	--	--
Silver	mg/kg	0-10	0 / 31	0	NA	NA	0.5	1.44	NA	NA	NA	NA	NA	--	--	--	--	--
Thallium	mg/kg	0-10	0 / 31	0	NA	NA	1.01	2.89	NA	NA	NA	NA	NA	--	--	--	--	--
Vanadium	mg/kg	0-10	33 / 33	100	23.3	38.5	NA	NA	31.34	31.34	31.9	10.65	3.264	--	--	--	--	--
Zinc	mg/kg	0-10	35 / 35	100	30.4	56.2	NA	NA	41.43	41.43	41.9	41.81	6.466	X	43.3	95% Student's-t UCL	41.2	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-10	0 / 6	0	NA	NA	24.6	32	NA	NA	NA	NA	NA	--	--	--	--	--
Bromomethane	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
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Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Chloro methane	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Ethyl- benzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-10	0 / 3	0	NA	NA	2.6	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl ethyl ketone	µg/kg	0-10	0 / 6	0	NA	NA	24.6	32	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Butylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, m,p-	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylene, o-	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-10	0 / 6	0	NA	NA	2.46	3.2	NA	NA	NA	NA	NA	--	--	--	--	--
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-10	0 / 6	0	NA	NA	168	239	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	0 / 6	0	NA	NA	168	239	NA	NA	NA	NA	NA	--	--	--	--	--
Butylbenzylphthalate	µg/kg	0-10	0 / 6	0	NA	NA	168	239	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 6	0	NA	NA	168	239	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-10	0 / 6	0	NA	NA	168	239	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-10	7 / 10	70	1.56	8	0	0	2.974	2.082	2.2	5.068	2.251	X	8	UCL>Max: Max Detect	2.42	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-10	9 / 10	90	1.42	49	0	0	26.18	23.56	26.6	276.7	16.64	X	33.9	95% KM (t) UCL	22.8	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-10	0 / 7	0	NA	NA	2.53	3.59	NA	NA	NA	NA	NA	--	--	--	--	--
2-Methyl naphthalene	µg/kg	0-10	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthene	µg/kg	0-10	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Acenaphthylene	µg/kg	0-10	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Anthracene	µg/kg	0-10	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Benzo (a) anthracene	µg/kg	0-10	6 / 10	60	3.52	9.8	2.77	170	5.932	4.906	5.465	5.603	2.367	X	6.44	95% KM (t) UCL	88.3	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-10	6 / 10	60	4.18	14	2.77	170	7.113	5.901	5.865	13.1	3.619	X	8.15	95% KM (t) UCL	89.2	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-10	6 / 10	60	4.68	31	2.57	170	12.87	9.687	8.835	97.05	9.851	X	15.5	95% KM (t) UCL	105	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-10	4 / 8	50	3.46	5.46	2.77	170	4.568	4.026	4.675	0.918	0.958	X	4.97	95% KM (t) UCL	129	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-10	5 / 10	50	5.07	13	2.57	170	7.68	5.649	7.46	10.24	3.201	X	7.93	95% KM (t) UCL	89	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-10	9 / 10	90	3.66	16	170	170	7.33	7.33	6.47	16.02	4.003	X	9.78	95% KM (t) UCL	89.8	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-10	2 / 8	25	3.24	3.29	2.53	170	3.265	2.824	3.265	0.00125	0.0354	X	3.29	Max Detect	3.29	Max Detect
Fluoranthene	µg/kg	0-10	8 / 10	80	4.6	26	2.77	170	12.64	11.55	9.265	60.9	7.804	X	16.5	95% KM (t) UCL	105	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-10	0 / 8	0	NA	NA	2.53	170	NA	NA	NA	NA	NA	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	4 / 8	50	3.34	4.87	2.77	170	4.258	3.809	4.41	0.556	0.746	X	4.57	95% KM (t) UCL	129	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-10	0 / 8	0	NA	NA	2.46	3.27	NA	NA	NA	NA	NA	--	--	--	--	--
Phenanthrene	µg/kg	0-10	7 / 10	70	3.63	12	2.57	170	6.769	5.836	4.86	11.58	3.403	X	8	95% KM (t) UCL	89.5	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-10	8 / 10	80	4.6	23	2.77	170	10.8	9.909	8.095	40.32	6.349	X	13.9	95% KM (t) UCL	92.3	Bootstrap BCA 95UCL

Table NORR-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
North of Railroad/Bureau of Land Management (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
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			Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth-Weighted UCL	Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis
B(a)P equivalent	µg/kg	0-10	9 / 10	90	6.42	21	390	390	12.08	12.08	10.8	27.39	5.233	--	--	--	--	--
Pesticides																		
4,4-DDE	µg/kg	0-10	0 / 14	0	NA	NA	1	1.41	NA	NA	NA	NA	NA	--	--	--	--	--
4,4-DDT	µg/kg	0-10	0 / 14	0	NA	NA	1	1.41	NA	NA	NA	NA	NA	--	--	--	--	--
Alpha-Chlordane	µg/kg	0-10	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Dieldrin	µg/kg	0-10	0 / 14	0	NA	NA	1	1.41	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-10	0 / 14	0	NA	NA	0.5	0.7	NA	NA	NA	NA	NA	--	--	--	--	--
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-10	2 / 16	13	26.2	219	17	23	122.6	30.2	122.6	18586	136.3	X	219	Max Detect	219	Max Detect
Dioxins																		
TEQ Human	ng/kg	0-10	24 / 24	100	0.196	90.8	NA	NA	16.89	16.89	10.28	383.4	19.58	X	26.7	95% Adjusted Gamma UCL	20.9	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-10	24 / 24	100	0.218	64.2	NA	NA	10.79	10.79	6.12	182.3	13.5	X	16.9	95% Adjusted Gamma UCL	13.9	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-10	24 / 24	100	0.196	90.8	NA	NA	16.89	16.89	10.28	383.4	19.58	X	26.7	95% Adjusted Gamma UCL	21.1	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-10	4 / 24	17	0.0914	1.12	0.0264	0.24	0.505	0.107	0.404	0.202	0.45	X	0.203	95% KM (t) UCL	0.259	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-10	2 / 5	40	7.16	11.4	5	5	9.28	6.712	9.28	8.989	2.998	X	11.4	Max Detect	11.4	Max Detect
TPH as gasoline	mg/kg	0-10	0 / 5	0	NA	NA	0.462	0.65	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-10	5 / 5	100	7.56	17.1	NA	NA	13.29	13.29	15.3	18.13	4.258	X	17.1	Max Detect	17.1	Max Detect
Miscellaneous																		
Orthophosphate	mg/kg	0-10	2 / 2	100	204	252	NA	NA	228	228	228	1152	33.94	X	252	Max Detect	252	Max Detect
Sulfate	mg/kg	0-10	2 / 2	100	9.2	12	NA	NA	10.6	10.6	10.6	3.92	1.98	X	12	Max Detect	12	Max Detect

Notes:

^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.

^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.

^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

"--" = not applicable

B(a)P equivalent = benzo(a)pyrene equivalent

BCA = Bias-corrected accelerated bootstrap method

COPC = constituent of potential concern

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

EPC = exposure point concentration

FOD = frequency of detection

ft bgs = feet below ground surface

KM = Kaplan-Meier

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not applicable

ng/kg = nanograms per kilogram

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PG&E = Pacific Gas and Electric Company

TCDD = Tetrachlorodibenzo-p-dioxin

TEQ = toxic equivalent

TPH = total petroleum hydrocarbons

UCL = upper confidence limit

X = COPC in the exposure depth interval

Table NORR-4.1

Summary of COPCs Evaluated in the HHRA for NoRR: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Chromium, Hexavalent	x	x	x	x
Chromium, total	x	x	x	x
Cobalt	x	x	x	x
Copper	x	x	x	x
Lead	x	x	x	x
Orthophosphate	--	--	--	x
Zinc	x	x	x	x
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	x	x	x	x
Fluoranthene	x	x	x	x
Phenanthrene	x	x	x	x
Pyrene	x	x	x	x
Polychlorinated Biphenyls				
Total PCBs	x	x	x	x
Total Petroleum Hydrocarbons				
TPH as diesel	x	x	x	x
TPH as motor oil	x	x	x	x
Dioxins/Furans				
TEQ Human	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	3.7E-01	2.0E-01	2.7E-10	NV
Chromium, total	3.6E+01	2.5E+01	2.6E-08	NV
Cobalt	8.4E+00	8.3E+00	6.1E-09	NV
Copper	1.5E+01	1.2E+01	1.1E-08	NV
Lead	1.1E+01	5.3E+00	7.8E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	5.8E+01	4.3E+01	4.2E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.7E-02	5.0E-03	1.3E-11	NV
Fluoranthene	2.4E-02	1.7E-02	1.8E-11	NV
Phenanthrene	1.0E-02	8.0E-03	7.6E-12	NV
Pyrene	2.1E-02	1.4E-02	1.5E-11	4.5E-09
Polychlorinated Biphenyls				
Total PCBs	5.9E-02	2.2E-01	4.3E-11	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	2.9E+01	1.1E+01	2.1E-08	4.6E-03
TPH as motor oil	3.1E+01	1.7E+01	2.3E-08	NV

Table NORR-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	7.0E-05	2.7E-05	5.1E-14	1.1E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	4.3E-01	2.0E-01	3.2E-10	NV
Chromium, total	3.3E+01	2.5E+01	2.4E-08	NV
Cobalt	8.2E+00	8.3E+00	6.0E-09	NV
Copper	1.4E+01	1.2E+01	1.0E-08	NV
Lead	9.1E+00	5.3E+00	6.7E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	5.3E+01	4.3E+01	3.9E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	9.8E-03	5.0E-03	7.2E-12	NV
Fluoranthene	2.0E-02	1.7E-02	1.5E-11	NV
Phenanthrene	9.0E-03	8.0E-03	6.6E-12	NV
Pyrene	1.7E-02	1.4E-02	1.3E-11	4.5E-09
Polychlorinated Biphenyls				
Total PCBs	2.4E-01	2.2E-01	1.8E-10	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	2.3E+01	1.1E+01	1.7E-08	4.6E-03
TPH as motor oil	2.8E+01	1.7E+01	2.0E-08	NV

Table NORR-4.2b

**Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Shallow Soil (0 to 3 feet bgs)**

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	5.1E-05	2.7E-05	3.8E-14	1.1E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NA = not applicable.
 NS = Not sampled.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	2.9E-01	2.0E-01	2.2E-10	NV
Chromium, total	2.9E+01	2.5E+01	2.1E-08	NV
Cobalt	8.2E+00	8.3E+00	6.0E-09	NV
Copper	1.3E+01	1.2E+01	9.6E-09	NV
Lead	7.3E+00	5.3E+00	5.4E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	4.7E+01	4.3E+01	3.5E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	6.5E-03	5.0E-03	4.8E-12	NV
Fluoranthene	1.7E-02	1.7E-02	1.3E-11	NV
Phenanthrene	8.2E-03	8.0E-03	6.0E-12	NV
Pyrene	1.5E-02	1.4E-02	1.1E-11	4.5E-09
Polychlorinated Biphenyls				
Total PCBs	3.5E-01	2.2E-01	2.6E-10	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	1.6E+01	1.1E+01	1.2E-08	4.6E-03
TPH as motor oil	2.2E+01	1.7E+01	1.6E-08	NV

Table NORR-4.2c

**Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface I Soil (0 to 6 feet bgs)**

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	2.9E-05	2.7E-05	2.1E-14	1.1E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NA = not applicable.
 NS = Not sampled.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Chromium, Hexavalent	2.0E-01	1.5E-10	NV
Chromium, total	2.5E+01	1.8E-08	NV
Cobalt	8.3E+00	6.1E-09	NV
Copper	1.2E+01	8.8E-09	NV
Lead	5.3E+00	3.9E-09	NV
Orthophosphate	2.5E+02	1.9E-07	NV
Zinc	4.3E+01	3.2E-08	NV
Polycyclic Aromatic Hydrocarbons			
Benzo (ghi) perylene	5.0E-03	3.7E-12	NV
Fluoranthene	1.7E-02	1.2E-11	NV
Phenanthrene	8.0E-03	5.9E-12	NV
Pyrene	1.4E-02	1.0E-11	4.5E-09
Polychlorinated Biphenyls			
Total PCBs	2.2E-01	1.6E-10	3.3E-07
Total Petroleum Hydrocarbons			
TPH as diesel	1.1E+01	8.4E-09	4.6E-03
TPH as motor oil	1.7E+01	1.3E-08	NV

Table NORR-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Hypothetical Future Residents: COPCs in NoRR Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Dioxins/Furans			
TEQ Human	2.7E-05	2.0E-14	1.1E-11

Notes:

- ^a Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10⁹ m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	3.7E-01	2.0E-01	2.7E-10	NV
Chromium, total	3.3E+01	2.3E+01	2.4E-08	NV
Cobalt	8.1E+00	8.3E+00	6.0E-09	NV
Copper	1.4E+01	1.1E+01	1.1E-08	NV
Lead	8.7E+00	4.7E+00	6.4E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	5.3E+01	4.1E+01	3.9E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.7E-02	1.3E-01	1.3E-11	NV
Fluoranthene	1.1E-01	1.1E-01	7.9E-11	NV
Phenanthrene	9.0E-02	9.0E-02	6.6E-11	NV
Pyrene	1.1E-01	9.2E-02	7.8E-11	3.0E-08
Polychlorinated Biphenyls				
Total PCBs	5.9E-02	2.2E-01	4.3E-11	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	2.9E+01	1.1E+01	2.1E-08	4.6E-03
TPH as motor oil	3.1E+01	1.7E+01	2.3E-08	NV

Table NORR-4.3a

**Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Surface Soil (0 to 0.5 feet bgs)**

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	4.8E-05	2.1E-05	3.5E-14	8.6E-12

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NA = not applicable.
 NS = Not sampled.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	3.1E-01	2.0E-01	2.3E-10	NV
Chromium, total	3.0E+01	2.3E+01	2.2E-08	NV
Cobalt	8.1E+00	8.3E+00	5.9E-09	NV
Copper	1.3E+01	1.1E+01	9.9E-09	NV
Lead	7.5E+00	4.7E+00	5.5E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	4.9E+01	4.1E+01	3.6E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.3E-01	1.3E-01	9.6E-11	NV
Fluoranthene	1.1E-01	1.1E-01	7.8E-11	NV
Phenanthrene	9.0E-02	9.0E-02	6.6E-11	NV
Pyrene	9.5E-02	9.2E-02	6.9E-11	3.0E-08
Polychlorinated Biphenyls				
Total PCBs	2.4E-01	2.2E-01	1.8E-10	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	2.3E+01	1.1E+01	1.7E-08	4.6E-03
TPH as motor oil	2.8E+01	1.7E+01	2.0E-08	NV

Table NORR-4.3b

**Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Shallow Soil (0 to 3 feet bgs)**

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	3.5E-05	2.1E-05	2.6E-14	8.6E-12

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NA = not applicable.
 NS = Not sampled.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Chromium, Hexavalent	2.5E-01	2.0E-01	1.8E-10	NV
Chromium, total	2.7E+01	2.3E+01	2.0E-08	NV
Cobalt	8.2E+00	8.3E+00	6.0E-09	NV
Copper	1.2E+01	1.1E+01	9.0E-09	NV
Lead	6.1E+00	4.7E+00	4.5E-09	NV
Orthophosphate	NS	2.5E+02	NA	NV
Zinc	4.4E+01	4.1E+01	3.3E-08	NV
Polycyclic Aromatic Hydrocarbons				
Benzo (ghi) perylene	1.3E-01	1.3E-01	9.6E-11	NV
Fluoranthene	9.6E-02	1.1E-01	7.0E-11	NV
Phenanthrene	8.9E-02	9.0E-02	6.6E-11	NV
Pyrene	9.3E-02	9.2E-02	6.8E-11	3.0E-08
Polychlorinated Biphenyls				
Total PCBs	3.5E-01	2.2E-01	2.6E-10	3.3E-07
Total Petroleum Hydrocarbons				
TPH as diesel	1.6E+01	1.1E+01	1.2E-08	4.6E-03
TPH as motor oil	2.2E+01	1.7E+01	1.6E-08	NV

Table NORR-4.3c

**Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface I Soil (0 to 6 feet bgs)**

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	2.4E-05	2.1E-05	1.8E-14	8.6E-12

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
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 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations
for Hypothetical Future Residents: COPCs in NoRR Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Chromium, Hexavalent	2.0E-01	1.5E-10	NV
Chromium, total	2.3E+01	1.7E-08	NV
Cobalt	8.3E+00	6.1E-09	NV
Copper	1.1E+01	8.3E-09	NV
Lead	4.7E+00	3.4E-09	NV
Orthophosphate	2.5E+02	1.9E-07	NV
Zinc	4.1E+01	3.0E-08	NV
Polycyclic Aromatic Hydrocarbons			
Benzo (ghi) perylene	1.3E-01	9.5E-11	NV
Fluoranthene	1.1E-01	7.7E-11	NV
Phenanthrene	9.0E-02	6.6E-11	NV
Pyrene	9.2E-02	6.8E-11	3.0E-08
Polychlorinated Biphenyls			
Total PCBs	2.2E-01	1.6E-10	3.3E-07
Total Petroleum Hydrocarbons			
TPH as diesel	1.1E+01	8.4E-09	4.6E-03
TPH as motor oil	1.7E+01	1.3E-08	NV

Table NORR-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Hypothetical Future Residents: COPCs in NoRR Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Hypothetical Future Resident	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Dioxins/Furans			
TEQ Human	2.1E-05	1.5E-14	8.6E-12

Notes:

- ^a Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.36×10^9 m³/kg was used for hypothetical future residents as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

bgs = below ground surface.
 COPC = Constituent of Potential Concern.
 mg/kg = milligrams per kilogram.
 mg/m³ = milligrams per cubic meter.
 NV = Not volatile.
 PCB = Polychlorinated biphenyls.
 TPH = Total Petroleum Hydrocarbons.
 TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table NORR-4.4

Human Health Risk and Hazard Estimate Summary at NoRR for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Hypothetical Future Resident Soil	Surface	2E-05	2E+00
	Shallow	1E-05	2E+00
	Subsurface I	9E-06	1E+00
	Subsurface II	7E-06	1E+00
Hypothetical Future Resident Home-Produced Food	Surface	1E-03	6E+00
	Shallow	1E-03	7E+00

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table NORR-4.5

Human Health Risk and Hazard Estimate Summary at NoRR for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Hypothetical Future Resident Soil	Surface	1E-05	1E+00
	Shallow	1E-05	1E+00
	Subsurface I	7E-06	1E+00
	Subsurface II	6E-06	1E+00
Hypothetical Future Resident Home-Produced Food	Surface	1E-03	6E+00
	Shallow	9E-04	6E+00

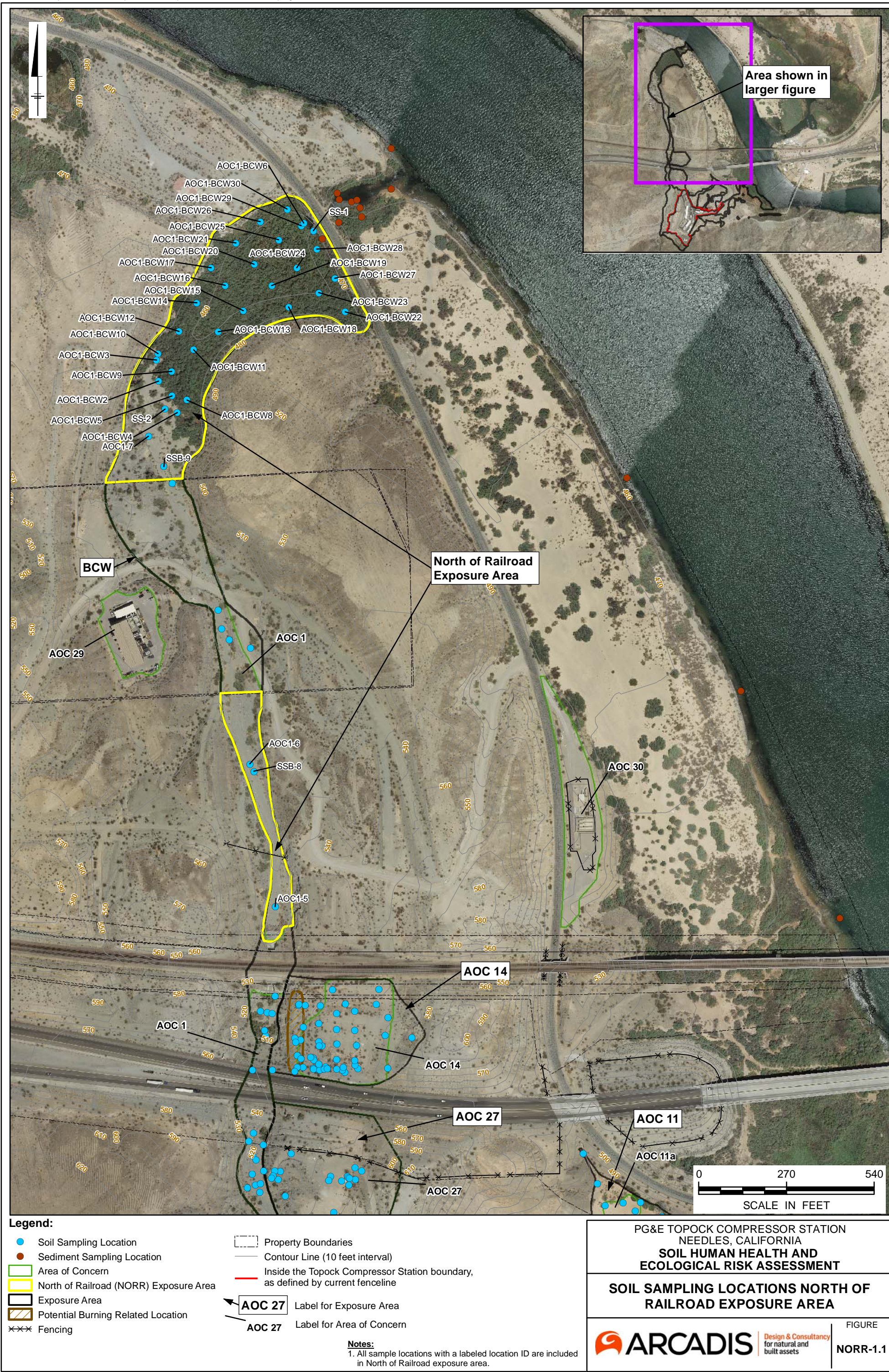
Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

FIGURE





ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for the North
of the Railroad HHRA



Attachment NORR-A
Dataset and Exposure Point Concentration Calculations for the North of the Railroad HHERA

Attachment NORR-A1

Table NORR-A1 Dataset for the North of the Railroad HHERA

Attachment NORR-A2 (Tables provided separately as excel files)

Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-005
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-005_BaPTCDDupdate
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-03
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-03_BaPTCDDupdate
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-06
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-06_BaPTCDDupdate
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-10
Table NORR-A2 Depth-Weighting Files: Input Samples for NofRR_BLM_Baseline_0-10_BaPTCDDupdate

Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-005_ForProUCL
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-005_ForProUCL_BaPTCDDupdate
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-03_ForProUCL
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-03_ForProUCL_BaPTCDDupdate
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-06_ForProUCL
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-06_ForProUCL_BaPTCDDupdate
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-10_ForProUCL
Table NORR-A2 ProUCL Input Files: NofRR_BLM_0-10_ForProUCL_BaPTCDDupdate

Table NORR-A2 ProUCL Output Files: NofRR_BLM_0-005_UCLs
Table NORR-A2 ProUCL Output Files: NofRR_BLM_0-03_UCLs
Table NORR-A2 ProUCL Output Files: NofRR_BLM_0-06_UCLs
Table NORR-A2 ProUCL Output Files: NofRR_BLM_0-10_UCLs
Table NORR-A2 ProUCL Output Files: NofRR_UCLs_BaPTCDDupdate

Attachment NORR-A3 (Tables provided separately as excel files)

Table NORR-A3 NORR_Input Samples Area-Weighted
Table NORR-A3 NORR_Output Area-Weighted UCL-BCA

NORR-A3 Figures Figures List Provided at Start of: NoRR Figures_ThiessenAreaWeighting

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7
	SAMPLE	AOC1-5-365	AOC1-5-366	AOC1-5-367	AOC1-5-368	AOC1-5-369	AOC1-6-370	AOC1-6-371	AOC1-6-372	AOC1-6-373	AOC1-6-374	AOC1-7-375	AOC1-7-376	AOC1-7-377	AOC1-7-378	AOC1-7-379	AOC1-7-380
	DATE	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	9	14	0	2	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
SAMPLE TYPE														Field Duplicate			
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	120	6.5 J	280	8.1 J	1.8 J	440	77	8.9 U	3.5 U	3.5 J	480	--	97 J	4 J	0.27 U	1.1 J
1,2,3,4,6,7,8-HpCDF	ng/kg	9.5 U	0.2 U	45	1.6 U	0.13 U	42	10 U	1.1 U	0.37 U	0.34 U	38 J	--	9.8 J	1.3 U	0.42 U	0.11 U
1,2,3,4,7,8-HxCDD	ng/kg	0.37 U	0.11 U	1.3 J	0.29 U	0.3 U	1.6 U	0.49 U	0.12 U	0.052 U	0.11 U	1.4 J	--	0.64 U	0.32 U	0.19 U	0.068 U
1,2,3,4,7,8-HxCDF	ng/kg	0.44 U	0.053 U	1.2 U	0.14 U	0.067 U	1.3 U	0.51 U	0.13 U	0.092 U	0.14 U	1.8 J	--	0.45 U	0.11 U	0.28 U	0.032 U
1,2,3,4,7,8,9-HpCDF	ng/kg	1.4 U	0.24 U	2.5 U	1.1 U	0.39 U	4.5 U	0.72 U	0.24 U	0.38 U	0.13 U	0.85 U	--	0.79 U	1.2 J	0.59 U	0.33 U
1,2,3,6,7,8-HxCDD	ng/kg	0.47 U	0.17 U	0.22 U	0.19 U	0.09 U	12 J	2.4 J	0.14 U	0.051 U	0.11 U	7.7 J	5 J	--	0.061 U	0.083 U	0.067 U
1,2,3,6,7,8-HxCDF	ng/kg	0.58 U	0.048 U	1.7 U	0.13 U	0.061 U	2.8 U	0.46 U	0.32 U	0.084 U	0.097 U	1.8 U	--	0.41 U	0.099 U	0.07 U	0.03 U
1,2,3,7,8-PeCDD	ng/kg	0.47 U	0.07 U	0.49 U	0.14 U	0.064 U	1 U	0.19 U	0.06 U	0.098 U	0.21 U	0.8 U	0.28 U	--	0.36 U	0.048 U	0.079 U
1,2,3,7,8-PeCDF	ng/kg	0.11 U	0.064 U	0.24 U	0.11 U	0.043 U	0.52 U	0.39 U	0.051 U	0.11 U	0.047 U	0.13 U	--	0.14 U	0.2 U	0.1 U	0.059 U
1,2,3,7,8,9-HxCDD	ng/kg	1.6 U	0.16 U	2.2 U	1.1 U	0.27 J	5.1 J	0.79 U	0.28 U	0.05 U	0.11 U	0.29 U	--	1.6 J	0.63 U	0.24 U	0.066 U
1,2,3,7,8,9-HxCDF	ng/kg	0.25 U	0.063 U	0.52 U	0.56 U	0.079 U	1.6 U	0.6 U	0.15 U	0.11 U	0.13 U	0.8 U	0.43 U	--	0.41 U	0.53 U	0.038 U
2,3,4,6,7,8-HxCDF	ng/kg	6 U	0.2 U	53 U	0.77 J	0.069 U	110 U	20 U	1.2 J	0.095 U	0.31 U	61 U	--	30 U	0.84 J	0.079 U	0.26 U
2,3,4,7,8-PeCDF	ng/kg	0.12 U	0.067 U	0.25 U	0.11 U	0.046 U	0.55 U	0.41 U	0.053 U	0.11 U	0.049 U	0.65 U	--	0.14 U	0.16 U	0.056 U	0.062 U
2,3,7,8-TCDD	ng/kg	0.087 U	0.071 U	0.077 U	0.071 U	0.12 U	0.18 U	0.092 U	0.044 U	0.069 U	0.067 U	0.33 U	--	0.073 U	0.068 U	0.055 U	0.096 U
2,3,7,8-TCDF	ng/kg	0.098 U	0.1 U	0.12 U	0.27 U	0.18 U	0.25 U	0.13 U	0.039 U	0.063 U	0.048 U	0.38 J	0.11 U	--	0.24 U	0.077 U	0.12 U
OCDD	ng/kg	1300	44 U	4200	83	9.2 U	4500	750	9.2 U	41 U	30 U	5100	--	980 J	51	17 J	12 J
OCDF	ng/kg	28	1.3 U	280	4.4 U	0.73 U	94	26	1.5 U	1.5 U	1.6 U	130 J	69	--	2.5 J	1.2 U	0.66 U
TEQ Avian	ng/kg	1.2	0.2	4.7	0.51	0.26	8.8	1.8	0.28	0.21 U	0.24	6.2	3.4	--	0.61	0.2	0.21
TEQ Human	ng/kg	2.4	0.2	8	0.45	0.19	14	2.7	0.3	0.16 U	0.24	12	5.8	--	0.49	0.15	0.15
TEQ Mammals	ng/kg	2.4	0.2	8	0.45	0.19	14	2.7	0.3	0.16 U	0.24	12	5.8	--	0.49	0.15	0.15
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	1.3	1.6	1.4	1 U	1.7	1.8	1.1	1.3	2.1	2.8	1.6 J	1.7	--	1.6	1.9	1.9
Barium	mg/kg	65	76	77	110	51	69	60	92	50	52	56	62	--	51	86	61
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	--	0.21 U	0.21 U	0.21 U
Chromium, total	mg/kg	14	24	19	13	18	23	17	14	21	23	14	20	--	18	25	22
Cobalt	mg/kg	7.2	8.8	7.6	7.2	8.4	8.4	7.1	8.3	9.9	9.4	6.4	9.5	--	9.3	11	10
Copper	mg/kg	7.3	8.7	7.9	9.5	8.3	11	6.7	8.8	8.3	7.3	9.4	9	--	6.3	8.8	9.2
Lead	mg/kg	1.5	1 U	2.1	1 U	1.9	2.9	1.2	1 U	1.5	1.6	1.6	1.9	--	1.1	1.6	1.3
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Nickel	mg/kg	9.7	12	10	8.6	13	11	9.4	9.4	13	17	9.3 J	13	--	12	16	15
Selenium	mg/kg	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	--	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	28	42	27	29	29	30	25	29	36	32	21	34	--	33	38	36
Zinc	mg/kg	26	32	45	28	34	34	27	30	35	38	28 J	35	--	35	42	38
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	6500	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	9100	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	29000	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	4700	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7
	SAMPLE	AOC1-5-365	AOC1-5-366	AOC1-5-367	AOC1-5-368	AOC1-5-369	AOC1-6-370	AOC1-6-371	AOC1-6-372	AOC1-6-373	AOC1-6-374	AOC1-7-375	AOC1-7-376	AOC1-7-377	AOC1-7-378	AOC1-7-379	AOC1-7-380
	DATE	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	9	14	0	2	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
SAMPLE TYPE														Field Duplicate			
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	180 J	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	1300	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	150	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	5.2 U	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	52 U	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	34 U	--	34 U	34 U	34 U	35 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	17 UJ	17 UJ	--	17 UJ	17 UJ	17 UJ
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	17 UJ	17 UJ	--	17 UJ	17 UJ	17 UJ
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	17 UJ	17 UJ	--	17 UJ	17 UJ	17 UJ
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--	17 U	17 U	17 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	390 U	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 UJ	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 UJ	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7
	SAMPLE	AOC1-5-365	AOC1-5-366	AOC1-5-367	AOC1-5-368	AOC1-5-369	AOC1-6-370	AOC1-6-371	AOC1-6-372	AOC1-6-373	AOC1-6-374	AOC1-7-375	AOC1-7-376	AOC1-7-377	AOC1-7-378	AOC1-7-379	AOC1-7-380
	DATE	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	9	14	0	2	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
SAMPLE TYPE														Field Duplicate			
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 UJ	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	0	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	0	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7
	SAMPLE	AOC1-5-365	AOC1-5-366	AOC1-5-367	AOC1-5-368	AOC1-5-369	AOC1-6-370	AOC1-6-371	AOC1-6-372	AOC1-6-373	AOC1-6-374	AOC1-7-375	AOC1-7-376	AOC1-7-377	AOC1-7-378	AOC1-7-379	AOC1-7-380
	DATE	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	9	14	0	2	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
SAMPLE TYPE														Field Duplicate			
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	63 U	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	63 U	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	130 U	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	63 U	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-5	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-6	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7	AOC1-7
	SAMPLE	AOC1-5-365	AOC1-5-366	AOC1-5-367	AOC1-5-368	AOC1-5-369	AOC1-6-370	AOC1-6-371	AOC1-6-372	AOC1-6-373	AOC1-6-374	AOC1-7-375	AOC1-7-376	AOC1-7-377	AOC1-7-378	AOC1-7-379	AOC1-7-380
	DATE	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017	1/9/2017
SAMPLE TOP DEPTH (FT)		0	2	5	9	14	0	2	5	9	14	0	2	2	5	9	14
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	15	0.5	3	6	10	15	0.5	3	3	6	10	15
SAMPLE TYPE														Field Duplicate			
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	680 UJ	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	63 U	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	63 U	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	6.3 U	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	5100	670	17	--	0.88 U	380	830	1800	2.2 U	1400	2900	--	--	550	8.3 J	1.8 U
1,2,3,4,6,7,8-HpCDF	ng/kg	240 U	0.21 U	0.091 U	0.38 J	--	1.3 U	1.9 U	110	0.055 U	160	410	--	--	36	0.39 U	0.21 J
1,2,3,4,7,8-HxCDD	ng/kg	7.1 U	3.5 J	0.2 U	--	0.046 U	1.9 J	4 J	7.8 J	0.13 U	13	3.3 U	--	--	2.6 J	0.29 U	0.14 J
1,2,3,4,7,8-HxCDF	ng/kg	1.1 U	0.21 U	0.16 U	--	0.052 U	2.8 U	2.3 U	2.1 U	0.15 U	7.7 U	45 U	--	--	5 J	0.21 U	0.066 U
1,2,3,4,7,8,9-HpCDF	ng/kg	27	4 U	0.12 U	--	0.067 U	1.6 U	8 U	12 J	0.07 U	11 U	41 U	--	--	5.4 J	0.19 U	0.079 U
1,2,3,6,7,8-HxCDD	ng/kg	88	17	0.78 J	--	0.036 U	8.6 J	25	50	0.13 U	41	70	--	--	16	0.088 U	0.1 U
1,2,3,6,7,8-HxCDF	ng/kg	45 U	7.7 U	1.5 U	--	0.048 U	4.9 U	19 U	4.6 J	0.14 U	6.8 U	40 U	--	--	10 U	0.22 U	0.084 U
1,2,3,7,8-PeCDD	ng/kg	4.2 U	1 U	0.16 U	--	0.052 U	0.35 U	2.4 U	3.8 U	0.1 U	4.4 J	2.9 U	--	--	0.3 U	0.13 U	0.072 U
1,2,3,7,8-PeCDF	ng/kg	0.58 U	1.1 U	1.5 U	--	0.062 U	0.19 U	0.53 U	1.4 U	0.06 U	7.5 U	23 U	--	--	0.26 U	0.07 U	0.1 U
1,2,3,7,8,9-HxCDD	ng/kg	23	7 J	0.19 U	--	0.034 U	3.7 J	9.3 J	18	0.15 U	15	15	--	--	5.4 U	0.23 U	0.055 U
1,2,3,7,8,9-HxCDF	ng/kg	1.3 U	1.6 J	0.24 U	--	0.061 U	1.1 U	2.7 U	2.4 U	0.18 U	8.7 U	51 U	--	--	0.78 U	0.25 U	0.35 U
2,3,4,6,7,8-HxCDF	ng/kg	570 U	110 U	0.27 U	--	0.21 U	58 U	2.4 U	340 U	0.76 U	380 U	670 U	--	--	140 U	1.9 U	0.072 U
2,3,4,7,8-PeCDF	ng/kg	5.1 J	1.2 U	1.6 U	--	0.067 U	0.21 U	2.7 J	1.6 U	0.065 U	5.8 J	23 U	--	--	2.1 J	0.075 U	0.11 U
2,3,7,8-TCDD	ng/kg	0.4 U	0.08 U	0.045 U	--	0.025 U	0.36 U	0.19 U	0.5 J	0.061 U	0.32 U	0.52 U	--	--	0.27 J	0.051 U	0.13 U
2,3,7,8-TCDF	ng/kg	2.3 J	0.077 U	0.069 U	--	0.1 J	0.36 U	0.96 U	1 J	0.16 U	2.5 J	0.84 U	--	--	0.9 J	0.047 U	0.26 J
OCDD	ng/kg	42000	6700	130	14 U	--	4700	9700	16000	13 U	15000	50000	--	--	5200	70	12 U
OCDF	ng/kg	1700	120	2.2 J	--	0.047 U	52	320 J	440	0.56 U	590	2300	--	--	260	0.96 U	0.4 U
TEQ Avian	ng/kg	55	9.7	1.2	0.22	--	5.4	9.1	29	0.27 U	41	70	--	--	14	0.32	0.46
TEQ Human	ng/kg	110	18	0.79	0.15	--	10	19	52	0.19 U	54	100	--	--	19	0.37	0.21
TEQ Mammals	ng/kg	110	18	0.79	0.15	--	10	19	52	0.19 U	54	100	--	--	19	0.37	0.21
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2 U	2.1 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Arsenic	mg/kg	3.6	3.4	1.7	2.6	--	4.4	2.5	3.3	2.1	4.3	4	2.5	2.1	3.7	2.4	3.4
Barium	mg/kg	190	190	100	--	160	180	180	210	91	200	190	110	92	190	190	73
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.42	0.2 U	0.21 U	--	0.21 U	0.36	0.5	0.22 U	0.23 U	0.8	0.21 U	0.21 U	0.21 U	0.22	0.22 U
Chromium, total	mg/kg	52	66	17	25 J	--	19	38	54	11	29	48	12	13	29	22	17
Cobalt	mg/kg	8.5	8.8	7.8	11	--	6.6	11	10	6.5	7.5	7.7	6.2	7.3	8	10	9.3
Copper	mg/kg	16	15	9.5	--	8.2	14	15	16	6	15	17	6.9	6.5	16	17	11
Lead	mg/kg	11	11	1.1	--	1.9	8.5	6.3	7.3	1.1 U	9.8	10	2	1.3	8.7	1.5	2
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.11 U	--	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Nickel	mg/kg	14	14	11	16	--	12	17	18	7.3	13	13	8.3	8.2	14	14	14
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2 U	2.1 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U
Vanadium	mg/kg	33	32	30	--	41	25	41	38	22	30	31	24	26	31	39	34
Zinc	mg/kg	65	63	35	49	--	54	54	62	27	74	58	30	29	62	44	39
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
4,4-DDE	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
4,4-DDT	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Aldrin	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-Chlordane	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
beta-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
delta-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Dieldrin	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endo sulfan I	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Endo sulfan II	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endosulfan sulfate	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin aldehyde	ug/kg	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	--	--	--	--	2.1 U	2.1 U	2.3 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
gamma-Chlordane	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor Epoxide	ug/kg	1 U	1 U	1 U	1.1 U	--	1.1 UJ	1 U	1 U	1.1 U	--	--	--	--	1.1 U	1.1 U	1.1 U
Methoxy chlor	ug/kg	5.2 U	5.1 U	5.1 U	5.3 U	--	5.3 U	5.1 U	5.2 U	5.4 U	--	--	--	--	5.3 U	5.3 U	5.6 U
Toxaphene	ug/kg	52 U	51 U	51 U	53 U	--	53 U	51 U	52 U	54 U	--	--	--	--	53 U	53 U	56 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1221	ug/kg	34 U	34 U	34 U	35 U	--	35 U	34 U	34 U	36 U	37 UJ	37 UJ	--	--	35 U	35 U	37 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	18 U	17 U	17 U	18 U	18 UJ	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1254	ug/kg	17 U	530	17 U	17 U	--	18 U	17 U	17 U	18 U	33 J	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1260	ug/kg	17 U	160	17 U	17 U	--	18 U	17 U	17 U	18 U	26 J	18 UJ	--	--	17 U	18 U	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	17 U	690	17 U	17 U	--	18 U	17 U	17 U	18 U	59	18 U	--	--	17 U	18 U	19 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1	6.5 U	6.5 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1 J	5.6 U	5.6 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U

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Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1	0	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.6 U	5.6 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
SAMPLE TYPE						Field Duplicate												
ANALYTE	UNITS																	
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds																		
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW10	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW11	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW12	AOC1-BCW13	AOC1-BCW13	AOC1-BCW13
	SAMPLE	AOC1-BCW10-187	AOC1-BCW10-188	AOC1-BCW10-189	AOC1-BCW10-190	AOC1-BCW10-191	AOC1-BCW11-192	AOC1-BCW11-193	AOC1-BCW11-194	AOC1-BCW11-195	AOC1-BCW12-196	AOC1-BCW12-197	AOC1-BCW12-198	AOC1-BCW12-199	AOC1-BCW13-200	AOC1-BCW13-201	AOC1-BCW13-202
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE						Field Duplicate											
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	2.3 U	530	47	--	--	--	--	--	--	580	300	26	1.9 U	15	2 J	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.2 U	51	6.2 J	--	--	--	--	--	--	53 J	43	2.3 J	0.18 U	1.7 J	0.49 U	--
1,2,3,4,7,8-HxCDD	ng/kg	0.074 U	3.8 J	0.39 U	--	--	--	--	--	--	4.5 J	22	0.33 U	0.15 U	0.24 U	0.1 U	--
1,2,3,4,7,8-HxCDF	ng/kg	0.098 U	3.1 J	0.24 U	--	--	--	--	--	--	7.1 U	0.16 U	0.63 J	0.084 U	0.26 U	0.1 U	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.093 U	2.8 U	0.46 U	--	--	--	--	--	--	4.8 J	4.7 J	0.47 U	0.11 U	0.59 U	0.052 U	--
1,2,3,6,7,8-HxCDD	ng/kg	0.22 U	0.4 U	1.5 J	--	--	--	--	--	--	24 J	1.1 U	1.1 U	0.11 U	0.21 U	0.086 U	--
1,2,3,6,7,8-HxCDF	ng/kg	0.091 U	1.5 J	0.21 U	--	--	--	--	--	--	2 U	2 J	0.77 U	0.082 U	0.23 U	0.089 U	--
1,2,3,7,8-PeCDD	ng/kg	0.18 U	1 U	0.075 U	--	--	--	--	--	--	3.8 J	3.8 J	0.11 U	0.1 U	0.13 U	0.061 U	--
1,2,3,7,8-PeCDF	ng/kg	0.069 U	1.6 U	0.11 U	--	--	--	--	--	--	1.1 U	0.7 U	0.38 U	0.16 U	0.28 U	0.069 U	--
1,2,3,7,8,9-HxCDD	ng/kg	0.069 U	7.4 J	0.78 J	--	--	--	--	--	--	9.4 J	5 J	0.67 U	0.22 J	0.21 U	0.12 U	--
1,2,3,7,8,9-HxCDF	ng/kg	0.12 U	3.7 U	2.3 U	--	--	--	--	--	--	2.4 U	1.5 J	0.26 U	0.098 U	0.3 U	0.11 U	--
2,3,4,6,7,8-HxCDF	ng/kg	0.6 U	1.1 J	8.9 U	--	--	--	--	--	--	190 U	130 U	8.5 U	0.29 U	0.26 U	0.2 U	--
2,3,4,7,8-PeCDF	ng/kg	0.074 U	1.6 U	0.12 U	--	--	--	--	--	--	1.2 U	0.73 U	0.3 U	0.17 U	0.12 U	0.069 U	--
2,3,7,8-TCDD	ng/kg	0.075 U	0.52 U	0.062 U	--	--	--	--	--	--	0.48 U	0.34 J	4.8 U	0.1 U	0.06 U	0.051 U	--
2,3,7,8-TCDF	ng/kg	0.25 J	0.9 J	0.3 U	--	--	--	--	--	--	0.3 U	0.46 U	0.39 J	0.15 U	0.17 U	0.091 U	--
OCDD	ng/kg	7.6 U	6600	680	--	--	--	--	--	--	5400	3100	200	6.4 U	120 B	24 U	--
OCDF	ng/kg	0.26 U	120	14 J	--	--	--	--	--	--	190 J	120	4.7 J	0.41 U	3 J	0.37 U	--
TEQ Avian	ng/kg	0.47	6	1.1	--	--	--	--	--	--	18	14	3.7	0.32	0.37	0.18	--
TEQ Human	ng/kg	0.24	11	1.7	--	--	--	--	--	--	26	18	3.5	0.21	0.42	0.14	--
TEQ Mammals	ng/kg	0.24	11	1.7	--	--	--	--	--	--	26	18	3.5	0.21	0.42	0.14	--
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	2.1 UJ	2.1 U	2.3 U	2.5 U	2.2 U	2.2 U	2.2 U	2.4 U	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U
Arsenic	mg/kg	2.5	2.5	2.5	1 U	4.5	4.7	2.5	1.1 U	1.1 U	2.4	4.2	2.2	1.8	2.7	1.1 U	1.1 U
Barium	mg/kg	140	150	110	88 J	280	180	140	95	140	150	200	78	40	140	110	120
Beryllium	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.21 U	0.23	0.21 U	0.21 U	0.23 U	0.54	0.22 U	0.22 U	0.22 U	0.36	0.21 U	0.21 U	0.23 U	0.21 U	0.21 U
Chromium, total	mg/kg	16	28	15	14	19	21	43	14	16	30	50	15	10	15	23	18
Cobalt	mg/kg	8.6	9.5	7.7	8	11	6.6	7	8.5	7.5	8.9	7.4	6.3	5.5	6.9	9.1	8.5
Copper	mg/kg	6.5	12	10	8.8	22	15	17	6.6	6.9	13	18	8.1	6.2	13	18	18
Lead	mg/kg	1.5	4.7	3.6	1.3	1.2	9.2	9.9	1.4	1.1 U	5.8	12	1.3	1.1 U	5.1	1.4	2
Mercury	mg/kg	0.11 U	0.11 U	0.1 U	0.1 U	0.11 U	0.12 U	0.13 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Nickel	mg/kg	11	14	11	9.6	18	12	12	9.9	12	14	12	8.8	7.7	10	12	11
Selenium	mg/kg	1.1 U	1.1 U	1 U	1 UJ	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Silver	mg/kg	1.1 U	1.1 U	1 U	1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Thallium	mg/kg	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.5 U	2.2 U	2.2 U	2.2 U	2.4 U	2.1 U	2.1 U	2.3 U	2.1 U	2.1 U
Vanadium	mg/kg	30	39	32	29	37	27	29	32	29	38	31	27	24	28	36	34
Zinc	mg/kg	35	49	34	34	29	52	49	39	37	46	51	28	22	36	41	38
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
4,4-DDE	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
4,4-DDT	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Aldrin	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
alpha-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
alpha-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
beta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
delta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
Dieldrin	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Endo sulfan I	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
Endo sulfan II	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Endosulfan sulfate	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Endrin	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Endrin aldehyde	ug/kg	2.2 U	--	--	--	--	--	--	--	--	2.2 U	2.4 U	2.1 U	2.2 U	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
gamma-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
Heptachlor	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.2 U	1.1 U	1.1 U	--	--	--
Methoxy chlor	ug/kg	5.5 U	--	--	--	--	--	--	--	--	5.5 U	6.1 U	5.3 U	5.4 U	--	--	--
Toxaphene	ug/kg	55 U	--	--	--	--	--	--	--	--	55 U	61 U	53 U	54 U	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1221	ug/kg	37 U	--	--	--	--	--	--	--	--	36 U	40 U	35 U	35 U	--	--	--
Aroclor 1232	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1242	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1248	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1254	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1260	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	18 U	--	--	--	--	--	--	--	--	18 U	20 U	17 U	18 U	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	6.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Fluorene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	5.6 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218	
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5	
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	
	SAMPLE TYPE																	
ANALYTE	UNITS																	
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Volatile Organic Compounds																		
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW13	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW14	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW15	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW16	AOC1-BCW17	AOC1-BCW17	AOC1-BCW17
	SAMPLE	AOC1-BCW13-203	AOC1-BCW14-204	AOC1-BCW14-205	AOC1-BCW14-206	AOC1-BCW14-207	AOC1-BCW15-208	AOC1-BCW15-209	AOC1-BCW15-210	AOC1-BCW15-211	AOC1-BCW16-212	AOC1-BCW16-213	AOC1-BCW16-214	AOC1-BCW16-215	AOC1-BCW17-216	AOC1-BCW17-217	AOC1-BCW17-218
	DATE	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	1300	4.1 J	0.29 U	0.19 U	--	--	--	--	--	--	--	--	160	4.4 J	3.1 U
1,2,3,4,6,7,8-HpCDF	ng/kg	--	57 J	0.13 U	0.05 U	0.028 U	--	--	--	--	--	--	--	--	0.2 U	0.13 U	0.088 U
1,2,3,4,7,8-HxCDD	ng/kg	--	2.8 U	0.4 U	0.056 U	0.06 U	--	--	--	--	--	--	--	--	1.3 J	0.17 U	0.17 U
1,2,3,4,7,8-HxCDF	ng/kg	--	6.8 J	0.17 U	0.032 U	0.034 U	--	--	--	--	--	--	--	--	0.24 U	0.056 U	0.075 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	6.7 U	0.1 U	0.036 U	0.036 U	--	--	--	--	--	--	--	--	1.2 J	0.16 U	0.068 U
1,2,3,6,7,8-HxCDD	ng/kg	--	21	0.39 U	0.055 U	0.049 U	--	--	--	--	--	--	--	--	6.1 J	0.039 U	0.069 U
1,2,3,6,7,8-HxCDF	ng/kg	--	0.46 U	0.15 U	0.03 U	0.031 U	--	--	--	--	--	--	--	--	3.1 U	0.052 U	0.069 U
1,2,3,7,8-PeCDD	ng/kg	--	1.7 U	0.087 U	0.073 U	0.058 U	--	--	--	--	--	--	--	--	0.26 U	0.074 U	0.054 U
1,2,3,7,8-PeCDF	ng/kg	--	1.1 J	0.2 U	0.09 U	0.062 U	--	--	--	--	--	--	--	--	0.32 U	0.086 U	0.1 U
1,2,3,7,8,9-HxCDD	ng/kg	--	7.4 J	0.37 U	0.072 U	0.1 U	--	--	--	--	--	--	--	--	2.7 J	0.037 U	0.14 U
1,2,3,7,8,9-HxCDF	ng/kg	--	1.2 U	0.19 U	0.084 U	0.04 U	--	--	--	--	--	--	--	--	0.28 U	0.065 U	0.087 U
2,3,4,6,7,8-HxCDF	ng/kg	--	110 U	1.4 U	0.1 U	0.035 U	--	--	--	--	--	--	--	--	42 U	1.5 U	1.1 U
2,3,4,7,8-PeCDF	ng/kg	--	0.8 U	0.22 U	0.097 U	0.067 U	--	--	--	--	--	--	--	--	0.34 U	0.1 U	0.11 U
2,3,7,8-TCDD	ng/kg	--	0.21 U	0.053 U	0.076 U	0.069 U	--	--	--	--	--	--	--	--	0.068 U	0.041 U	0.06 U
2,3,7,8-TCDF	ng/kg	--	0.49 U	0.22 U	0.3 U	0.2 U	--	--	--	--	--	--	--	--	0.064 U	0.11 U	0.15 J
OCDD	ng/kg	--	15000	9.5 U	0.66 U	0.9 U	--	--	--	--	--	--	--	--	1600	21 U	13 U
OCDF	ng/kg	--	230 J	0.39 J	0.068 U	0.052 U	--	--	--	--	--	--	--	--	35	0.41 U	0.31 J
TEQ Avian	ng/kg	--	12	0.43	0.3 U	0.21 U	--	--	--	--	--	--	--	--	3.4	0.26	0.35
TEQ Human	ng/kg	--	29	0.31	0.13 U	0.1 U	--	--	--	--	--	--	--	--	5.6	0.22	0.19
TEQ Mammals	ng/kg	--	29	0.31	0.13 U	0.1 U	--	--	--	--	--	--	--	--	5.6	0.22	0.19
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	8.85	8.35	8.72	8.68	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.6 U	2.5 U	2.2 U	2.2 U	2.3 UJ	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.3 U
Arsenic	mg/kg	1.1 U	3.7	2.9	1.7	2.4	3.3	1.4	1 U	1.9	3.4	3.1	3.1	3.8	1 U	1.8	1.6
Barium	mg/kg	250	250	180	110	180	190	60	62	59	96	110	100	120	75	67	71
Beryllium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.26 U	0.25 U	0.22 U	0.22 U	1.4	0.21 U	0.21 U	0.22 U	0.4 U	0.41 U	0.4 U	0.43 U	0.21 U	0.21 U	0.22 U
Chromium, total	mg/kg	19	46	10	9.6	17	58	12	15	12	21	34	35	20	20	14	12
Cobalt	mg/kg	8.3	9.4	5.5	5.8	8.4	8.5	7.1	8.2	7.1	6	7.1	7.1	8.7	8.7	7.3	7.1
Copper	mg/kg	15	19	7	6.9	6	15	6.9	6.9	7.7	7.6	9.2	8.8	8.1	8.2	7.4	8.7
Lead	mg/kg	1.7	13	3.5	1.1 U	1.5	11	1.4	1	1.1 U	3.7	18	4.4	3.8	2.2	1.6	1.4
Mercury	mg/kg	0.11 U	0.13 U	0.12 U	0.11 U	0.11 U	0.12 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1.5	1.1 U	1 U	1.1 U	1.1 U
Nickel	mg/kg	11	18	7.6	7.6	11	15	8.2	11	8.6	10	12	12	14	12	9.9	8.9
Selenium	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 UJ	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Silver	mg/kg	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.6 U	2.5 U	2.2 U	2.2 U	2.3 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.3 U
Vanadium	mg/kg	34	39	23	22	33	34	26	32	31	23	30	28	38	35	34	29
Zinc	mg/kg	39	68	30	28	35	60	27	34	31	40	39	41	39	38	31	29
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
4,4-DDE	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
4,4-DDT	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Aldrin	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
alpha-Chlordane	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
beta-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
delta-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Dieldrin	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endo sulfan I	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Endo sulfan II	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endosulfan sulfate	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin aldehyde	ug/kg	--	2.6 U	2.5 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	2.1 U	2.1 U	2.2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
gamma-Chlordane	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Heptachlor Epoxide	ug/kg	--	1.3 U	1.2 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U
Methoxy chlor	ug/kg	--	6.6 U	6.2 U	5.5 U	5.6 U	--	--	--	--	--	--	--	--	5.3 U	5.3 U	5.6 U
Toxaphene	ug/kg	--	66 U	62 U	55 U	56 U	--	--	--	--	--	--	--	--	53 U	53 U	56 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1221	ug/kg	--	43 U	41 U	36 U	37 U	--	--	--	--	--	--	--	--	35 U	35 U	37 U
Aroclor 1232	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1242	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1248	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1254	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1260	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	22 U	20 U	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	19 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	5.8 U	15	5.8	6.1 U	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.9 J	5 U	5.3 U	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	10 J	5 U	5.3 U	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	9.7 J	5 U	5.3 U	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.7 J	5 U	5.3 U	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	11 J	5 U	5.3 U	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	10 J	5 U	5.3 U	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	19 J	8	5.3 U	--	--	--

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Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	5.3 U	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	7.3 J	5 U	5.3 U	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	5.1 U	5 U	4.9 U	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	0	98.6	14.4	0	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	0	6.2	0	0	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	6.2 J	5 U	5.3 U	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	5 U	16 J	6.4	5.3 U	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	660 U	670 U	670 U	700 U	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1800 U	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1800 UJ	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	660 U	670 U	670 U	700 U	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--

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Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	0.92 U	0.91 U	1 U	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	31 J	11.1 J	17.6 J	10 U	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	110 U	110 U	97 U	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW17	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW18	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW19	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW2	AOC1-BCW20	AOC1-BCW20	AOC1-BCW20
	SAMPLE	AOC1-BCW17-219	AOC1-BCW18-220	AOC1-BCW18-221	AOC1-BCW18-222	AOC1-BCW18-223	AOC1-BCW19-224	AOC1-BCW19-225	AOC1-BCW19-226	AOC1-BCW19-227	AOC1-BCW2-104	AOC1-BCW2-105	AOC1-BCW2-106	AOC1-BCW2-107	AOC1-BCW20-228	AOC1-BCW20-229	AOC1-BCW20-230
	DATE	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	5.7 U	5.3 U	4.9 U	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	57 U	53 U	49 U	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	330 U	340 U	330 U	350 U	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	5.7 U	5.3 U	4.9 U	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	0.61 U	2000	12 J	1 U	0.73 U	--	--	--	--	540	16	--	--	830	510	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.084 U	9.8 U	0.086 U	0.04 U	0.069 U	--	--	--	--	63	1.9 J	--	--	58	110	--
1,2,3,4,7,8-HxCDD	ng/kg	0.04 U	5.2 J	0.13 U	0.047 U	0.03 U	--	--	--	--	4 U	0.22 U	--	--	4.9 J	1.5 U	--
1,2,3,4,7,8-HxCDF	ng/kg	0.064 U	14	0.12 U	0.067 U	0.05 U	--	--	--	--	3.4 U	0.13 U	--	--	4.7 U	8.3 U	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.038 U	12 U	0.11 U	0.038 U	0.087 U	--	--	--	--	5.2 J	0.57 U	--	--	15 U	28 U	--
1,2,3,6,7,8-HxCDD	ng/kg	0.05 U	44	0.13 U	0.046 U	0.062 U	--	--	--	--	16	0.5 U	--	--	20	23	--
1,2,3,6,7,8-HxCDF	ng/kg	0.059 U	23 U	0.11 U	0.057 U	0.12 U	--	--	--	--	4.5 U	0.11 U	--	--	4.1 U	5.4 J	--
1,2,3,7,8-PeCDD	ng/kg	0.097 U	4.6 J	0.12 U	0.073 U	0.074 U	--	--	--	--	2.3 U	0.16 U	--	--	1.7 J	1.5 J	--
1,2,3,7,8-PeCDF	ng/kg	0.085 U	0.2 U	0.075 U	0.08 U	0.052 U	--	--	--	--	5.7 J	0.23 U	--	--	2 U	3.5 U	--
1,2,3,7,8,9-HxCDD	ng/kg	0.047 U	16	0.12 U	0.044 U	0.034 U	--	--	--	--	4.9 U	0.5 U	--	--	12 J	5.7 U	--
1,2,3,7,8,9-HxCDF	ng/kg	0.075 U	3.8 J	0.14 U	0.078 U	0.058 U	--	--	--	--	1.5 U	0.67 J	--	--	5.3 U	1.7 U	--
2,3,4,6,7,8-HxCDF	ng/kg	0.2 U	5.5 J	0.12 U	0.43 U	0.39 U	--	--	--	--	170 U	1.7 U	--	--	160 U	250 U	--
2,3,4,7,8-PeCDF	ng/kg	0.091 U	3.5 J	0.081 U	0.086 U	0.056 U	--	--	--	--	2.3 U	0.23 U	--	--	2 U	3.5 U	--
2,3,7,8-TCDD	ng/kg	0.041 U	0.29 U	0.053 U	0.047 U	0.055 U	--	--	--	--	0.34 U	0.16 U	--	--	0.15 U	0.068 U	--
2,3,7,8-TCDF	ng/kg	0.14 U	0.48 U	0.14 U	0.1 U	0.04 U	--	--	--	--	3.1 J	0.17 U	--	--	0.93 U	0.2 U	--
OCDD	ng/kg	2 U	20000	110	5.6 U	3.4 U	--	--	--	--	5900	120 B	--	--	10000	5500	--
OCDF	ng/kg	0.031 U	440	3.1 J	0.17 U	0.19 U	--	--	--	--	180	2.3 J	--	--	150	310	--
TEQ Avian	ng/kg	0.21 U	18	0.26	0.19 U	0.15 U	--	--	--	--	17	0.62	--	--	16	20	--
TEQ Human	ng/kg	0.12 U	42	0.31	0.12 U	0.12 U	--	--	--	--	21	0.65	--	--	27	26	--
TEQ Mammals	ng/kg	0.12 U	42	0.31	0.12 U	0.12 U	--	--	--	--	21	0.65	--	--	27	26	--
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.6 U	2.4 U	2.2 U	2.2 U	2.4 UJ	2.4 U	2.2 U
Arsenic	mg/kg	2.4	3.3	2.9	2	2	3.9	3.9	2.9	2.2	6.9	3.3	2.3	2	3.4	2.7	1.9
Barium	mg/kg	70	190	110	420	140	72	120	90	66	270	180	55	120	170	170	55
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Cadmium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Chromium, Hexavalent	mg/kg	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	0.21 U	0.21 U	0.21 U	0.22 U	0.26 U	0.24 U	0.22 U	0.22 U	0.24 U	0.28	0.22 U
Chromium, total	mg/kg	22	42	22	15	19	12	20	16	15	38	17	11	13	30	29	11
Cobalt	mg/kg	11	8.6	10	7.2	9.1	4.6	6.6	7.6	7.2	9.6	7.6	5.9	7.3	9.2	6.7	7.3
Copper	mg/kg	17	17	9.7	13	14	7	10	7.7	8.8	22	12	5.7	7.6	14	15	7.7
Lead	mg/kg	2.9	13	3.2	1.6	2	6.1	16	4.2	1.1 U	16	6.9	1.7	1.5	7.4	8.8	1.1
Mercury	mg/kg	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.13 U	0.12 U	0.11 U	0.11 U	0.12 U	0.12 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Nickel	mg/kg	15	15	12	11	11	6.8	12	9.1	9.6	18	12	6.9	8.7	15	11	8
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 UJ	1.2 U	1.1 U
Silver	mg/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Thallium	mg/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.6 U	2.4 U	2.2 U	2.2 U	2.4 U	2.4 U	2.2 U
Vanadium	mg/kg	43	36	38	29	41	23	30	36	29	42	33	28	29	40	29	28
Zinc	mg/kg	48	64	40	33	40	26	43	36	33	84	47	24	33	56	49	27
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.3 U	2.3 U	2.2 U	2.2 U	2.2 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.7 U	5.7 U	5.5 U	5.5 U	5.5 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	57 U	57 U	55 U	55 U	55 U	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	37 U	38 U	36 U	36 U	36 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	19 U	19 U	18 U	18 U	18 U	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	14 JH	6.1 R	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 J	5.3 R	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	8 J	5.3 R	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 J	5.3 R	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.6 J	5.3 R	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	11 J	5.3 R	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	21 J	5.3 R	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6 R	5.3 R	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	87.8	0 R	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	10	0 R	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	10 J	5.3 R	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	16 J	5.3 R	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW20	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW21	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW22	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW23	AOC1-BCW24	AOC1-BCW24	AOC1-BCW24
	SAMPLE	AOC1-BCW20-231	AOC1-BCW21-232	AOC1-BCW21-233	AOC1-BCW21-234	AOC1-BCW21-235	AOC1-BCW22-236	AOC1-BCW22-237	AOC1-BCW22-238	AOC1-BCW22-239	AOC1-BCW23-240	AOC1-BCW23-241	AOC1-BCW23-242	AOC1-BCW23-243	AOC1-BCW24-244	AOC1-BCW24-245	AOC1-BCW24-246
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	1700	38	7.2 J	0.36 U	4100	19 U	--	--	91	0.2 U	0.6 J	0.27 J	5700	16	8 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	110 J	3.4 J	0.69 U	0.032 U	250	3 J	--	--	0.57 U	0.095 U	0.068 U	0.028 U	28 U	0.16 U	0.71 U
1,2,3,4,7,8-HxCDD	ng/kg	--	7.8 J	1.4 J	0.13 U	0.03 U	16	0.76 U	--	--	0.68 U	0.055 U	0.055 U	0.08 U	23	0.19 U	0.2 U
1,2,3,4,7,8-HxCDF	ng/kg	--	1.7 U	0.16 U	0.18 U	0.057 U	18	0.21 U	--	--	0.14 U	0.041 U	0.058 U	0.022 U	74 U	0.21 U	0.19 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	12 J	0.32 U	0.33 U	0.04 U	18 U	1.7 U	--	--	0.73 U	0.035 U	0.086 U	0.035 U	35 U	0.2 U	0.14 U
1,2,3,6,7,8-HxCDD	ng/kg	--	50 J	0.3 U	0.13 U	0.03 U	95	1.2 U	--	--	3.5 J	0.054 U	0.055 U	0.029 U	180	0.19 U	0.19 U
1,2,3,6,7,8-HxCDF	ng/kg	--	29 U	1.6 U	0.17 U	0.053 U	15	0.4 U	--	--	2.9 U	0.038 U	0.15 U	0.02 U	68 U	1.2 U	0.33 U
1,2,3,7,8-PeCDD	ng/kg	--	4.7 J	0.2 U	0.084 U	0.042 U	1.7 U	0.37 U	--	--	0.82 U	0.071 U	0.089 U	0.037 U	14	0.094 U	0.097 U
1,2,3,7,8-PeCDF	ng/kg	--	1 U	0.15 U	0.78 U	0.036 U	3.1 U	0.15 U	0.26 J	--	0.18 U	0.084 U	0.058 U	0.032 U	8.9 J	0.13 U	0.12 U
1,2,3,7,8,9-HxCDD	ng/kg	--	16	0.56 U	0.12 U	0.055 U	30	1.7 U	--	--	1.3 J	0.052 U	0.052 U	0.027 U	53	0.27 U	0.18 U
1,2,3,7,8,9-HxCDF	ng/kg	--	2 U	0.18 U	0.21 U	0.066 U	13 U	0.76 U	--	--	0.25 U	0.048 U	0.068 U	0.026 U	86 U	0.24 U	0.22 U
2,3,4,6,7,8-HxCDF	ng/kg	--	400 U	17 U	4.5 U	0.15 U	540 U	1.4 U	--	--	25 U	0.066 U	0.34 U	0.29 U	1000 U	8.2 U	4.8 U
2,3,4,7,8-PeCDF	ng/kg	--	1.1 U	0.16 U	0.84 U	0.039 U	7.8 J	0.24 U	--	--	2 U	0.091 U	0.063 U	0.035 U	15	0.14 U	0.13 U
2,3,7,8-TCDD	ng/kg	--	0.16 U	0.056 U	0.03 U	0.023 U	0.5 U	0.083 U	--	--	0.19 U	0.052 U	0.04 U	0.053 U	1 U	0.056 U	0.19 U
2,3,7,8-TCDF	ng/kg	--	1.4 J	0.12 U	0.26 U	0.076 U	2.6 J	0.2 U	--	--	0.7 J	0.24 J	0.069 U	0.19 U	2.7 J	0.11 U	0.23 J
OCDD	ng/kg	--	17000	510	73	1.8 U	39000	120 U	--	--	660	1.2 U	4.4 J	1.5 U	47000	130	82
OCDF	ng/kg	--	620 J	17 J	6.6 J	0.037 U	710	3.4 U	--	--	21 J	0.095 U	0.56 U	0.076 U	1500	4.7 J	4 J
TEQ Avian	ng/kg	--	36	1.4	0.93	0.11 U	58	0.78	--	--	4	0.37	0.17	0.18	110	0.75	0.76
TEQ Human	ng/kg	--	58	1.9	0.58	0.067 U	100	0.75	--	--	3.9	0.12	0.13	0.088	180	0.83	0.6
TEQ Mammals	ng/kg	--	58	1.9	0.58	0.067 U	100	0.75	--	--	3.9	0.12	0.13	0.088	180	0.83	0.6
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.2 U	2.6 U	2.6 U	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Arsenic	mg/kg	1.9	5.1	3.6	2.2	2	5	7.1	3.3	3.3	5.2	1.7	1.4	1.9	5.1	4.6	1.3
Barium	mg/kg	43	230	180	110	120	170	190	74	42	210	65	53	78	270	150	96
Beryllium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.3	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1
Chromium, Hexavalent	mg/kg	0.22 U	0.26 U	0.26 U	0.22 U	0.22 U	0.22 U	0.25 U	0.21 U	0.24 U	0.24 U	0.23 U	0.21 U	0.23 U	0.3	0.23 U	0.22 U
Chromium, total	mg/kg	7.9	39	21	13	16	35	12	13	19	33	12	9.7	15	49	18	18
Cobalt	mg/kg	4.5	9.4	9.2	7.5	9.1	9	6.3	6.8	9	8.1	8	6.3	7.4	9.2	6.8	7.8
Copper	mg/kg	4.9	18	14	7.9	14	15	10	11	25	17	8.6	9	7.4	19	10	8.3
Lead	mg/kg	1.3	11	3.8	2.6	2	8.9	8.2	3.6	3.1	17	2	1.3	2.2	14	4.2	1.4
Mercury	mg/kg	0.11 U	0.13 U	0.13 U	0.11 U	0.11 U	0.11 U	0.13 U	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Nickel	mg/kg	5.6	16	12	8.8	11	15	9.8	9.2	14	15	9.2	7	12	17	9.9	12
Selenium	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Silver	mg/kg	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	1.1 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Thallium	mg/kg	2.2 U	2.6 U	2.6 U	2.2 U	2.2 U	2.2 U	2.5 U	2.1 U	2.4 U	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Vanadium	mg/kg	19	41	38	31	38	35	23	24	35	35	36	26	30	39	32	29
Zinc	mg/kg	21	69	42	37	42	59	43	33	40	59	33	29	31	73	38	33
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
4,4-DDE	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
4,4-DDT	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Aldrin	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
alpha-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
alpha-Chlordane	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
beta-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
delta-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Dieldrin	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endo sulfan I	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Endo sulfan II	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endosulfan sulfate	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin aldehyde	ug/kg	--	2.6 U	2.6 U	2.2 U	2.2 U	--	--	--	--	2.4 U	2.3 U	2.1 U	2.3 U	2.4 U	2.3 U	2.2 U
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
gamma-Chlordane	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Heptachlor	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Heptachlor Epoxide	ug/kg	--	1.3 U	1.3 U	1.1 U	1.1 U	--	--	--	--	1.2 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U
Methoxy chlor	ug/kg	--	6.5 U	6.5 U	5.5 U	5.6 U	--	--	--	--	6 U	5.6 U	5.3 U	5.7 U	6 U	5.8 U	5.4 U
Toxaphene	ug/kg	--	65 U	65 U	55 U	56 U	--	--	--	--	60 U	56 U	53 U	57 U	60 U	58 U	54 U
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1221	ug/kg	--	43 U	43 U	--	--	--	--	--	--	40 U	37 U	--	--	39 U	38 U	--
Aroclor 1232	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1242	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1248	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1254	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1260	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	21 U	21 U	--	--	--	--	--	--	20 U	19 U	--	--	20 U	19 U	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	72	7.5 U	6.4 U	6.4 U	21 JH	7.2 R	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	9.8 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	14 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	31 J	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	13 J	6.2 R	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	--	10	6.5 U	5.5 U	5.5 U	16 J	6.2 R	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	--	16	6.5 U	5.5 U	5.5 U	26 J	6.2 R	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Fluorene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	65 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	--	6.5 U	6.5 U	5.5 U	5.5 U	5.6 R	6.2 R	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	--	40	0	0	0	133	0 R	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	7.8	0	0	0	12	0 R	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	7.8	6.5 U	5.5 U	5.5 U	12 J	6.2 R	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	14	6.5 U	5.5 U	5.5 U	23 J	6.2 R	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW24	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW25	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW26	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW27	AOC1-BCW28	AOC1-BCW28	AOC1-BCW28
	SAMPLE	AOC1-BCW24-247	AOC1-BCW25-248	AOC1-BCW25-249	AOC1-BCW25-250	AOC1-BCW25-251	AOC1-BCW26-252	AOC1-BCW26-253	AOC1-BCW26-254	AOC1-BCW26-255	AOC1-BCW27-256	AOC1-BCW27-257	AOC1-BCW27-258	AOC1-BCW27-259	AOC1-BCW28-260	AOC1-BCW28-261	AOC1-BCW28-262
	DATE	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016	2/5/2016
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	0	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	0.5	3	6	10	0.5	3	6
SAMPLE TYPE																	
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)	9	0	2	5	9	0	2	5	9	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)	10	0.5	3	6	10	0.5	3	6	10	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT	10	0.5	3	6	10	0.5	3	6	10	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	0.65 U	2900	2.8 J	2.7 J	17	--	--	--	--	--	5200	0.77 U	--	--	--	--
1,2,3,4,6,7,8-HxCDF	ng/kg	0.076 U	280	0.12 U	0.69 J	0.75 U	--	--	--	--	--	460	2.4 J	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.034 U	13 U	0.74 J	0.2 U	0.15 U	--	--	--	--	--	22	0.46 U	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.044 U	12 U	0.13 U	0.3 J	0.072 U	--	--	--	--	--	34	0.63 U	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.097 U	5 U	0.14 U	0.29 U	0.11 U	--	--	--	--	--	24	0.22 U	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.033 U	68	0.14 U	0.072 U	0.23 U	--	--	--	--	--	5.8 U	0.32 U	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.041 U	12 U	0.13 U	0.36 U	0.14 U	--	--	--	--	--	32	0.49 U	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.072 U	2.4 U	0.095 U	0.2 U	0.09 U	--	--	--	--	--	12 J	0.87 J	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.064 U	10 J	0.15 U	0.14 U	0.092 U	--	--	--	--	--	8.8 U	0.23 U	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.032 U	12 U	0.13 U	0.18 U	0.15 U	--	--	--	--	--	49	0.64 U	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.051 U	14 U	0.27 U	0.26 U	0.084 U	--	--	--	--	--	9.1 U	0.93 U	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	0.15 U	600 U	2.5 U	1 U	1.3 U	--	--	--	--	--	890 U	7.8 U	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.069 U	4.1 U	0.16 U	0.15 U	0.17 U	--	--	--	--	--	13	0.46 U	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.066 U	0.39 U	0.084 U	0.27 U	0.12 U	--	--	--	--	--	0.5 J	1.1 U	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.15 U	1.2 U	1.1 U	1.2 J	0.61 U	--	--	--	--	--	7	0.65 J	--	--	--	--
OCDD	ng/kg	1.8 U	30000	24 J	29	370	--	--	--	--	--	14000	98 B	--	--	--	--
OCDF	ng/kg	0.23 U	1300	0.8 U	1.1 U	2.4 J	--	--	--	--	--	980	3.6 J	--	--	--	--
TEQ Avian	ng/kg	0.2 U	47	0.93	1.7	0.65	--	--	--	--	--	100	2.9	--	--	--	--
TEQ Human	ng/kg	0.11 U	84	0.45	0.56	0.55	--	--	--	--	--	140	2.2	--	--	--	--
TEQ Mammals	ng/kg	0.11 U	84	0.45	0.56	0.55	--	--	--	--	--	140	2.2	--	--	--	--
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	--	--	--	--	--	8.76	8.68	8.58	--	9.54	--	--	--	--	8.06	8.28
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	2 U	2 U	2.1 U	2.1 U	--	2.4 UJ	2.4 U	2.3 U	2.3 U	2 U	2 U
Arsenic	mg/kg	1.8	4.3	4.2	5.4	2.7	4.4	3.2	4.2	4.2	--	4.2	5.5	3.4	3.7	2.7	4.4
Barium	mg/kg	110	160	210	350	74	140	99	170	--	130	220	140	210	49	180	76
Beryllium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	1.2 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Cadmium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	1 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.26 U	0.27 U	0.31 U	0.24 UJ	0.42	0.4 U	0.42 U	0.42 U	--	0.24 U	0.26	0.23 U	0.23 U	1.3	0.41 U
Chromium, total	mg/kg	18	33	17	27	11	25	25	23	--	22	42	14	12	8.8	36	24
Cobalt	mg/kg	8.9	8.7	8.7	14	7.3	6.4	7.5	11	--	9.3	7.3	6	6	5.8	8.3	5.8
Copper	mg/kg	11	15	13	23	7.1	11	9.8	9.6	--	8.8	18	8.7	8.4	7.8	13	8.3
Lead	mg/kg	2.1	8.3	5.2	7.6	1.2 U	7.3	4	2.2	--	2.3	17 J	2.7	2.9	1.2 U	9.4	3.6
Mercury	mg/kg	0.11 U	0.13 U	0.14 U	0.15 U	0.12 U	0.1 U	0.1 U	0.1 U	0.11 U	--	0.12 U	0.12 U	0.12 U	0.12 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	2.1 U	1.1 U	--	1.2 UJ	1.2 U	1.2 U	1.2 U	1 U	1 U
Nickel	mg/kg	11	14	13	19	9.6	12	13	14	--	14	14	11	9.6	6.3	16	9.5
Selenium	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	1 U	1.1 U	--	1.2 UJ	1.2 U	1.2 U	1.2 U	1 U	1 U
Silver	mg/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	1 U	1 U	2.1 U	1.1 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1 U	1 U
Thallium	mg/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	2 U	2 U	4.1 U	2.1 U	--	2.4 UJ	2.4 U	2.3 U	2.3 U	2 U	2 U
Vanadium	mg/kg	36	38	31	46	32	27	30	36	--	37	28	22	23	19	33	23
Zinc	mg/kg	39	56	49	66	29	51	38	43	--	41	61	28	29	27	61	33
Metals CLP																	
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.2 U	2.6 U	2.7 U	3.1 U	2.4 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	1.3 U	1.4 U	1.5 U	1.2 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.6 U	6.6 U	6.8 U	7.7 U	6.1 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	56 U	66 U	68 U	77 U	61 U	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	43 U	45 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	22 U	22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Acenaphthene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Acenaphthylene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Anthracene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	32	5.8 U	6 U	6.1 U	--	--	--	--	--	30	5.9 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	22	5 U	5.2 U	5.3 U	--	--	--	--	--	12	5.1 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	20	5 U	5.2 U	5.3 U	--	--	--	--	--	18	5.1 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	24	5 U	5.2 U	5.3 U	--	--	--	--	--	27	5.1 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	17	5 U	5.2 U	5.3 U	--	--	--	--	--	16	5.1 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	27	5 U	5.2 U	5.3 U	--	--	--	--	--	16	5.1 U
Chrysene	ug/kg	--	--	--	--	--	29	5 U	5.2 U	5.3 U	--	--	--	--	--	22	5.1 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	5.9	5 U	5.2 U	5.3 U	--	--	--	--	--	6.1	5.1 U
Fluoranthene	ug/kg	--	--	--	--	--	34	5 U	5.2 U	5.3 U	--	--	--	--	--	31	5.1 U

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Fluorene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.2 U	5.3 U	--	--	--	--	--	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	14	5 U	5.2 U	5.3 U	--	--	--	--	--	14	5.1 U
Naphthalene	ug/kg	--	--	--	--	--	5.1 U	5 U	5.1 U	4.7 U	--	--	--	--	--	5.1 U	5.1 U
PAH High molecular weight	ug/kg	--	--	--	--	--	223	0	0	0	--	--	--	--	--	189	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	14	0	0	0	--	--	--	--	--	11	0
Phenanthrene	ug/kg	--	--	--	--	--	14	5 U	5.2 U	5.3 U	--	--	--	--	--	11	5.1 U
Pyrene	ug/kg	--	--	--	--	--	30	5 U	5.2 U	5.3 U	--	--	--	--	--	27	5.1 U
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Chlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Methylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2-Nitrophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
3-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	670 U	660 U	680 U	690 U	--	--	--	--	--	670 U	670 U
4-Chloroaniline	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Methylphenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Nitroaniline	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
4-Nitrophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U
Benzyl alcohol	ug/kg	--	--	--	--	--	670 U	660 U	680 U	690 U	--	--	--	--	--	670 U	670 U
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Butylbenzylphthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Dibenzofuran	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Diethyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Dimethyl phthalate	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Hexachlorobenzene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Hexachloroethane	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Pentachlorophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
Phenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	--	--	--	--	--	10 U	10 U	10 U	10 U	--	--	--	--	--	15.8	10 U
TPH as gasoline	mg/kg	--	--	--	--	--	--	1.1 U	1.2 U	--	0.95 U	--	--	--	--	--	0.92 U
TPH as motor oil	mg/kg	--	--	--	--	--	21.6 J	10.7 J	10 U	10 U	--	--	--	--	--	17.8 J	10 U
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	1600 U	1600 U	1600 U	1700 U	--	--	--	--	--	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Acetone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Acrolein	ug/kg	--	--	--	--	--	--	110 U	100 U	94 U	--	--	--	--	--	--	100 U
Acrylonitrile	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Benzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Bromobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromochloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromodichloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromoform	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Bromomethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Carbon disulfide	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloro methane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chlorobenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloroethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Chloroform	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW28	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW29	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW3	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW30	AOC1-BCW4	AOC1-BCW4
	SAMPLE	AOC1-BCW28-263	AOC1-BCW29-264	AOC1-BCW29-265	AOC1-BCW29-266	AOC1-BCW29-267	AOC1-BCW3-108	AOC1-BCW3-109	AOC1-BCW3-110	AOC1-BCW3-111	AOC1-BCW3-112	AOC1-BCW30-268	AOC1-BCW30-269	AOC1-BCW30-270	AOC1-BCW30-271	AOC1-BCW4-113	AOC1-BCW4-114
	DATE	2/5/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	10/4/2008	10/4/2008
SAMPLE TOP DEPTH (FT)		9	0	2	5	9	0	2	5	9	9	0	2	5	9	0	2
SAMPLE BOTTOM DEPTH (FT)		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	6	10	0.5	3	6	10	10	0.5	3	6	10	0.5	3
SAMPLE TYPE											Field Duplicate						
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Dibromomethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Ethyl- benzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Hexachlorobutadiene	ug/kg	--	--	--	--	--	340 U	5.6 U	5.1 U	4.7 U	--	--	--	--	--	340 U	5.1 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	56 U	51 U	47 U	--	--	--	--	--	--	51 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
N-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
N-Propylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Nitrobenzene	ug/kg	--	--	--	--	--	340 U	330 U	340 U	350 U	--	--	--	--	--	340 U	330 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Styrene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Tetrachloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Toluene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Trichloroethene	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Vinyl chloride	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylene, m,p-	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylene, o-	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U
Xylenes, total	ug/kg	--	--	--	--	--	--	5.6 U	5.1 U	4.7 U	--	--	--	--	--	--	5.1 U

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Dioxins																	
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	2100 J	570 J	730	1400	--	--	--	920	17
1,2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	210 J	85 J	55	110	--	--	--	78	1.8 U
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	14 J	3.1 J	3.2 U	6.9 J	--	--	--	3.7 J	0.33 U
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	14 J	2 UJ	4.9 U	6.4 J	--	--	--	11 U	0.41 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	8.4 UJ	6.7 UJ	2.8 U	7.6 J	--	--	--	6.7 U	0.19 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	75 J	0.79 UJ	15	30	--	--	--	22	0.71 U
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	14 J	5.2 UJ	4.3 U	6 J	--	--	--	9.7 U	0.36 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	5.3 UJ	0.37 UJ	1.5 U	1.8 U	--	--	--	0.23 U	0.13 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	4 UJ	1.5 UJ	0.73 U	2.9 U	--	--	--	1.2 U	0.15 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	25 J	7.9 J	5.9 J	14	--	--	--	7.7 J	0.29 U
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	5.5 UJ	2.3 UJ	5.6 U	2.5 J	--	--	--	1.8 U	0.47 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	350 UJ	2.5 UJ	120 U	180 U	--	--	--	220 U	3.9 U
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	5.5 UJ	1.5 UJ	0.63 U	3.7 U	--	--	--	1.9 U	0.15 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	0.31 UJ	0.1 UJ	0.18 U	0.33 U	--	--	--	0.13 U	0.067 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	2 UJ	0.2 UJ	0.66 U	3 J	--	--	--	1.5 J	0.096 U
OCDD	ng/kg	--	--	--	--	--	--	--	16000 J	8000 J	9900	18000	--	--	--	10000	150 B
OCDF	ng/kg	--	--	--	--	--	--	--	510 J	200 J	170	270	--	--	--	220	5.1 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	37	5	11	23	--	--	--	19	0.55
TEQ Human	ng/kg	--	--	--	--	--	--	--	64	11	21	38	--	--	--	29	0.68
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	64	11	21	38	--	--	--	29	0.68
General																	
Orthophosphate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH	PHUNITS	8.69	8.94	9.43	8.58	8.26	9.55	--	7.74	7.89	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Antimony	mg/kg	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	--	5.7 U	5.8 U	2.2 U	2 U	2 U	2.1 U	--	2.2 U	2.2 U
Arsenic	mg/kg	4	5.1	3.7	3.5	3.9	4.7	--	13	9.3	3.8	2.5	1.4	--	2.2	4	3.5
Barium	mg/kg	60	81	160	130	120	110	--	320	230	180	110	82	92	--	200	190
Beryllium	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.43 U	0.45	0.41 U	0.42 U	0.43 U	--	2.6	0.61 U	0.22 U	0.44	0.24	0.21 U	--	0.22 U	1.2
Chromium, total	mg/kg	23	22	35	31	26	--	24	71	21	21	28	18	15 J	--	35	66
Cobalt	mg/kg	9.4	9.7	8.7	7.4	9.9	9.2	--	7.7	6.3	7.1	9.3	9.6	--	8.7	8.3	8.1
Copper	mg/kg	8.4	7.6	12	9.6	8.4	--	7.3 U	22	14	14	10	8.4	9.3	--	17	16
Lead	mg/kg	2.7	2.3	6	7	2.7	3.2	--	23	8.7	8.3	4.5	3.2	1.1	--	9.3	11
Mercury	mg/kg	0.1 U	0.11 U	0.099 U	0.1 U	0.1 U	0.11 U	--	0.14 U	0.14 U	0.11 U	0.1 U	0.1 U	0.11 U	--	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Nickel	mg/kg	14	15	15	12	15	15	--	18	13	13	12	10	--	9.5	15	14
Selenium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 UJ	--	1.1 U	1.1 U
Silver	mg/kg	1 U	2.1 U	1 U	1 U	1 U	2.1 U	--	2.8 U	2.9 U	1.1 U	1 U	1 U	1.1 U	--	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	4.3 U	2 U	2 U	2.1 U	4.2 U	--	5.7 U	5.8 U	2.2 U	2 U	2 U	2.1 U	--	2.2 U	2.2 U
Vanadium	mg/kg	37	35	34	30	41	35	--	37	31	32	37	32	32	--	33	33
Zinc	mg/kg	45	42	46	42	44	40	--	81	50	53	45	35	--	37	61	57
Metals CLP																	
Aluminum	mg/kg	--	--	9500	--	--	--	--	14000	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	20000	--	--	--	--	35000	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	1 U	--	--	--	--	6.7 U	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	18000	--	--	--	--	20000	--	--	--	--	--	--	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	7700	--	--	--	--	11000	--	--	--	--	--	--	--	--

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Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate								Field Duplicate	
ANALYTE	UNITS																
Manganese	mg/kg	--	--	300	--	--	--	--	420	--	--	--	--	--	--	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	mg/kg	--	--	3900	--	--	--	--	4000	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	360 U	--	--	--	--	660	--	--	--	--	--	--	--	--
Pesticides																	
4,4-DDD	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	2 U	--	--	--	--	2.8 U	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	1 U	--	--	--	--	1.4 U	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	5 U	--	--	--	--	7.1 U	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	50 U	--	--	--	--	71 U	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																	
Aroclor 1016	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1221	ug/kg	--	--	33 U	--	--	--	--	47 U	--	--	--	--	--	--	36 UJ	35 UJ
Aroclor 1232	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1242	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1248	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1254	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1260	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 UJ	18 UJ
Aroclor 1262	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	17 U	--	--	--	--	23 U	--	--	--	--	--	--	18 U	18 U
Polycyclic Aromatic Hydrocarbons																	
1-Methyl naphthalene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Anthracene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	6 U	6.1 U	5.8 U	12	6 U	6.1 U	--	9	9	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5.2 U	5.3 U	5 U	5.7	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5.2 U	5.3 U	5 U	7.9	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	11	10	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5.2 U	5.3 U	5 U	5.5	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Chrysene	ug/kg	5.2 U	5.3 U	5 U	8.1	5.2 U	5.3 U	--	7.3	7.7	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Fluoranthene	ug/kg	5.2 U	5.3 U	5 U	9.3	5.2 U	5.3 U	--	10	19	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Fluorene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.3 U	5 U	5.1	5.2 U	5.3 U	--	7.1 U	7.2 U	--	--	--	--	--	--	--
Naphthalene	ug/kg	4.8 U	4.4 U	5 U	5.1 U	5.1 U	5.3 U	--	7.1 U	6.4 U	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	0	0	0	50.9	0	0	--	38.3	51.7	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	--	0	10	--	--	--	--	--	--	--
Phenanthrene	ug/kg	5.2 U	5.3 U	5 U	5.1 U	5.2 U	5.3 U	--	7.1 U	10	--	--	--	--	--	--	--
Pyrene	ug/kg	5.2 U	5.3 U	5 U	9.3	5.2 U	5.3 U	--	10	15	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																	
1,1'-Biphenyl	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	680 U	700 U	670 U	670 U	690 U	700 U	--	940 U	960 U	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	--	2300 U	2400 U	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	710 U	--	--	--	--	990 U	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	--	2300 UJ	2400 U	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	680 U	700 U	670 U	670 U	690 U	700 U	--	940 U	960 U	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
Phenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Total Petroleum Hydrocarbons																	
TPH as diesel	mg/kg	10 U	10 U	28.9	10.5	10 U	10 U	--	10 U	10 U	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	1 U	1 U	--	0.98 U	0.92 U	1.2 U	--	--	1.3 U	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	10 U	10 U	30.1 J	22.6 J	10 U	10 U	--	17.5	16.3	--	--	--	--	--	--	--
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	330 U	--	--	--	--	470 U	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	52 U	--	--	--	--	64 U	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	1700 U	1700 U	1600 U	1600 U	1700 U	1700 U	--	2300 U	2300 U	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Acetone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Acrolein	ug/kg	96 U	89 U	--	100 U	100 U	120 U	--	--	130 U	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Benzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Bromobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromoform	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Bromomethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloro methane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloroethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Chloroform	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW4	AOC1-BCW4	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW5	AOC1-BCW6	AOC1-BCW6	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW8	AOC1-BCW9	AOC1-BCW9
	SAMPLE	AOC1-BCW4-115	AOC1-BCW4-116	AOC1-BCW5-117	AOC1-BCW5-118	AOC1-BCW5-119	AOC1-BCW5-120	AOC1-BCW5-121	AOC1-BCW6-122	AOC1-BCW6-123	AOC1-BCW8-280	AOC1-BCW8-281	AOC1-BCW8-282	AOC1-BCW8-283	AOC1-BCW8-284	AOC1-BCW9-285	AOC1-BCW9-286
	DATE	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	10/4/2008	8/22/2008	8/22/2008	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016	2/4/2016
SAMPLE TOP DEPTH (FT)		5	9	0	2	5	9	9	0	2	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	3	6	10	10	0.5	3	0.5	3	6	10	10	0.5	3
SAMPLE TYPE								Field Duplicate							Field Duplicate		
ANALYTE	UNITS																
Cyclohexane	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Dibromomethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	4.8 U	4.4 U	330 U	5.2 U	5.1 U	6.2 U	--	470 U	6.4 U	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	670 U	--	--	--	--	940 UJ	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	48 U	44 U	--	52 U	51 U	62 U	--	--	64 U	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	5.2 U	--	--	--	--	6.4 U	--	--	--	--	--	--	--
Methylene chloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	340 U	350 U	330 U	330 U	340 U	350 U	--	470 U	480 U	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Styrene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Toluene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Trichloroethene	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylene, o-	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--
Xylenes, total	ug/kg	4.8 U	4.4 U	--	5.2 U	5.1 U	6.2 U	--	--	6.4 U	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1	SS-2	SS-2	SSB-8	SSB-8	SSB-8	SSB-8	SSB-9	SSB-9	SSB-9	SSB-9
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5	SS-2-0.5	SS-2-1.5	SSB-8-1	SSB-8-10	SSB-8-3	SSB-8-6	SSB-9-1	SSB-9-10	SSB-9-3	SSB-9-6
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997	6/29/1997	6/29/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5	0.5	1.5	0.5	10	3	6	0.5	10	3	6
SAMPLE TYPE															
ANALYTE	UNITS														
Dioxins															
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General															
Orthophosphate	mg/kg	--	--	--	--	--	--	--	204	--	--	--	252	--	--
pH	PHUNITS	--	--	8.56	8.3	8.05	8.46	8.46	8.9	8.53	8.2	7.95	8.82	8.52	8.44
Sulfate	mg/kg	--	--	--	--	--	--	--	12	--	--	--	9.2 J	--	--
Sulfide	mg/kg	--	--	--	--	--	--	--	0.4 U	--	--	--	0.4 U	--	--
Metals															
Antimony	mg/kg	2.1 U	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	2.4	2.4	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	110	100	--	--	--	--	--	43.9	--	--	--	102	--	--
Beryllium	mg/kg	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.21 U	0.21 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chromium, total	mg/kg	17	13	38.2	25.3	18.9	10.2	53.1	17.1	13.6	15.3	17.3	15.7	11	9.6
Cobalt	mg/kg	8.5	7.9	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	9.5	10	16.5	13.6	14.1	12.9	15.1	10.7	14.1	7.3	8.6	7.7	6.1	6.4
Lead	mg/kg	3	1.1 U	--	--	--	--	--	2.8	--	--	--	3	--	--
Mercury	mg/kg	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	1.1 U	1.1 U	--	--	--	--	--	0.071 J	--	--	--	0.096 J	--	--
Nickel	mg/kg	11	10	17.9	12.5	13.2	9.4	15.3	13.9	10.6	10	10.1	11.4	7	7.8
Selenium	mg/kg	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg	1.1 U	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/kg	2.1 U	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	37	28	--	--	--	--	--	26.8	--	--	--	25.7	--	--
Zinc	mg/kg	37	32	55	43.4	48.3	42.2	38.3	35.8	35.3	33.5	35.5	33.1	31.8	25.3
Metals CLP															
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	15600	--	--	--	14200	--	--
Iron (+2)	mg/kg	--	--	--	--	--	--	--	100 U	--	--	--	100 U	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1	SS-2	SS-2	SSB-8	SSB-8	SSB-8	SSB-8	SSB-9	SSB-9	SSB-9	SSB-9
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5	SS-2-0.5	SS-2-1.5	SSB-8-1	SSB-8-10	SSB-8-3	SSB-8-6	SSB-9-1	SSB-9-10	SSB-9-3	SSB-9-6
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997	6/29/1997	6/29/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5	0.5	1.5	0.5	10	3	6	0.5	10	3	6
SAMPLE TYPE															
ANALYTE	UNITS														
Manganese	mg/kg	--	--	--	--	--	--	--	270	--	--	--	205	--	--
Manganese Extractable	mg/kg	--	--	--	--	--	--	--	57.2	--	--	--	39.5	--	--
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides															
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls															
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons															
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1	SS-2	SS-2	SSB-8	SSB-8	SSB-8	SSB-8	SSB-9	SSB-9	SSB-9	SSB-9
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5	SS-2-0.5	SS-2-1.5	SSB-8-1	SSB-8-10	SSB-8-3	SSB-8-6	SSB-9-1	SSB-9-10	SSB-9-3	SSB-9-6
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997	6/29/1997	6/29/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5	0.5	1.5	0.5	10	3	6	0.5	10	3	6
SAMPLE TYPE															
ANALYTE	UNITS														
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds															
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1	SS-2	SS-2	SSB-8	SSB-8	SSB-8	SSB-8	SSB-9	SSB-9	SSB-9	SSB-9
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5	SS-2-0.5	SS-2-1.5	SSB-8-1	SSB-8-10	SSB-8-3	SSB-8-6	SSB-9-1	SSB-9-10	SSB-9-3	SSB-9-6
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997	6/29/1997	6/29/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5	0.5	1.5	0.5	10	3	6	0.5	10	3	6
SAMPLE TYPE															
ANALYTE	UNITS														
Total Petroleum Hydrocarbons															
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds															
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table NORR-A1
Dataset for NORR HHERA

Soil Human Health and Ecological Risk Assessn
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC1-BCW9	AOC1-BCW9	SS-1	SS-1	SS-2	SS-2	SSB-8	SSB-8	SSB-8	SSB-8	SSB-9	SSB-9	SSB-9	SSB-9
	SAMPLE	AOC1-BCW9-287	AOC1-BCW9-288	SS-1-0.5	SS-1-1.5	SS-2-0.5	SS-2-1.5	SSB-8-1	SSB-8-10	SSB-8-3	SSB-8-6	SSB-9-1	SSB-9-10	SSB-9-3	SSB-9-6
	DATE	2/4/2016	2/4/2016	6/29/1997	6/29/1997	6/29/1997	6/29/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997	7/10/1997
SAMPLE TOP DEPTH (FT)		5	9	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	1.5	0.5	1.5	1	10	3	6	1	10	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	1.5	0.5	1.5	0.5	10	3	6	0.5	10	3	6
SAMPLE TYPE															
ANALYTE	UNITS														
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

NORR-A3 Appendix Figure List

Exposure Unit: NORTH OF RAILROAD

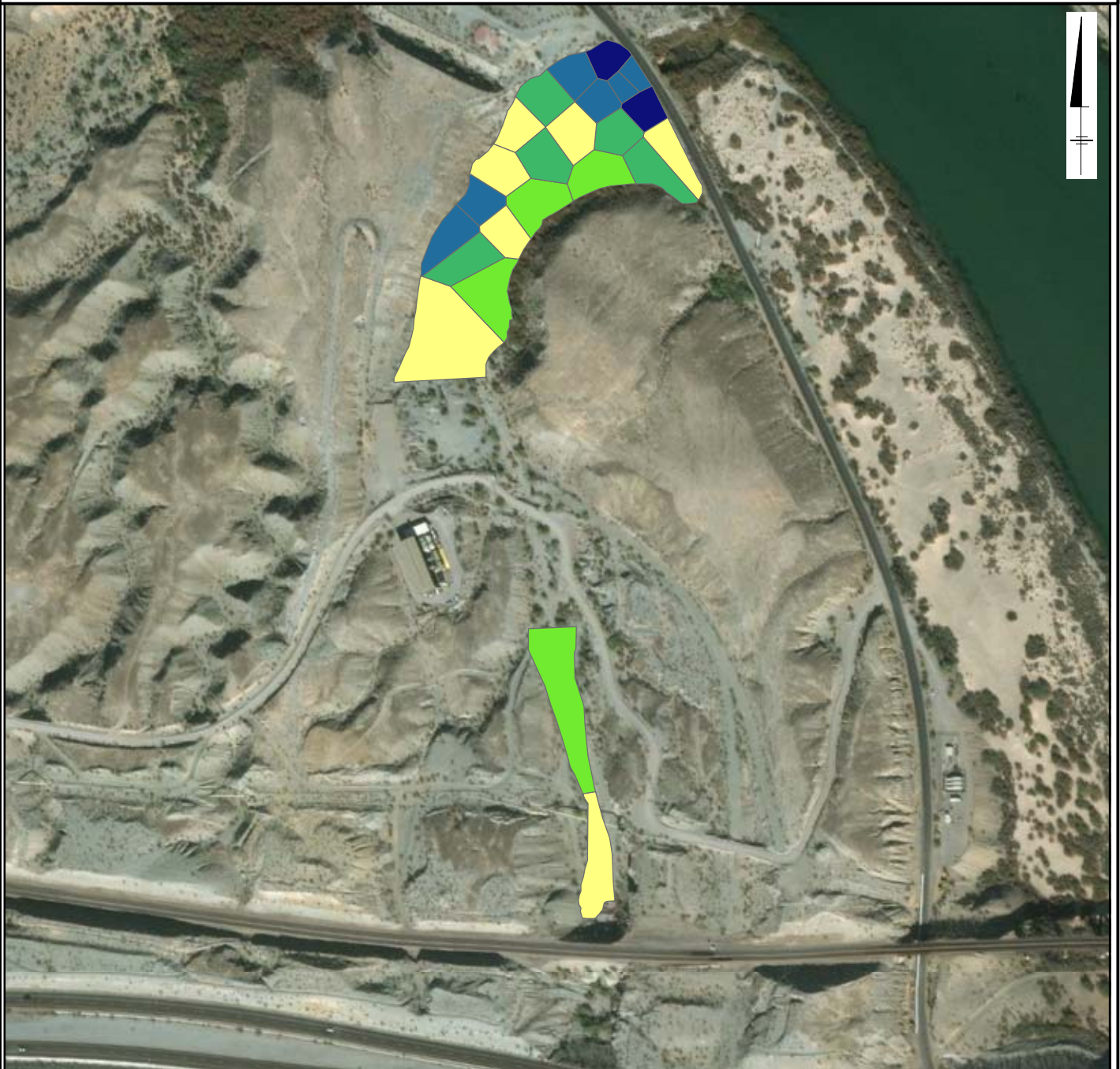
Reference Figure: NORR-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
NORR-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
NORR-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
NORR-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
NORR-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
NORR-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIIUM
NORR-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
NORR-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
NORR-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
NORR-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
NORR-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
NORR-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
NORR-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
NORR-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
NORR-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
NORR-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
NORR-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
NORR-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
NORR-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
NORR-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
NORR-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
NORR-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
NORR-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
NORR-A3.23	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
NORR-A3.24	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
NORR-A3.25	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
NORR-A3.26	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
NORR-A3.27	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
NORR-A3.28	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIIUM
NORR-A3.29	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
NORR-A3.30	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
NORR-A3.31	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
NORR-A3.32	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
NORR-A3.33	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
NORR-A3.34	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
NORR-A3.35	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
NORR-A3.36	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
NORR-A3.37	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
NORR-A3.38	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
NORR-A3.39	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
NORR-A3.40	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
NORR-A3.41	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
NORR-A3.42	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
NORR-A3.43	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
NORR-A3.44	0 - 3 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
NORR-A3.45	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
NORR-A3.46	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
NORR-A3.47	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
NORR-A3.48	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
NORR-A3.49	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
NORR-A3.50	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
NORR-A3.51	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
NORR-A3.52	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
NORR-A3.53	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIIUM
NORR-A3.54	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
NORR-A3.55	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
NORR-A3.56	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
NORR-A3.57	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER
NORR-A3.58	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
NORR-A3.59	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
NORR-A3.60	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
NORR-A3.61	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
NORR-A3.62	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
NORR-A3.63	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
NORR-A3.64	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
NORR-A3.65	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
NORR-A3.66	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
NORR-A3.67	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
NORR-A3.68	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
NORR-A3.69	0 - 6 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE

Exposure Unit: NORTH OF RAILROAD
Reference Figure: NORR-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
NORR-A3.70	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
NORR-A3.71	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
NORR-A3.72	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
NORR-A3.73	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE
NORR-A3.74	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
NORR-A3.75	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
NORR-A3.76	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
NORR-A3.77	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
NORR-A3.78	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
NORR-A3.79	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
NORR-A3.80	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
NORR-A3.81	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
NORR-A3.82	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
NORR-A3.83	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
NORR-A3.84	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
NORR-A3.85	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
NORR-A3.86	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
NORR-A3.87	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
NORR-A3.88	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
NORR-A3.89	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
NORR-A3.90	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
NORR-A3.91	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
NORR-A3.92	0 - 10 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
NORR-A3.93	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
NORR-A3.94	0 - 10 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
NORR-A3.95	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
NORR-A3.96	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
NORR-A3.97	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
NORR-A3.98	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PYRENE
NORR-A3.99	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
NORR-A3.100	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
NORR-A3.101	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
NORR-A3.102	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
NORR-A3.103	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
NORR-A3.104	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN

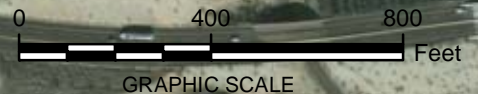


BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

	NOT DETECTED
	0.37 - 6.20
	≥6.20 - 14.00
	≥14.00 - 19.00
	≥19.00 - 58.00
	≥58.00 - 110.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



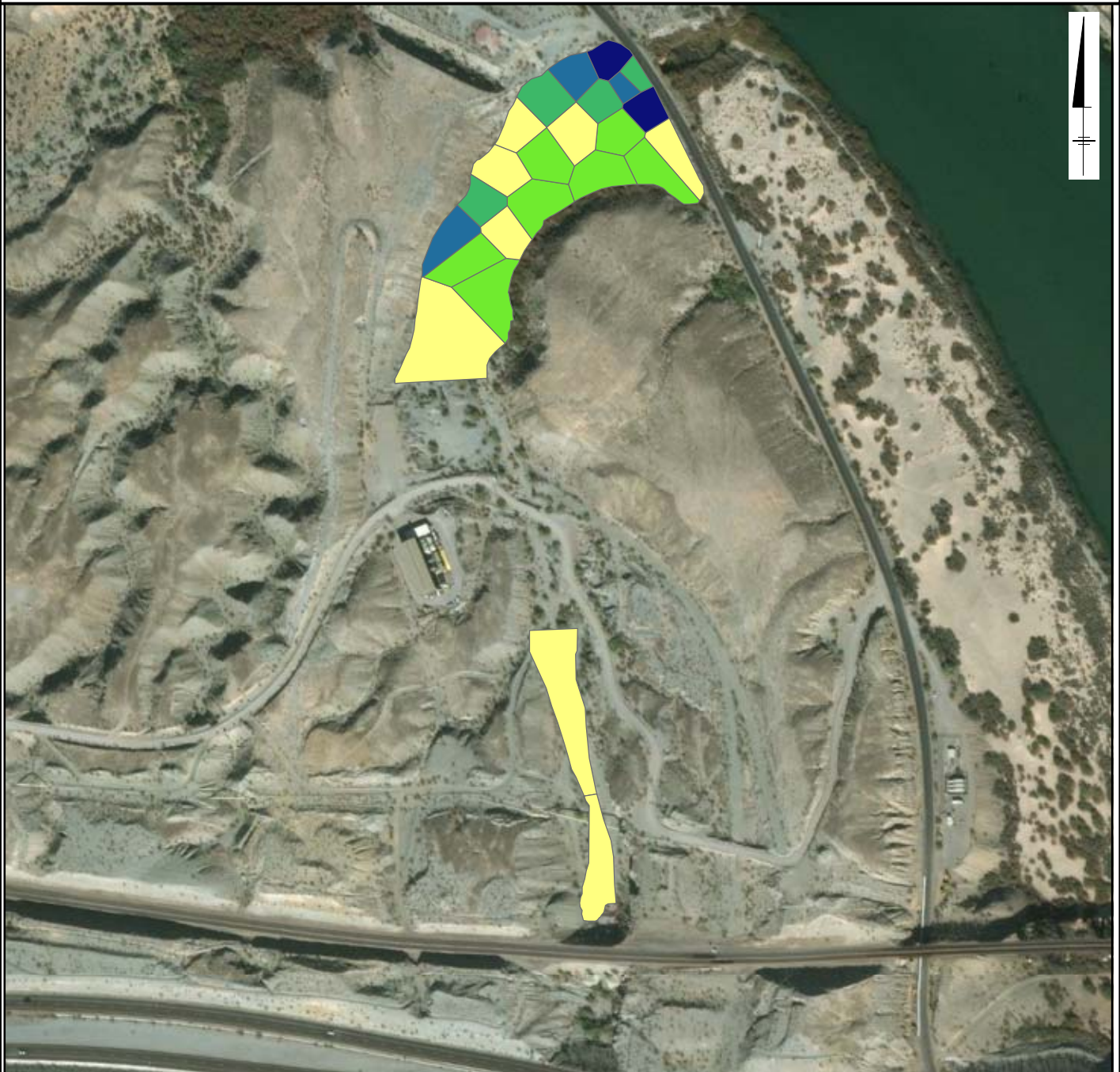
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FIGURE
NORR-A3.1

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: **TEQ HUMAN (NG/KG)**

- NOT DETECTED
- 0.42 - 14.00
- ≥14.00 - 29.00
- ≥29.00 - 64.00
- ≥64.00 - 110.00
- ≥110.00 - 180.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



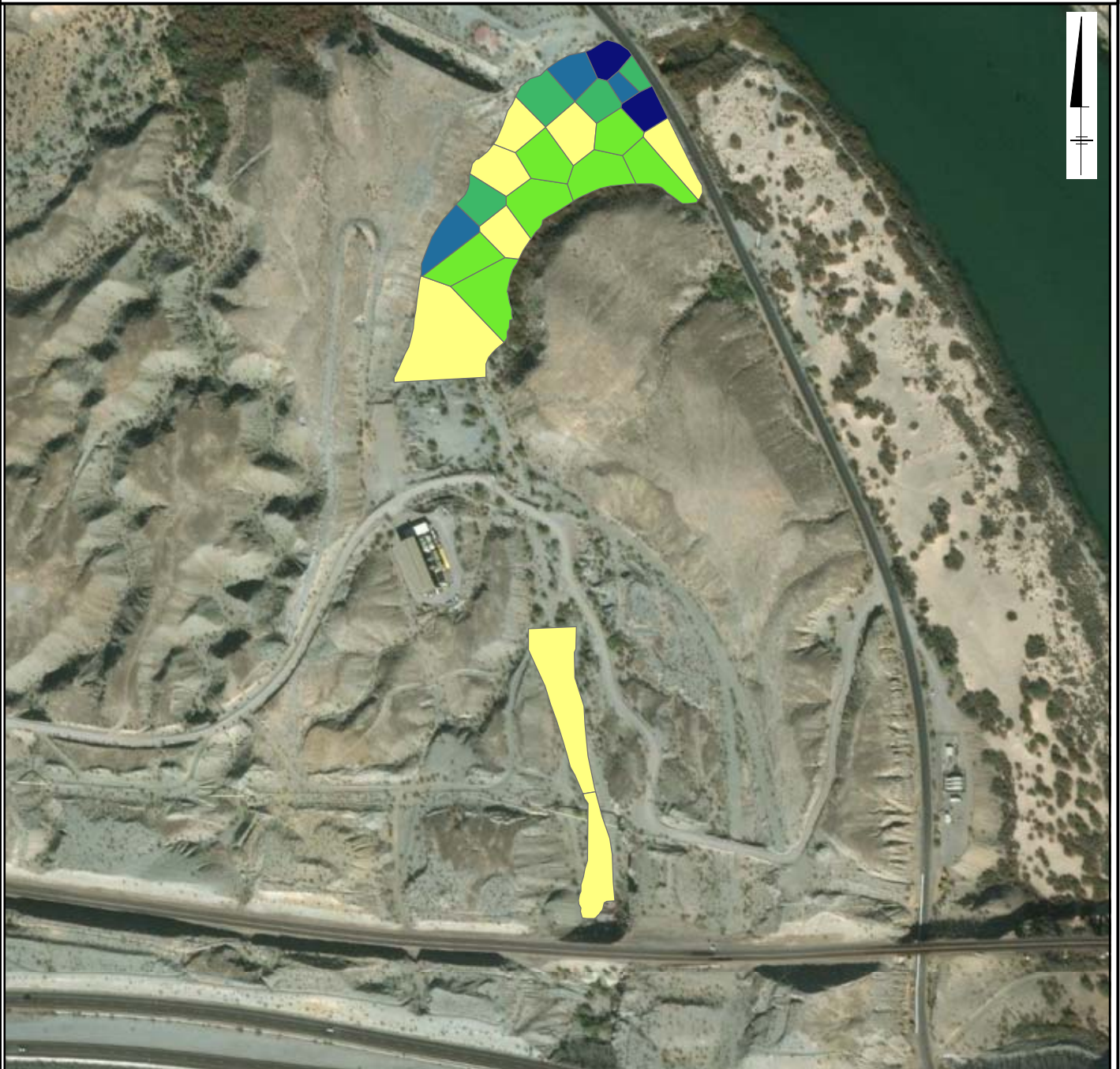
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**FIGURE
NORR-A3.2**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE TEQ MAMMALS

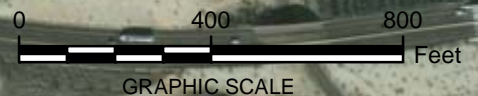


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.42 - 14.00
	≥14.00 - 29.00
	≥29.00 - 64.00
	≥64.00 - 110.00
	≥110.00 - 180.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



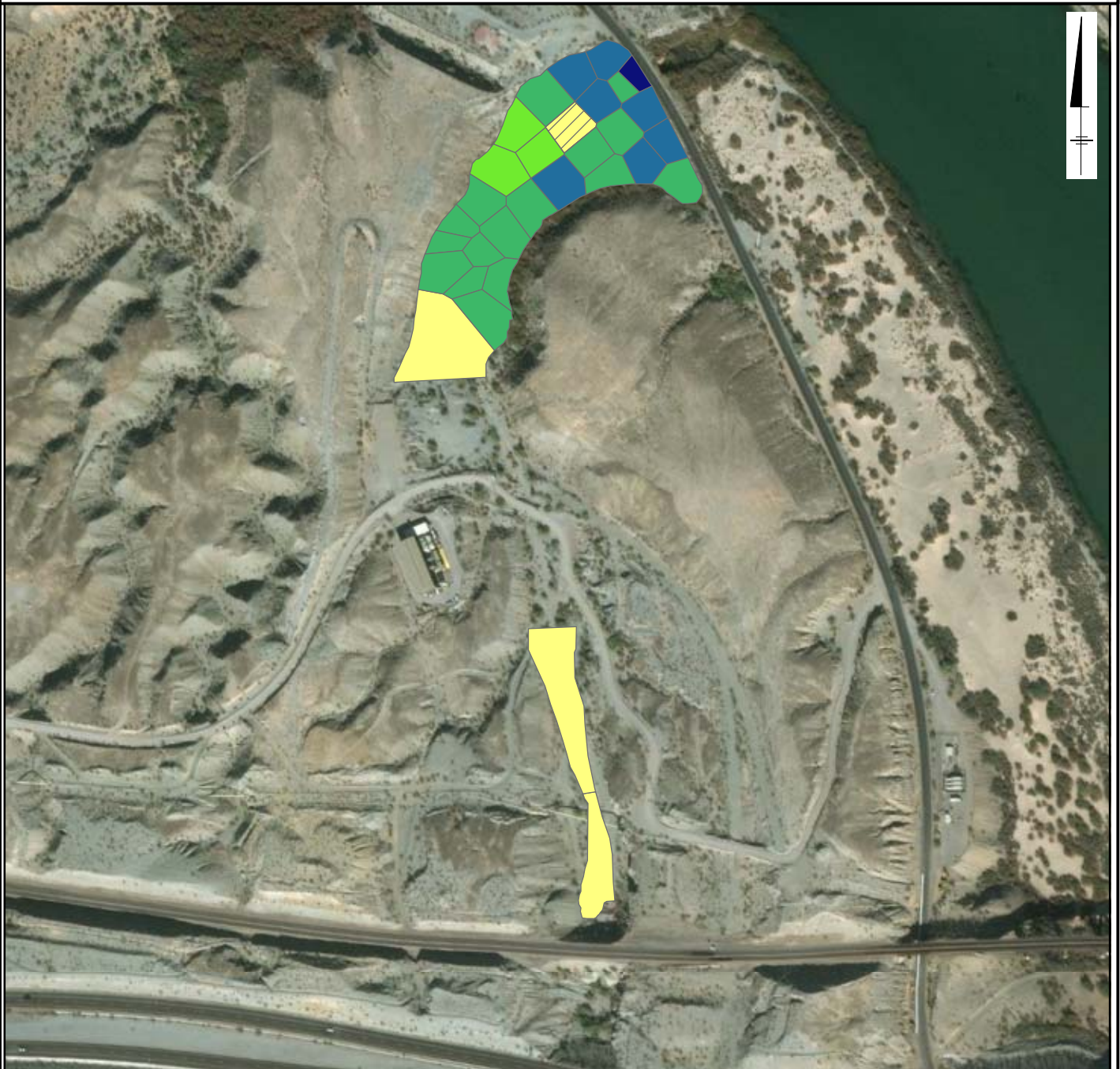
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**FIGURE
NORR-A3.3**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.50 - 1.80
	≥1.80 - 2.70
	≥2.70 - 4.40
	≥4.40 - 6.90
	≥6.90 - 13.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



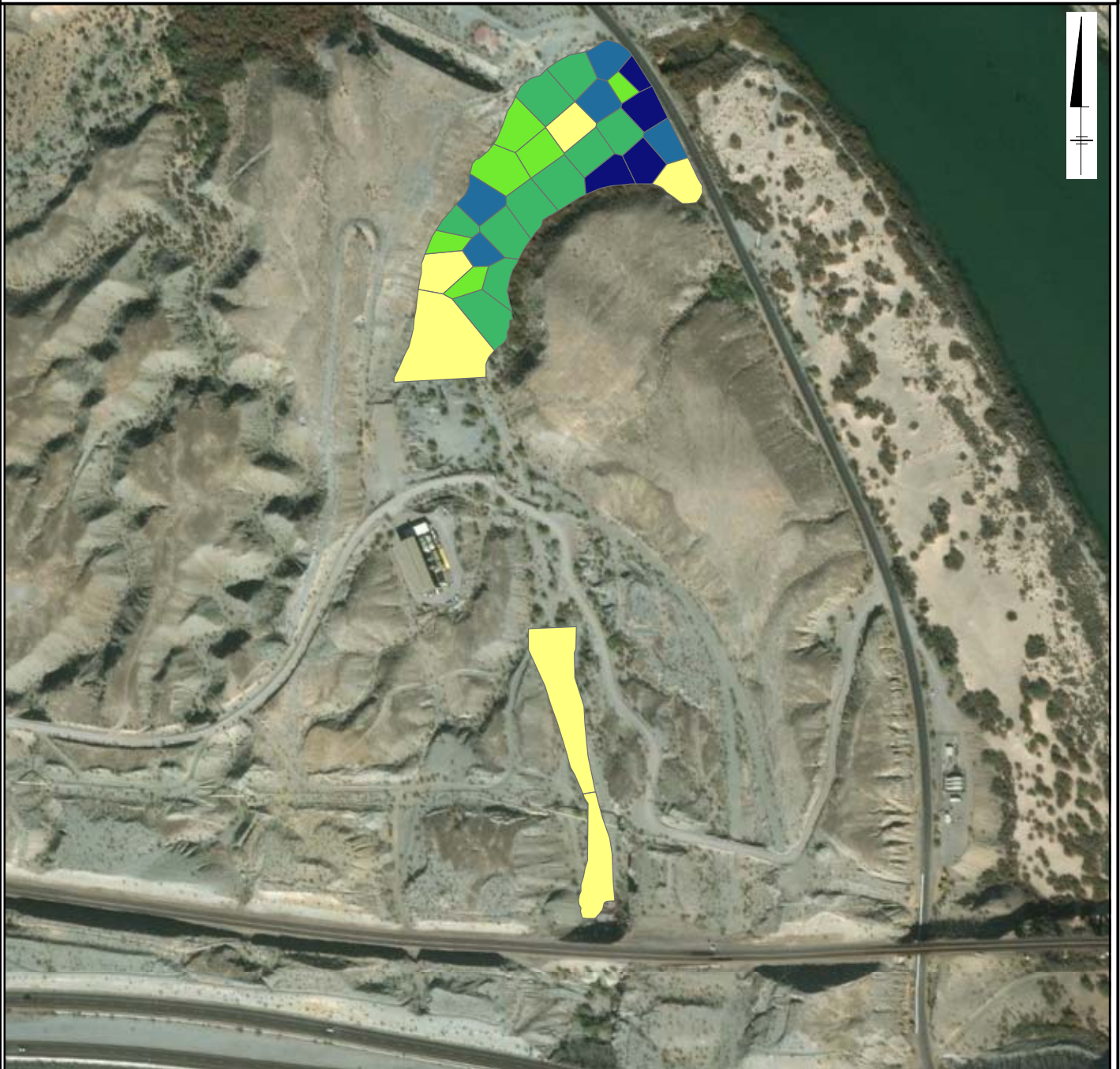
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FIGURE
NORR-A3.4

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

	NOT DETECTED
	56.00 - 96.00
	≥96.00 - 160.00
	≥160.00 - 190.00
	≥190.00 - 230.00
	≥230.00 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



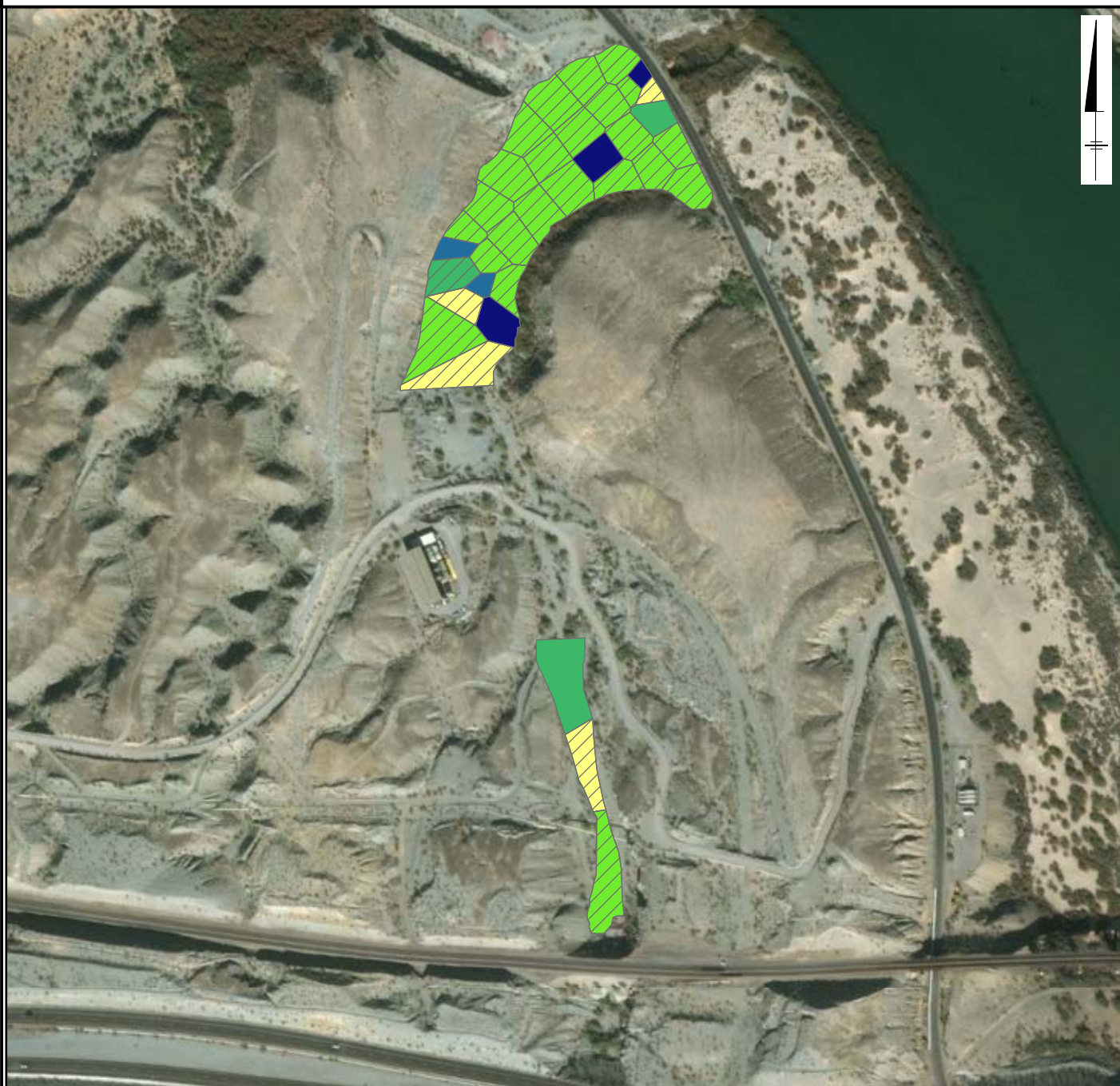
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FIGURE
NORR-A3.5

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

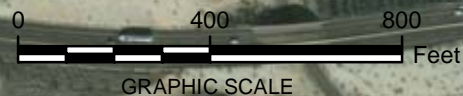


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.13
	≥0.13 - 0.30
	≥0.30 - 0.45
	≥0.45 - 2.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



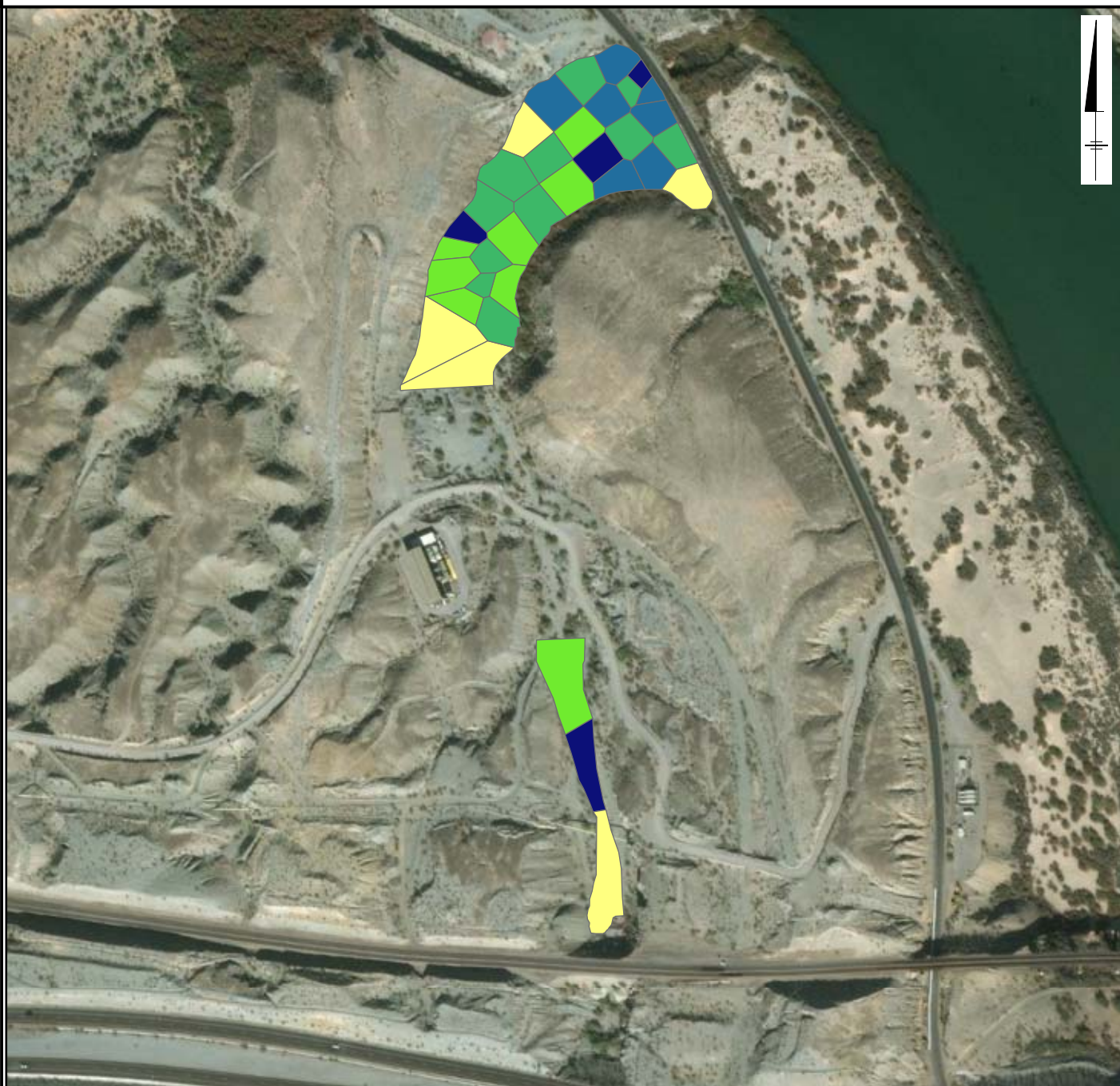
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**FIGURE
NORR-A3.6**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: **CHROMIUM, TOTAL (MG/KG)**

-  NOT DETECTED
-  12.00 - 17.30
-  ≥ 17.30 - 25.00
-  ≥ 25.00 - 36.00
-  ≥ 36.00 - 49.00
-  ≥ 49.00 - 71.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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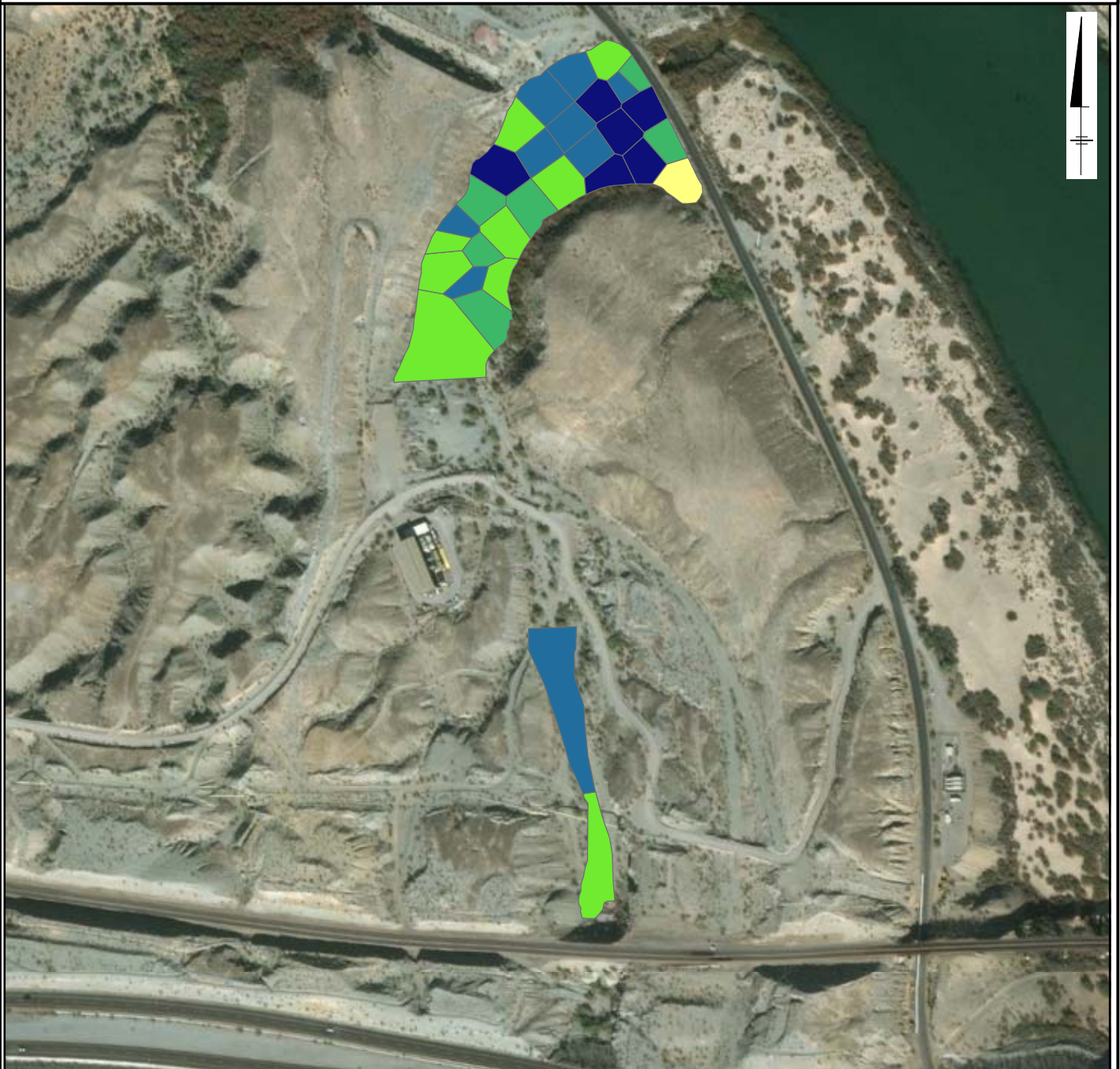
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**FIGURE
NORR-A3.7**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	4.60 - 4.60
	≥4.60 - 7.30
	≥7.30 - 8.30
	≥8.30 - 9.00
	≥9.00 - 9.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



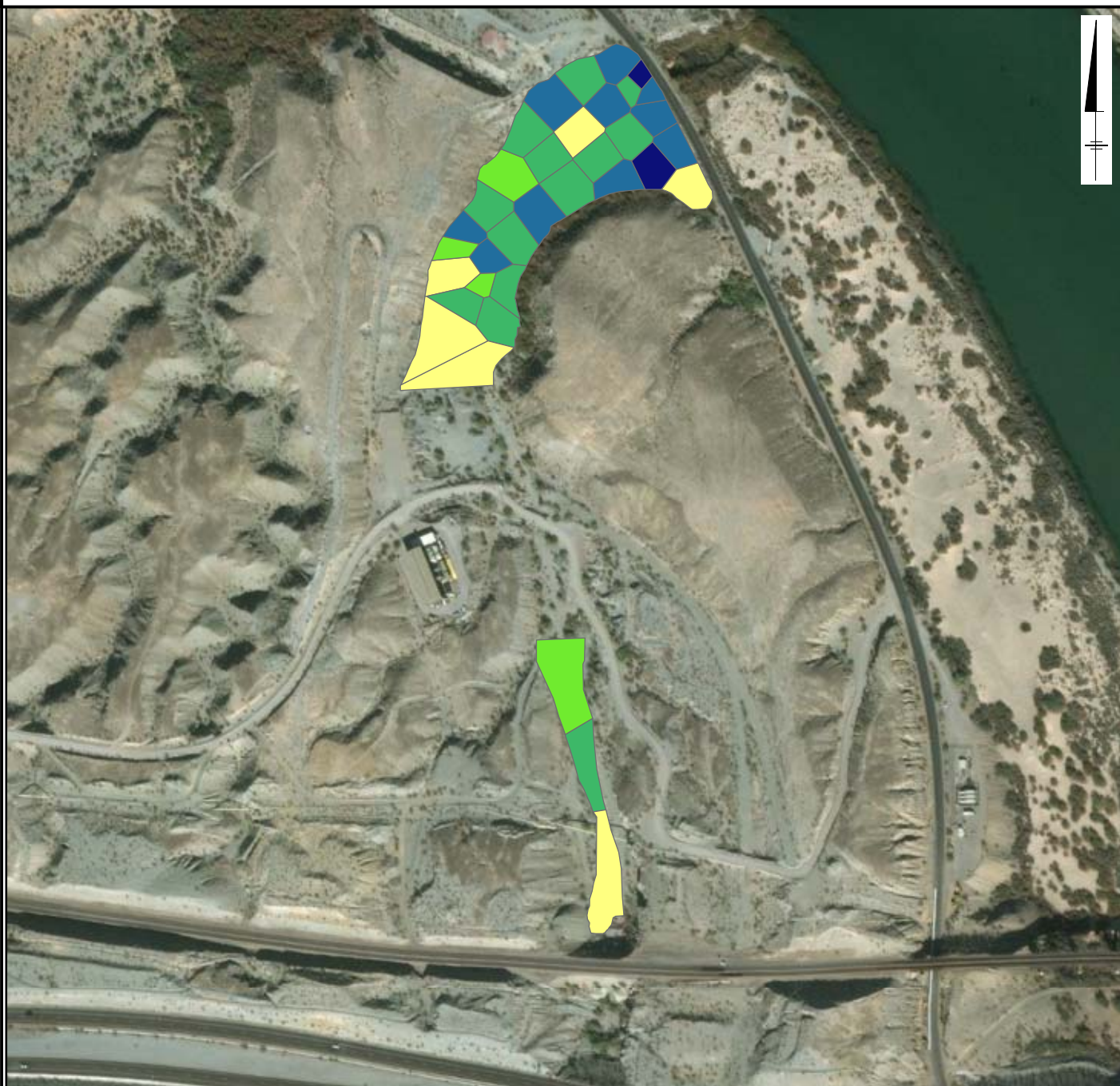
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FIGURE
NORR-A3.8

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE COPPER

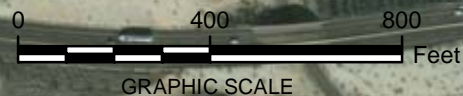


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 7.00 - 9.40
- $\geq 9.40 - 12.00$
- $\geq 12.00 - 15.10$
- $\geq 15.10 - 19.00$
- $\geq 19.00 - 22.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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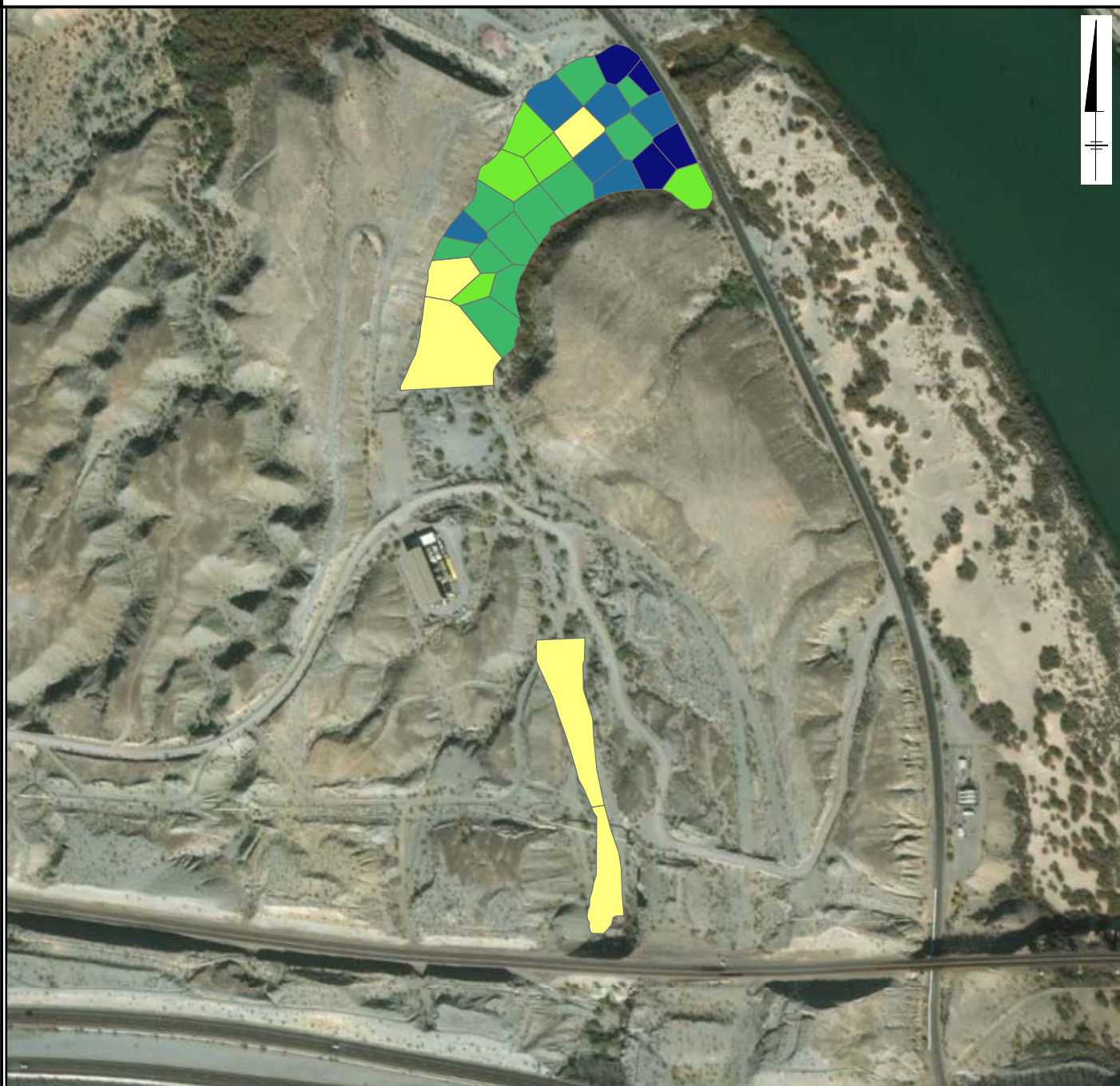
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FIGURE
NORR-A3.9

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE LEAD

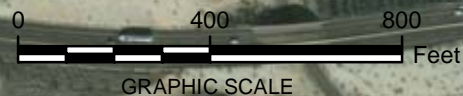


BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

- NOT DETECTED
- 1.50 - 3.70
- $\geq 3.70 - 6.10$
- $\geq 6.10 - 9.80$
- $\geq 9.80 - 14.00$
- $\geq 14.00 - 23.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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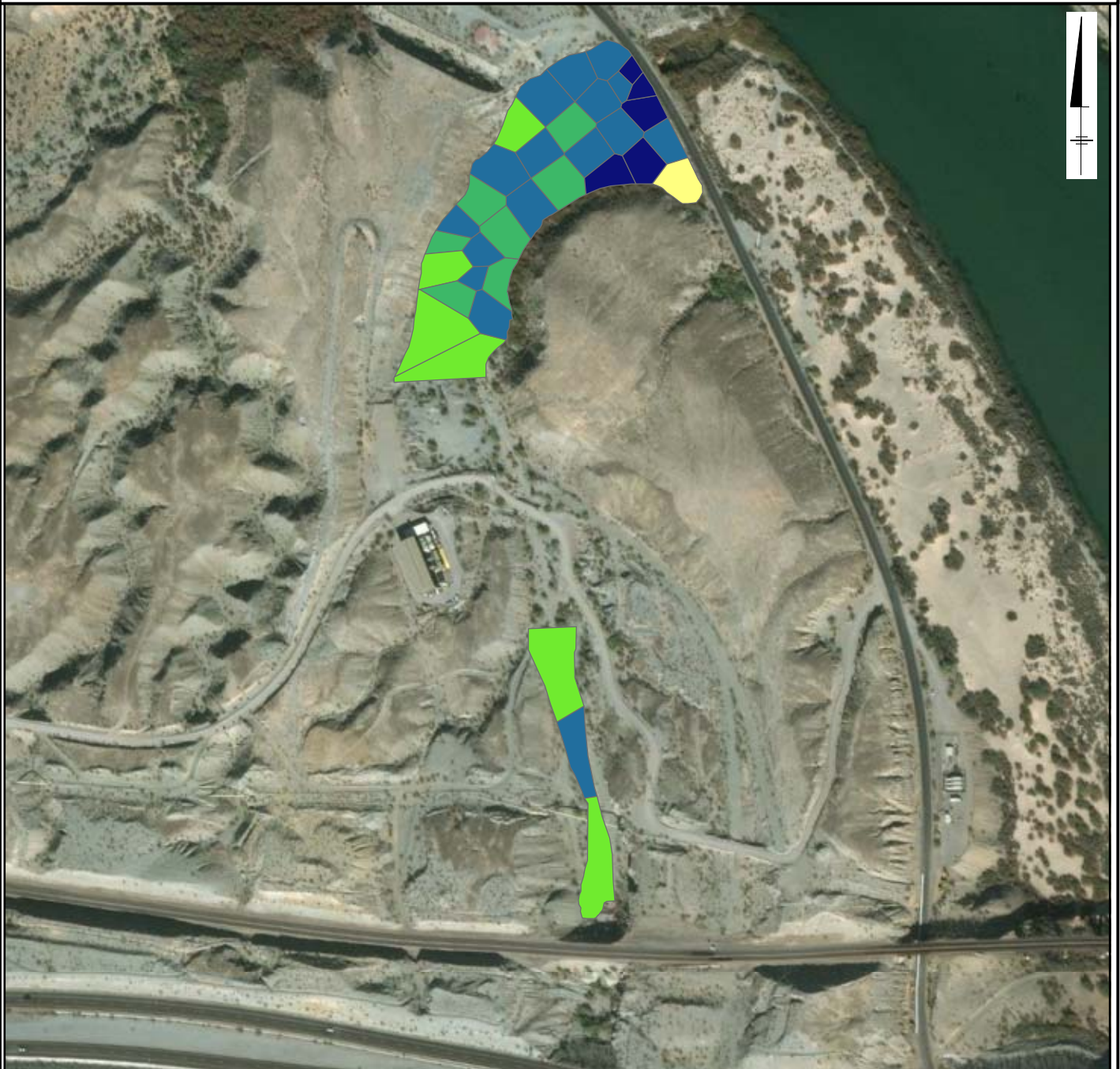
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FIGURE
NORR-A3.10

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: **NICKEL (MG/KG)**

	NOT DETECTED
	6.80 - 6.80
	≥6.80 - 11.00
	≥11.00 - 13.20
	≥13.20 - 16.00
	≥16.00 - 18.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

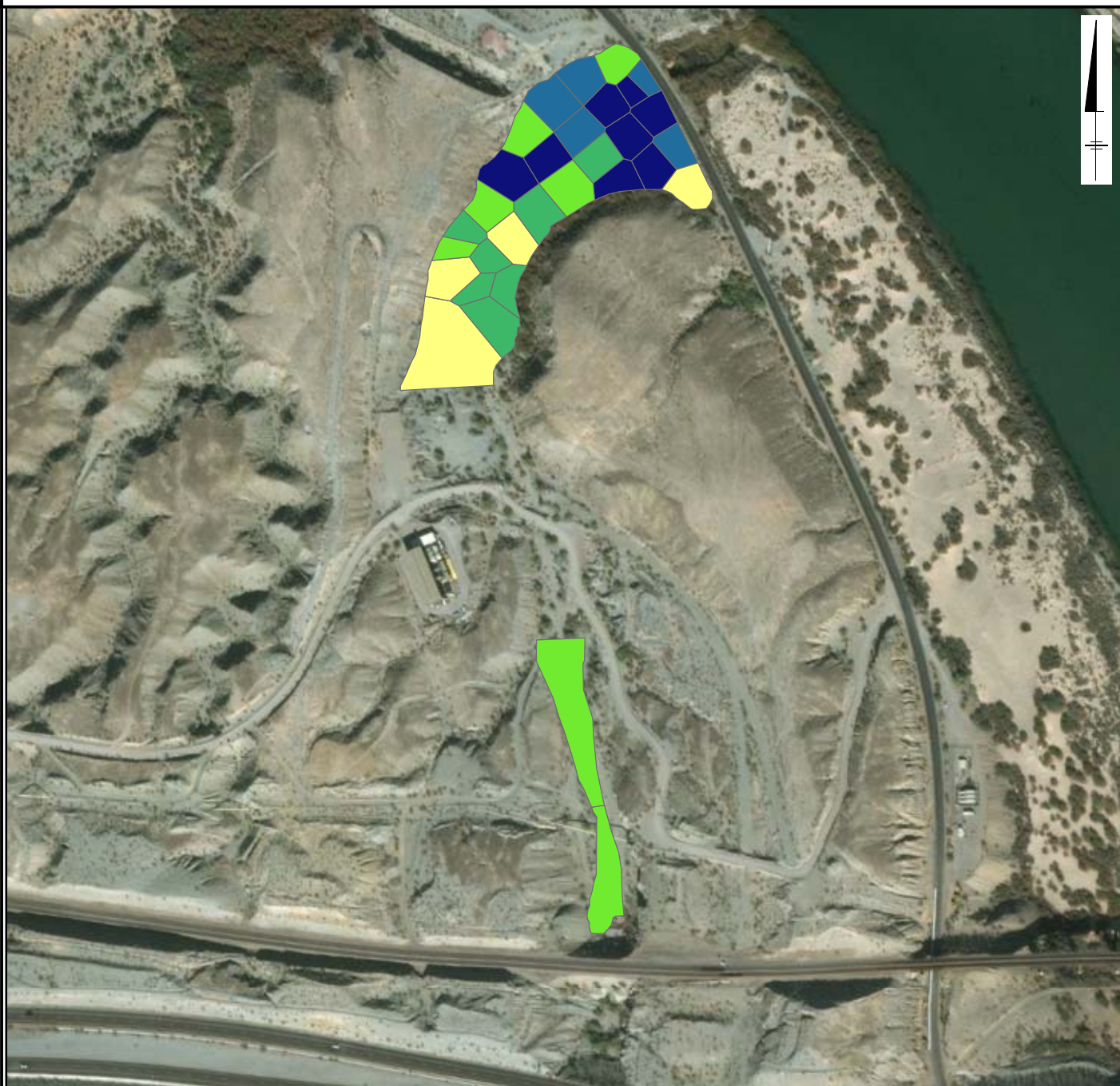
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**FIGURE
NORR-A3.11**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

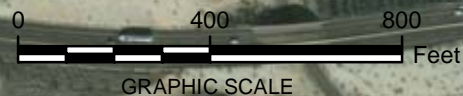


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	21.00 - 25.00
	≥25.00 - 30.00
	≥30.00 - 34.00
	≥34.00 - 37.00
	≥37.00 - 42.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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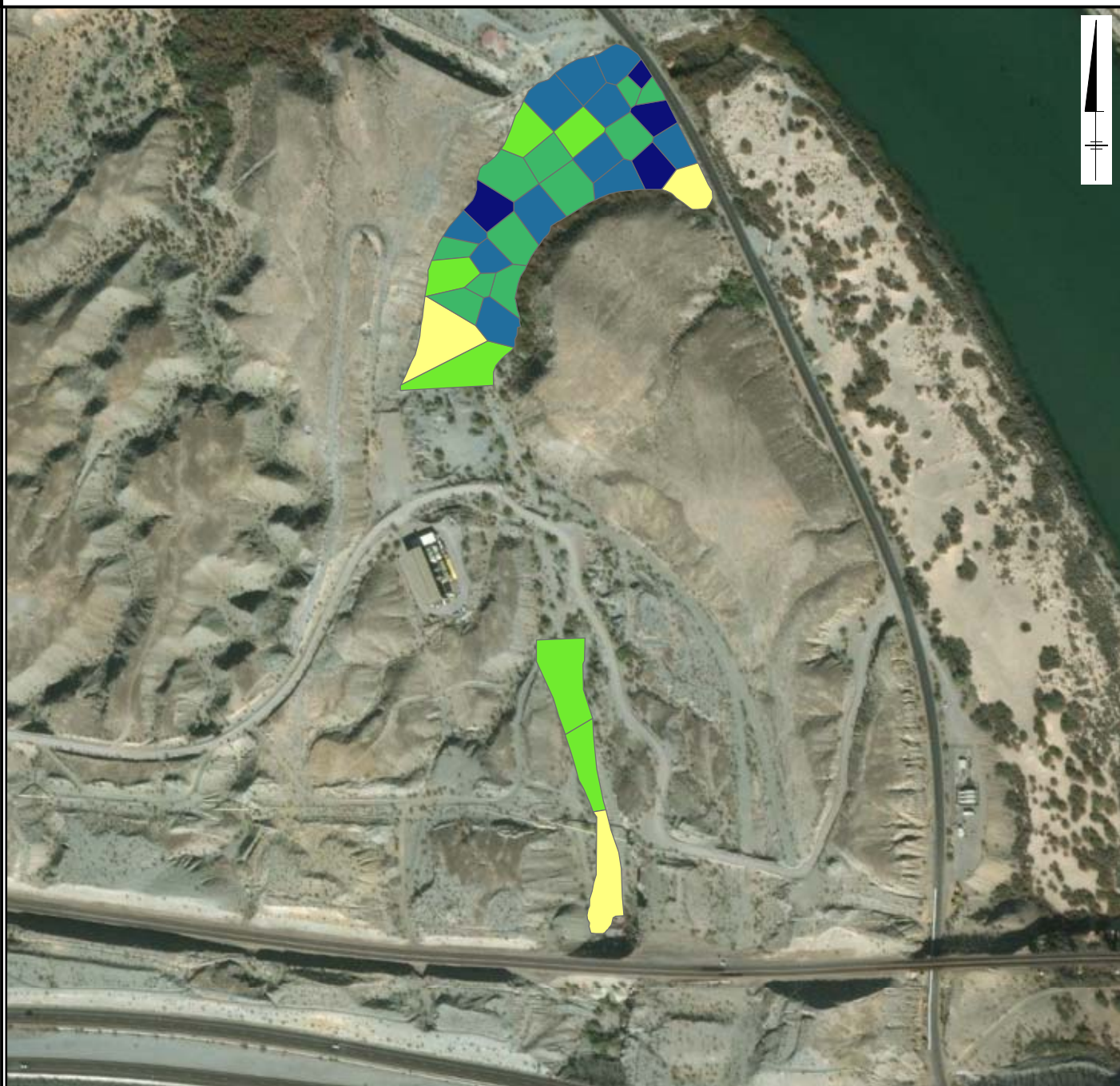
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FIGURE
NORR-A3.12

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE ZINC

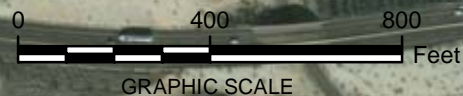


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	26.00 - 28.00
	≥28.00 - 40.00
	≥40.00 - 56.00
	≥56.00 - 69.00
	≥69.00 - 84.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



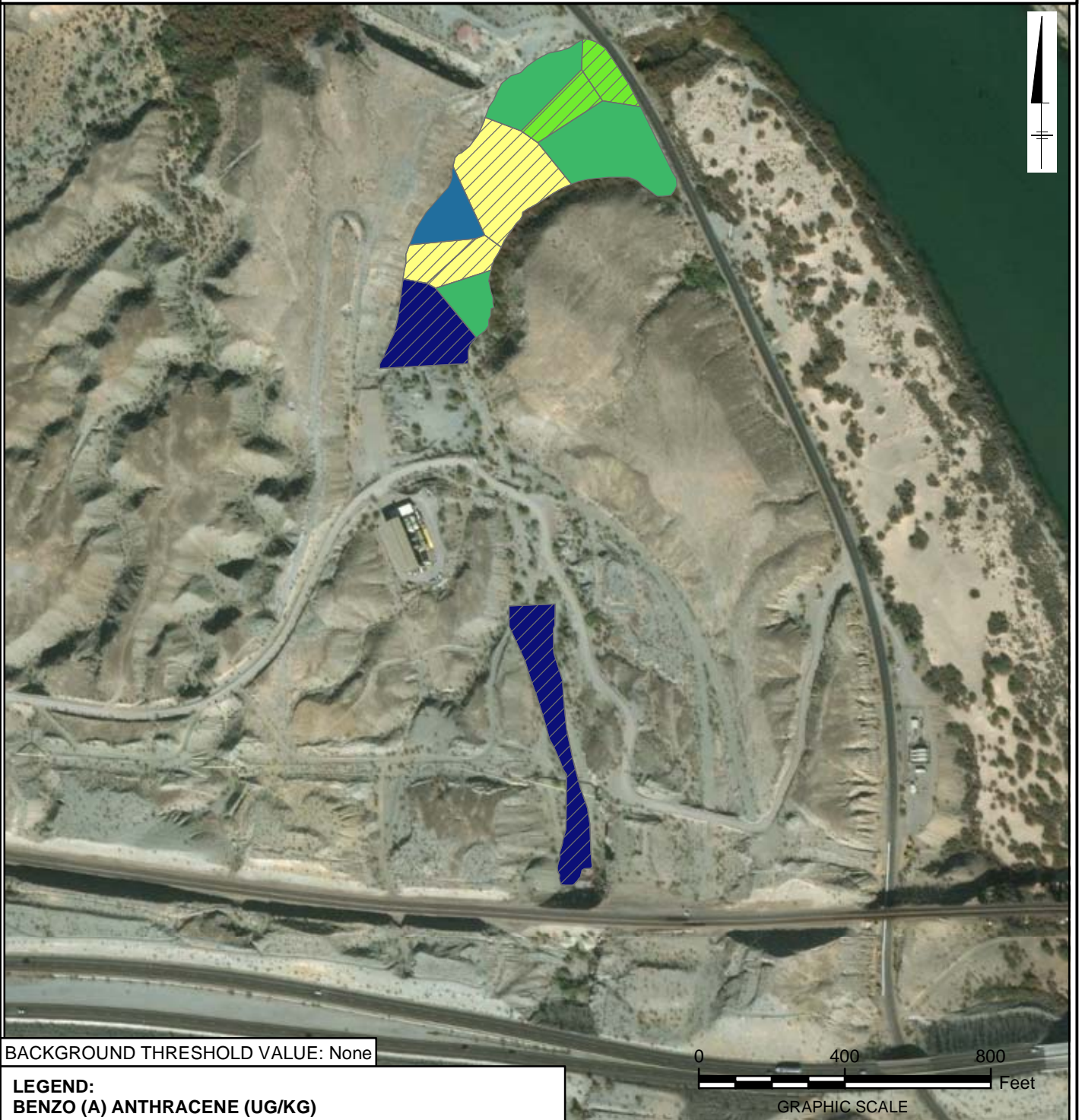
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FIGURE
NORR-A3.13

**NORTH OF RAILROAD
0 - 0.5 FEET BELOW GROUND SURFACE
BENZO (A) ANTHRACENE**



BACKGROUND THRESHOLD VALUE: None

**LEGEND:
BENZO (A) ANTHRACENE (UG/KG)**

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 3.55
	≥3.55 - 12.00
	≥12.00 - 22.00
	≥22.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

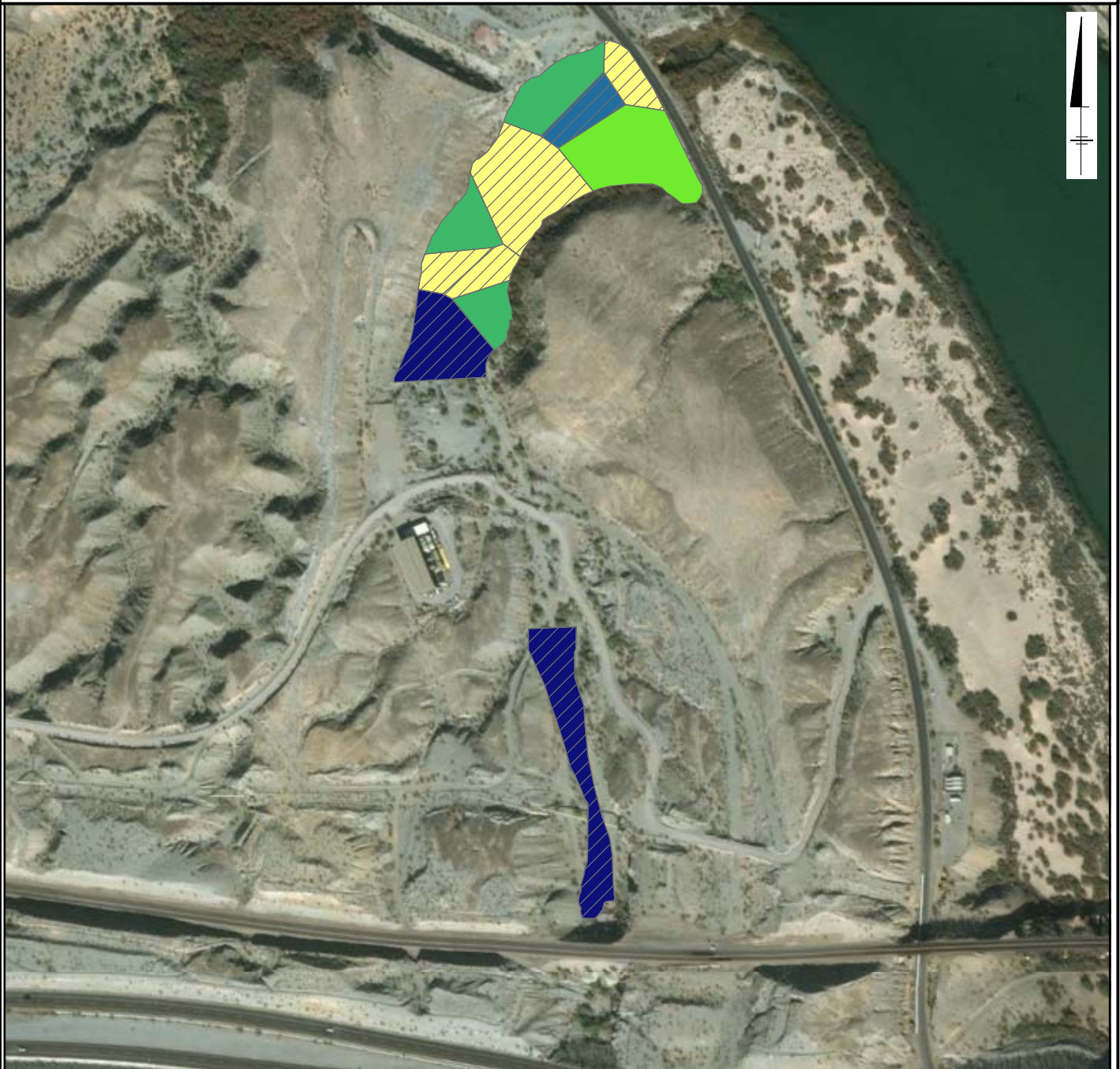
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**FIGURE
NORR-A3.14**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) PYRENE (UG/KG)**

	NOT DETECTED
	2.50 - 3.55
	≥3.55 - 8.00
	≥8.00 - 20.00
	≥20.00 - 32.50
	≥32.50 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

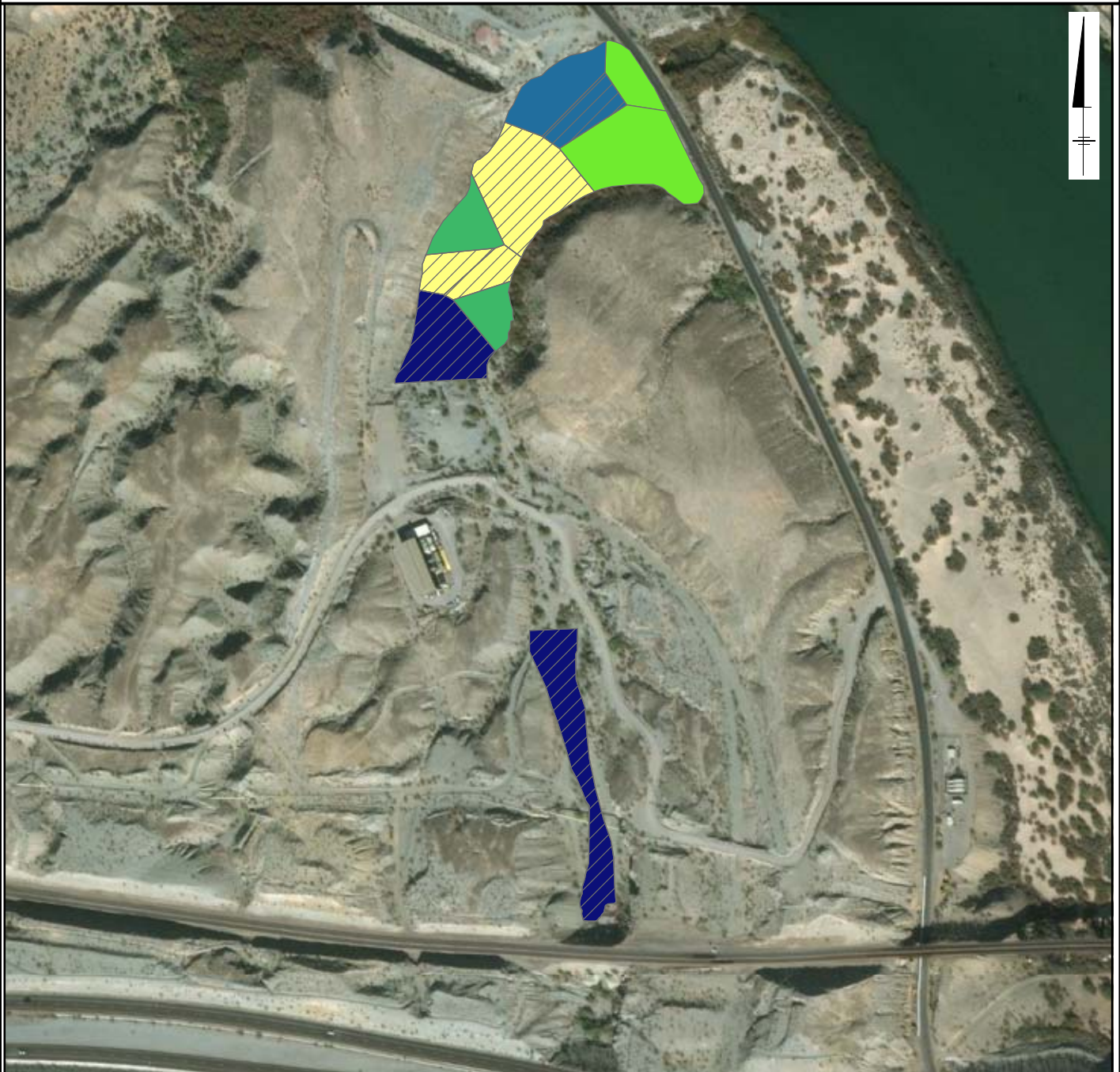
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**FIGURE
NORR-A3.15**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

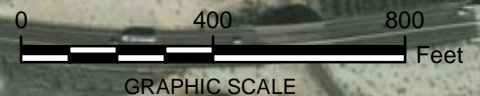


BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (B) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 17.00
	≥17.00 - 27.00
	≥27.00 - 32.50
	≥32.50 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.16**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (K) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.50 - 3.55
	≥3.55 - 7.60
	≥7.60 - 16.00
	≥16.00 - 32.50
	≥32.50 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

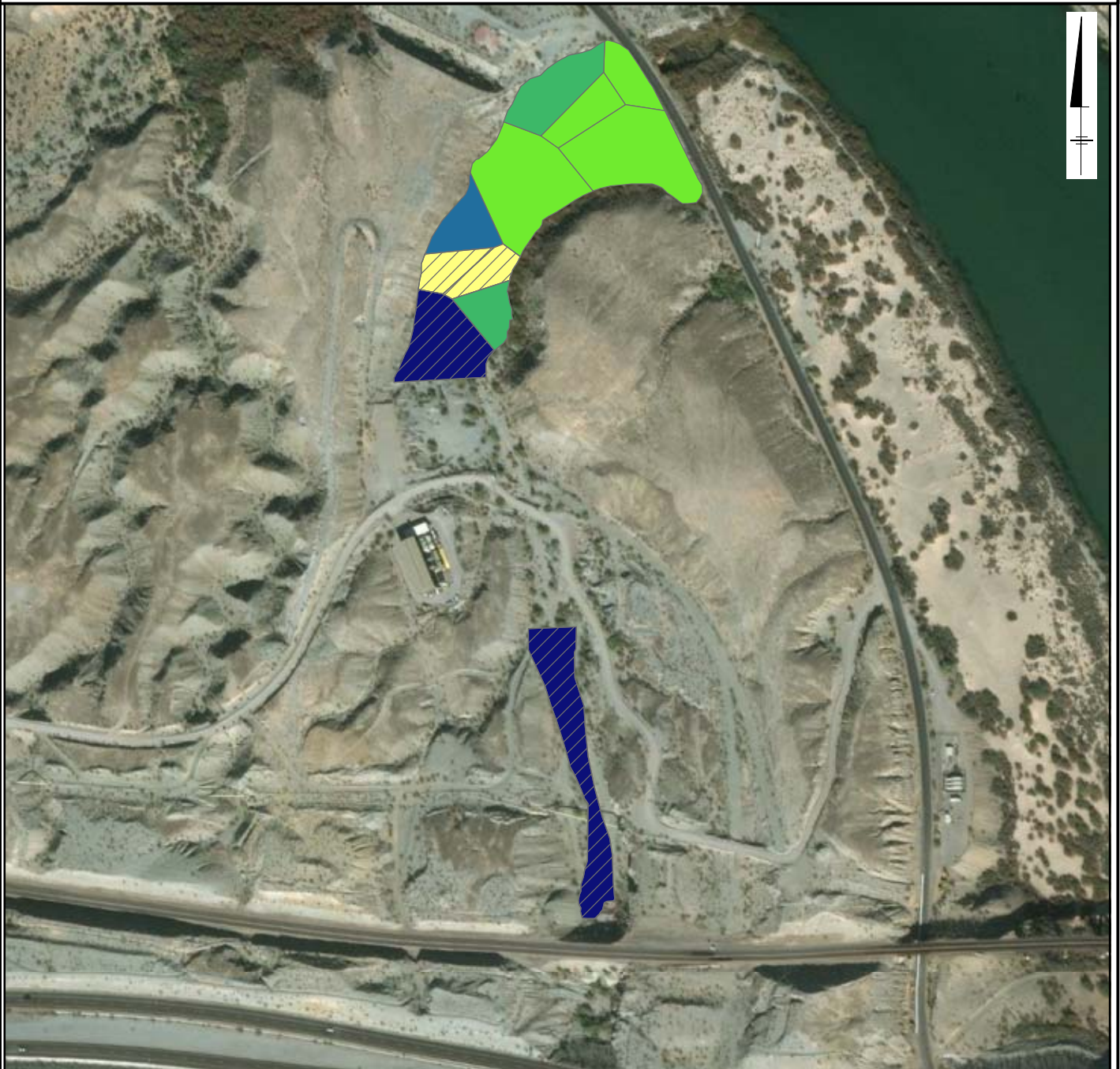
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**FIGURE
NORR-A3.17**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE

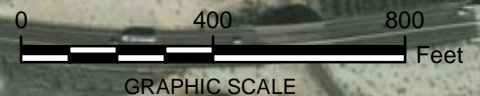


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	2.50 - 2.50
	≥2.50 - 11.00
	≥11.00 - 22.00
	≥22.00 - 29.00
	≥29.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



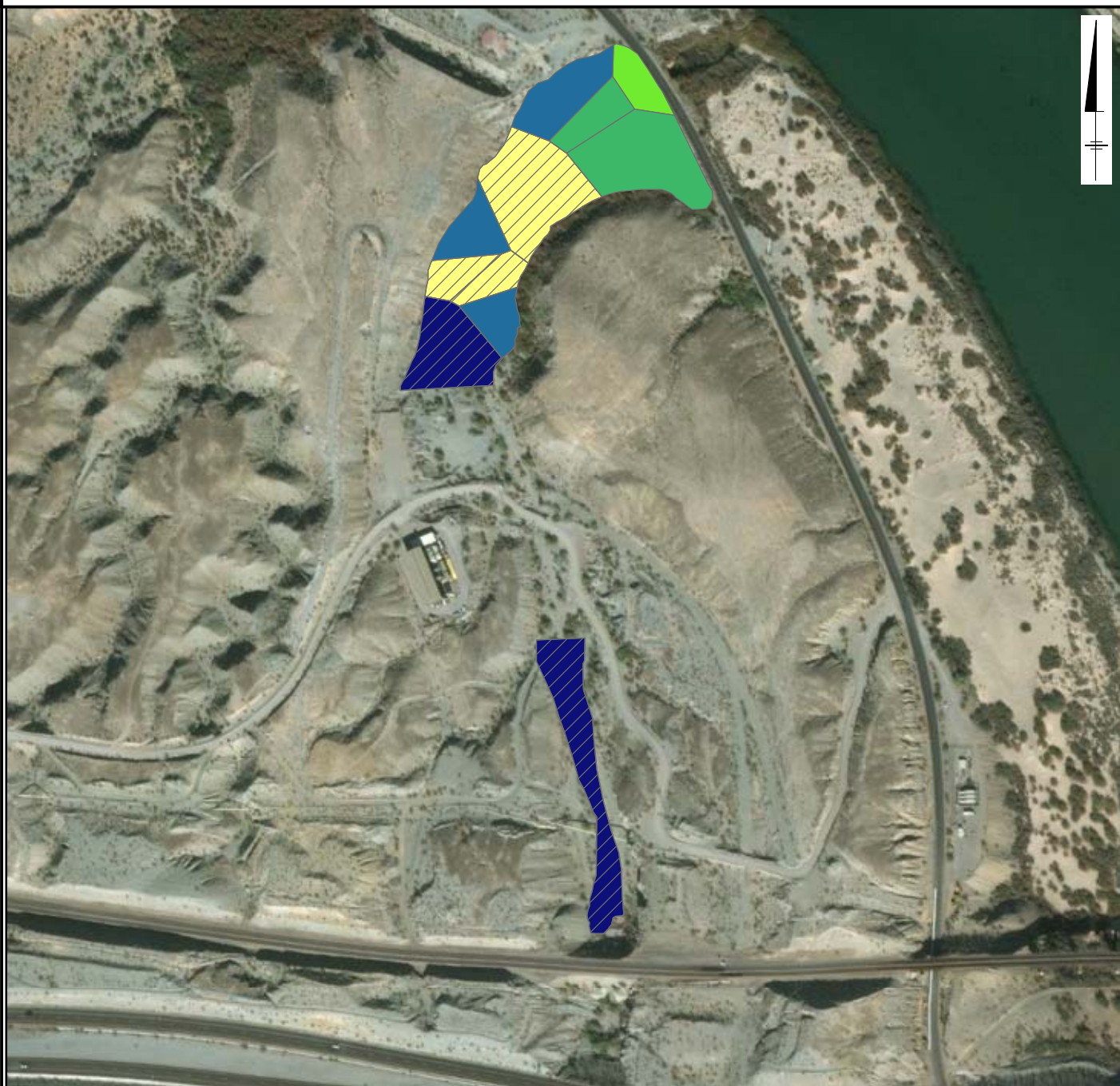
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FIGURE
NORR-A3.18

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE

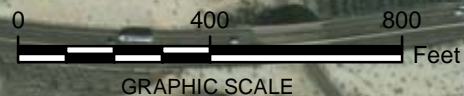


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 2.65
-  $\geq 2.65 - 10.00$
-  $\geq 10.00 - 21.00$
-  $\geq 21.00 - 34.00$
-  $\geq 34.00 - 170.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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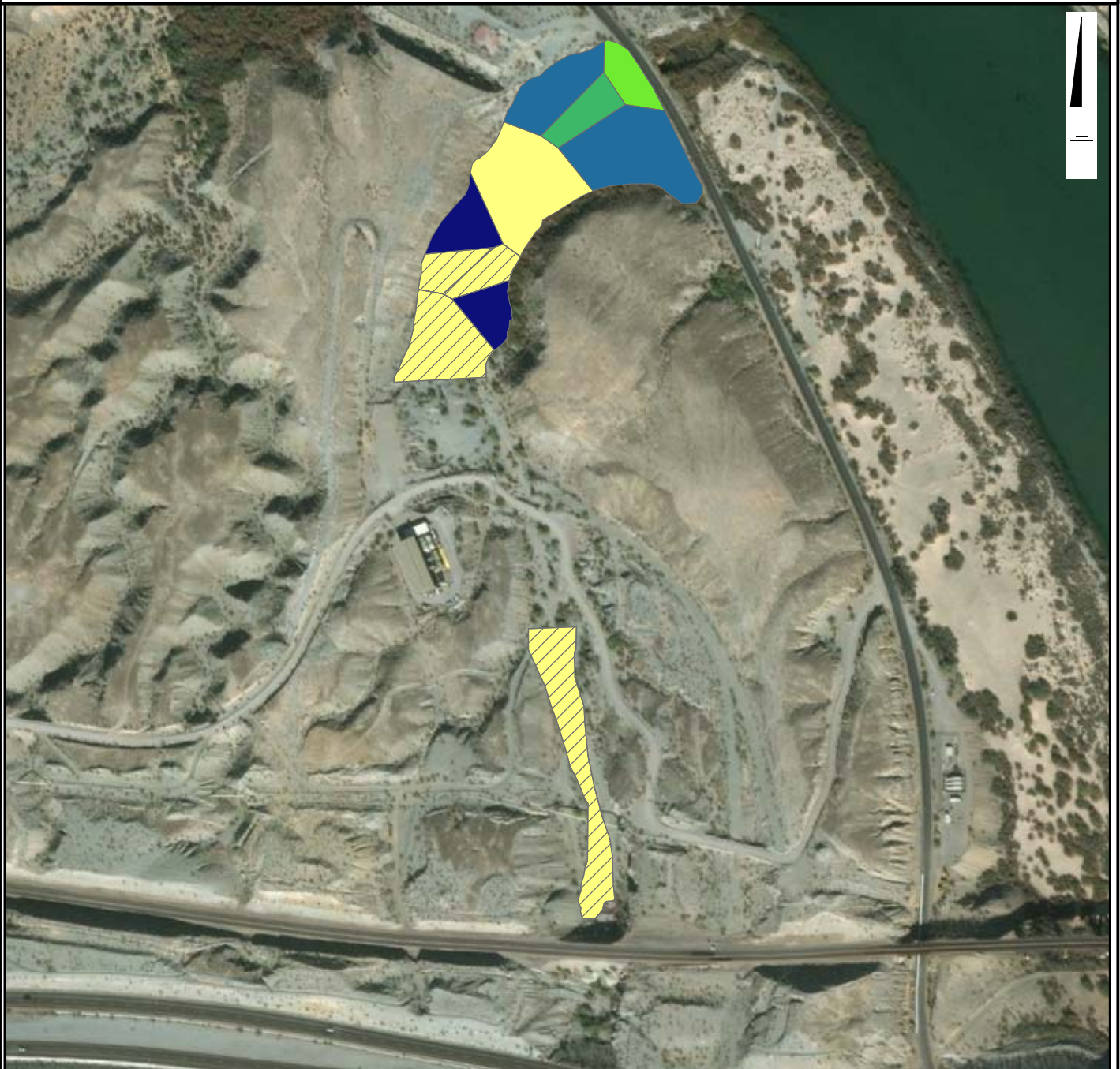
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FIGURE
NORR-A3.19

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

-  NOT DETECTED
-  0.00 - 7.10
-  ≥ 7.10 - 38.30
-  ≥ 38.30 - 40.00
-  ≥ 40.00 - 133.00
-  ≥ 133.00 - 223.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



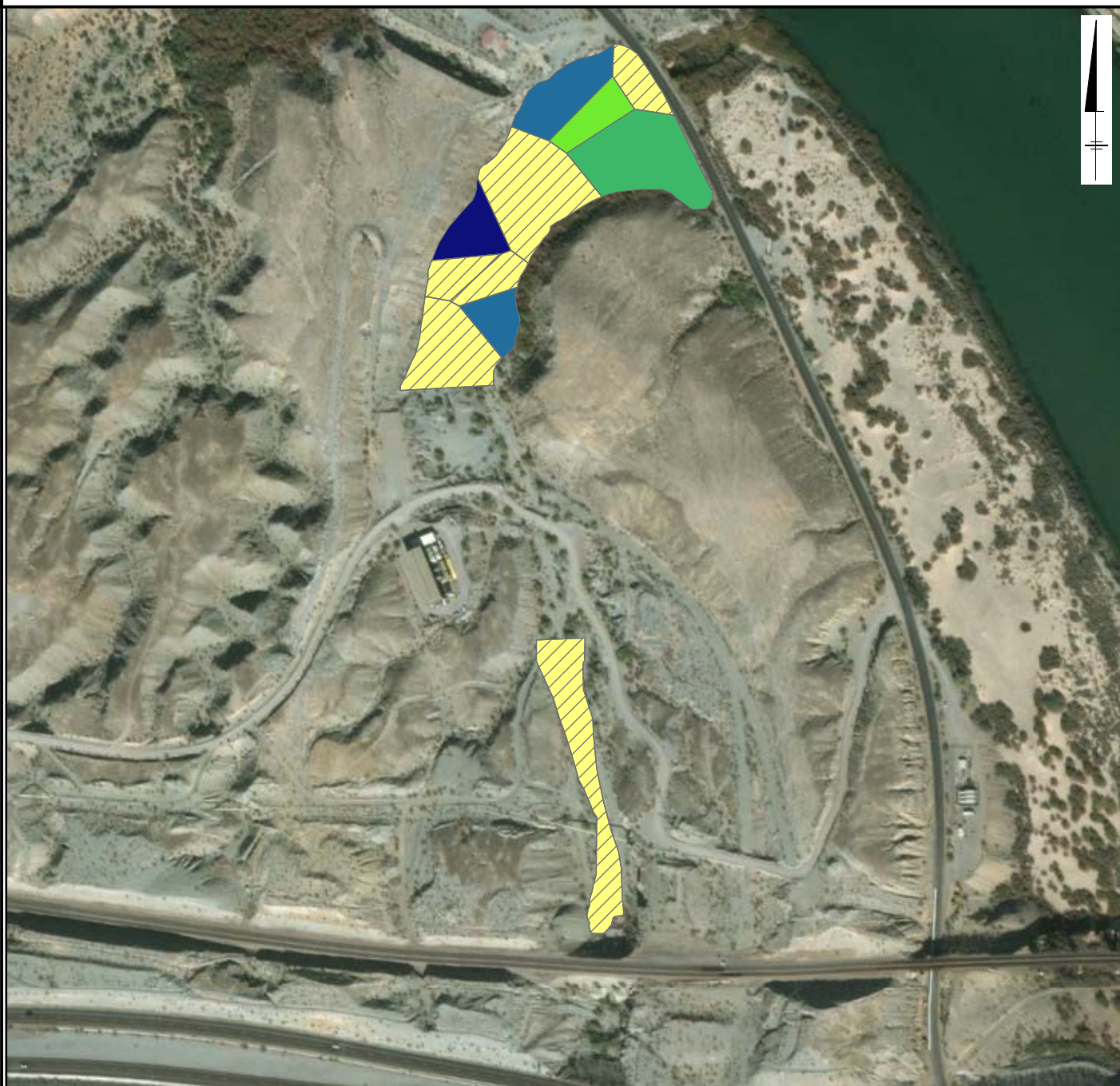
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**FIGURE
NORR-A3.20**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

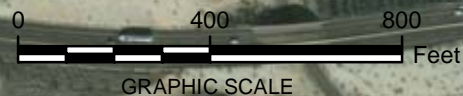


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: **PAH LOW MOLECULAR WEIGHT (UG/KG)**

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 7.80
	≥7.80 - 10.00
	≥10.00 - 12.00
	≥12.00 - 14.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



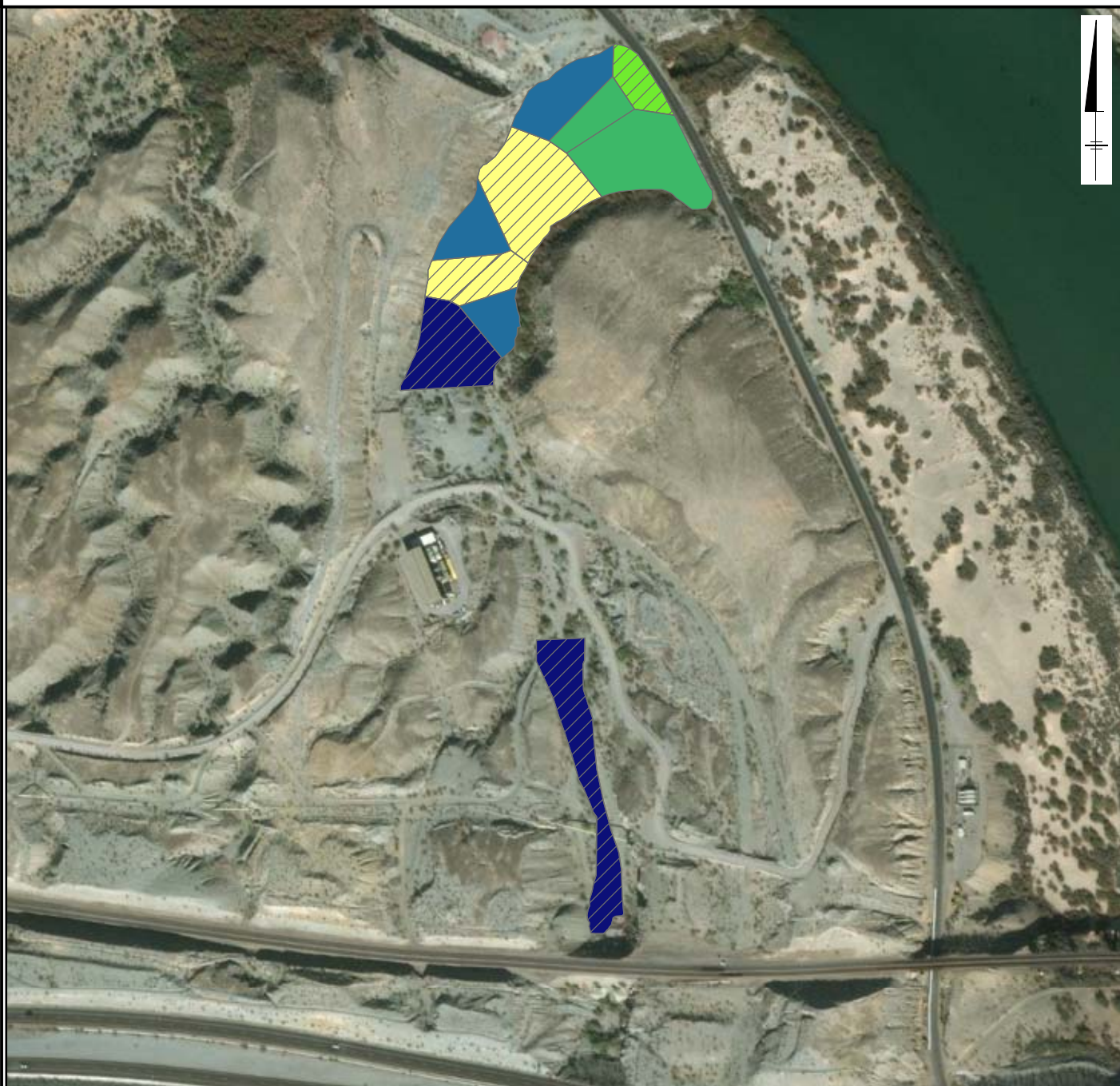
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**FIGURE
NORR-A3.21**

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE PHENANTHRENE

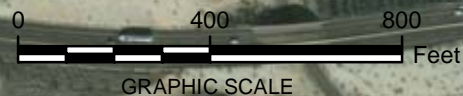


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 3.55
	≥3.55 - 10.00
	≥10.00 - 14.00
	≥14.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.22

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE

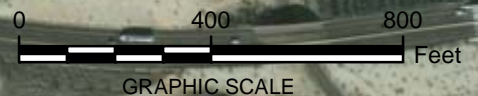


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 2.65
	≥2.65 - 10.00
	≥10.00 - 16.00
	≥16.00 - 30.00
	≥30.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



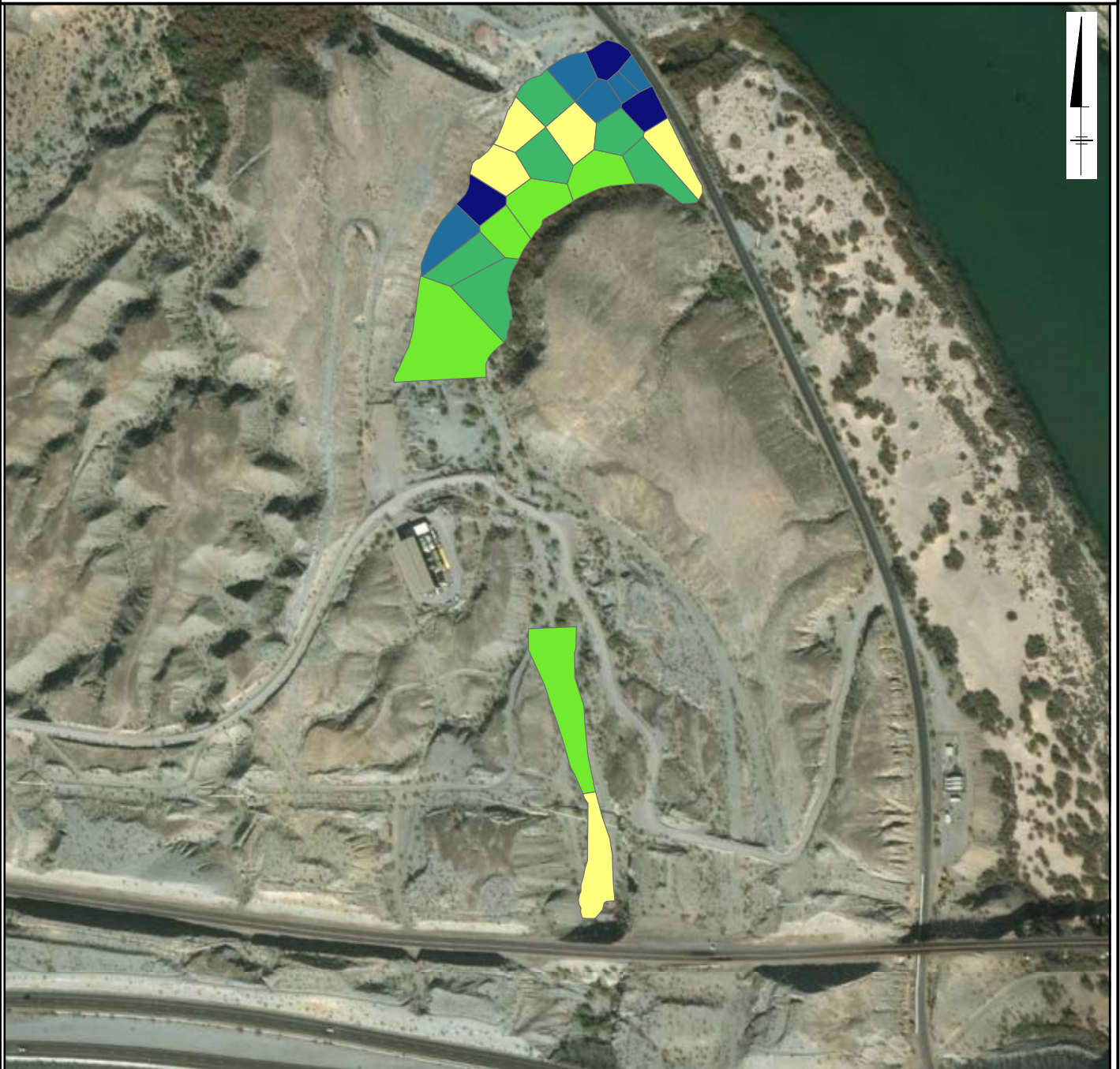
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FIGURE
NORR-A3.23

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN

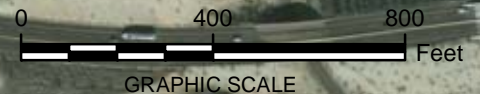


BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: **TEQ AVIAN (NG/KG)**

	NOT DETECTED
	0.31 - 4.37
	≥4.37 - 9.44
	≥9.44 - 17.30
	≥17.30 - 39.90
	≥39.90 - 73.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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**FIGURE
NORR-A3.24**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

	NOT DETECTED
	0.33 - 3.81
	≥3.81 - 19.60
	≥19.60 - 46.30
	≥46.30 - 79.30
	≥79.30 - 120.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.25

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.33 - 3.81
	≥3.81 - 19.60
	≥19.60 - 46.30
	≥46.30 - 79.30
	≥79.30 - 120.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet

GRAPHIC SCALE

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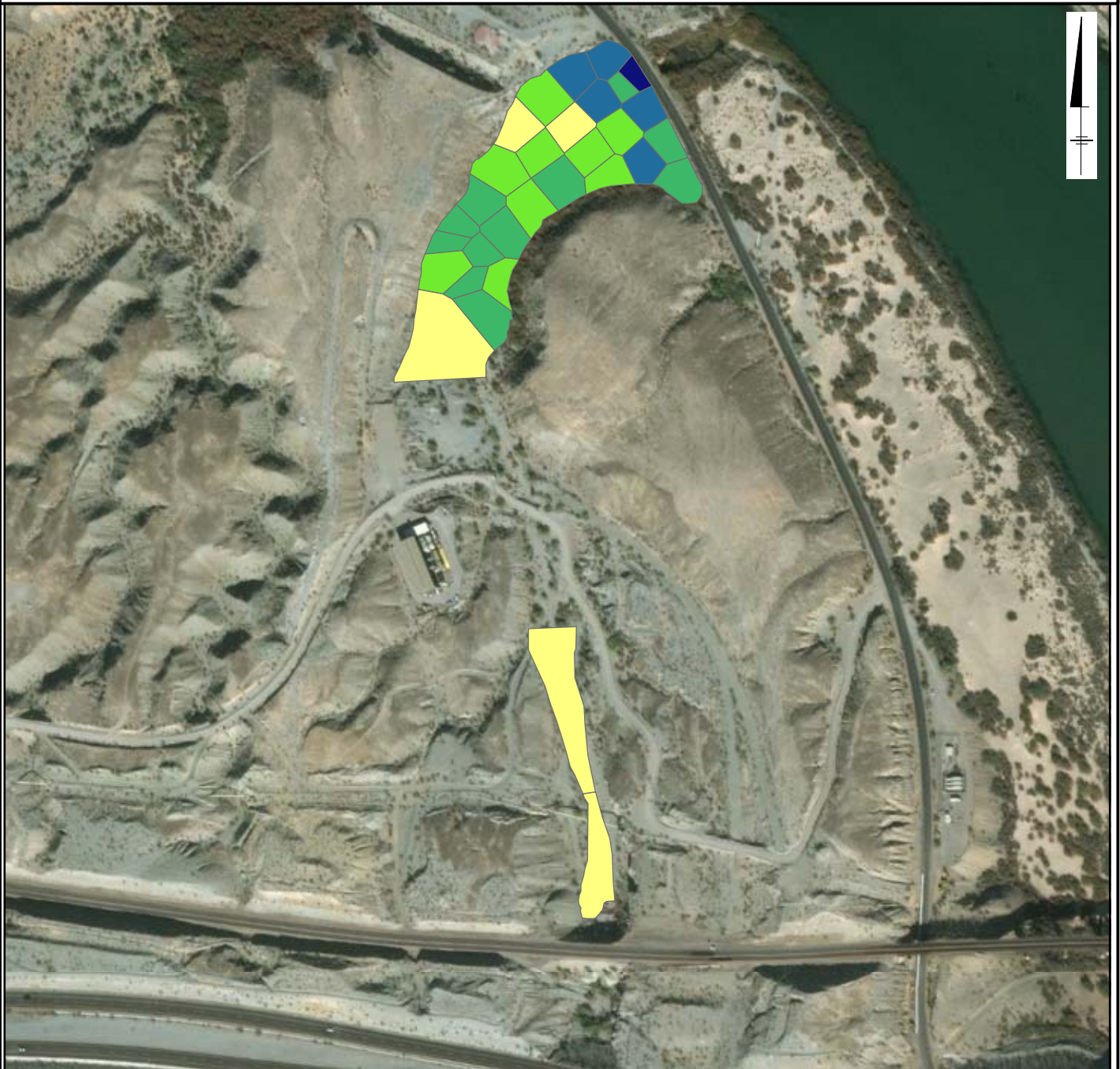
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FIGURE
NORR-A3.26

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.93 - 1.98
	≥1.98 - 3.43
	≥3.43 - 4.27
	≥4.27 - 5.70
	≥5.70 - 11.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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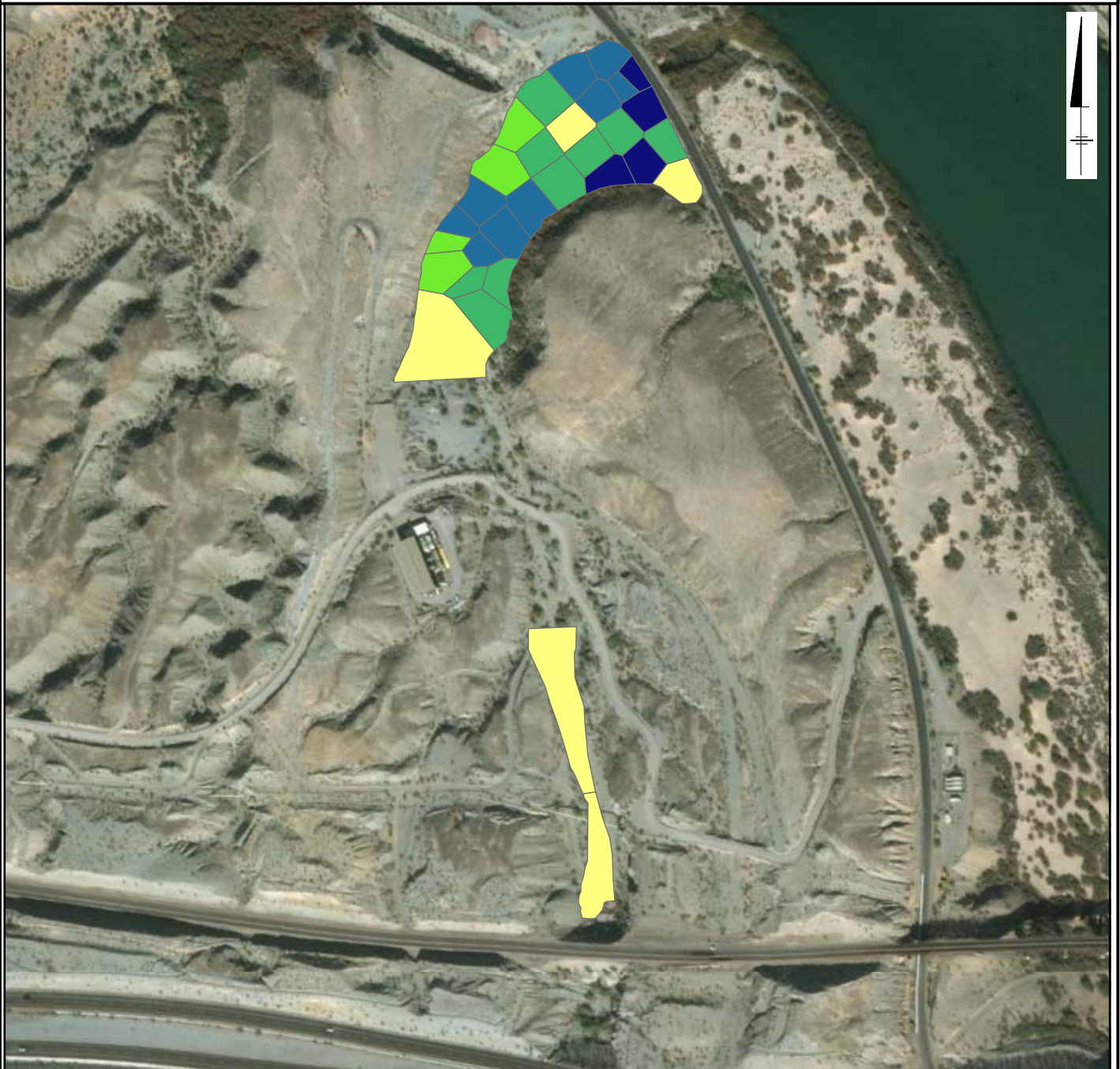
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FIGURE
NORR-A3.27

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

	NOT DETECTED
	58.00 - 88.00
	≥88.00 - 137.00
	≥137.00 - 170.00
	≥170.00 - 213.00
	≥213.00 - 290.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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FIGURE
NORR-A3.28

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: **CHROMIUM, HEXAVALENT (MG/KG)**

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.15
	≥0.15 - 0.26
	≥0.26 - 0.47
	≥0.47 - 1.84

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

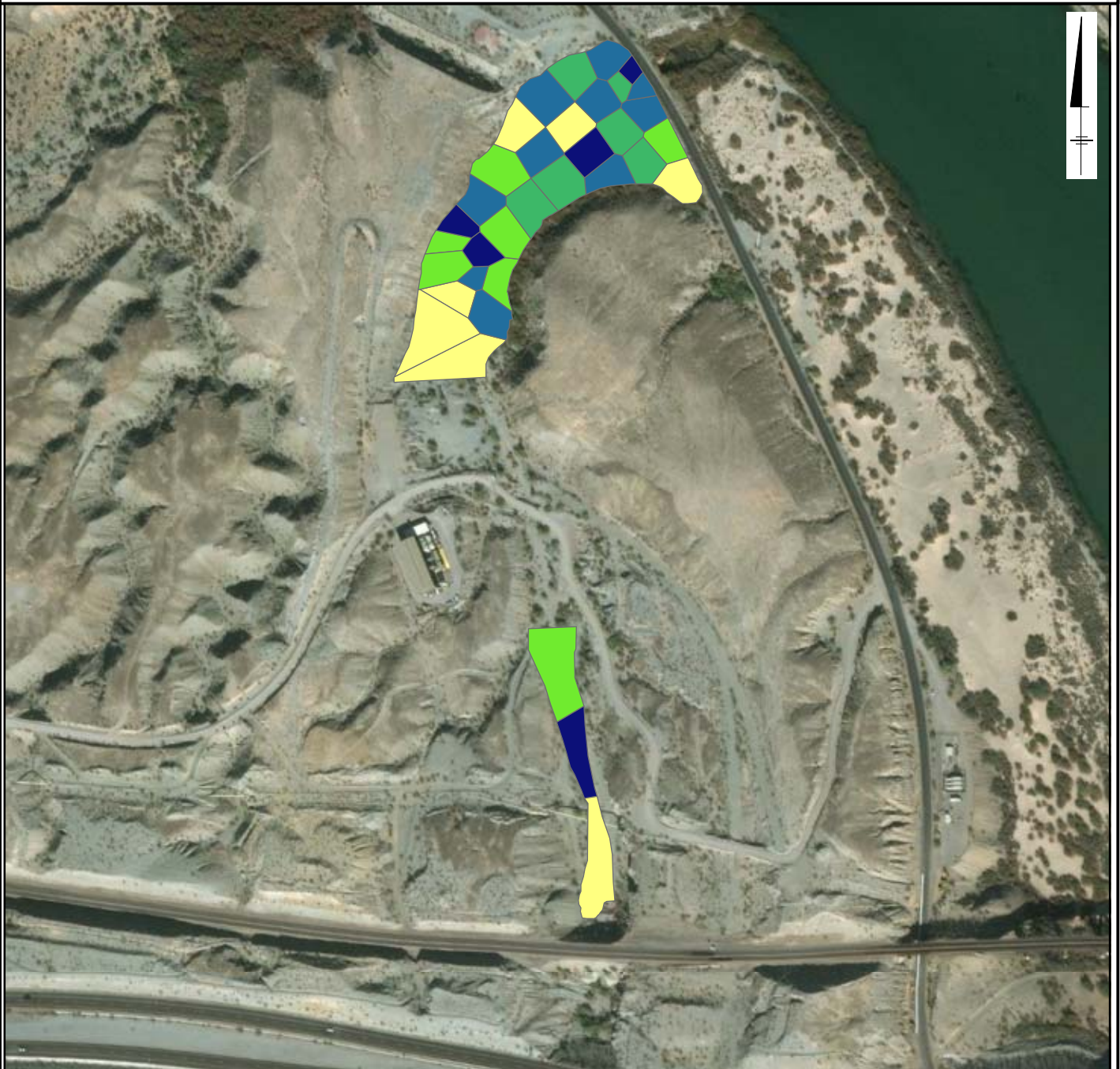
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**FIGURE
NORR-A3.29**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	14.60 - 18.00
	≥18.00 - 26.00
	≥26.00 - 31.00
	≥31.00 - 38.70
	≥38.70 - 56.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

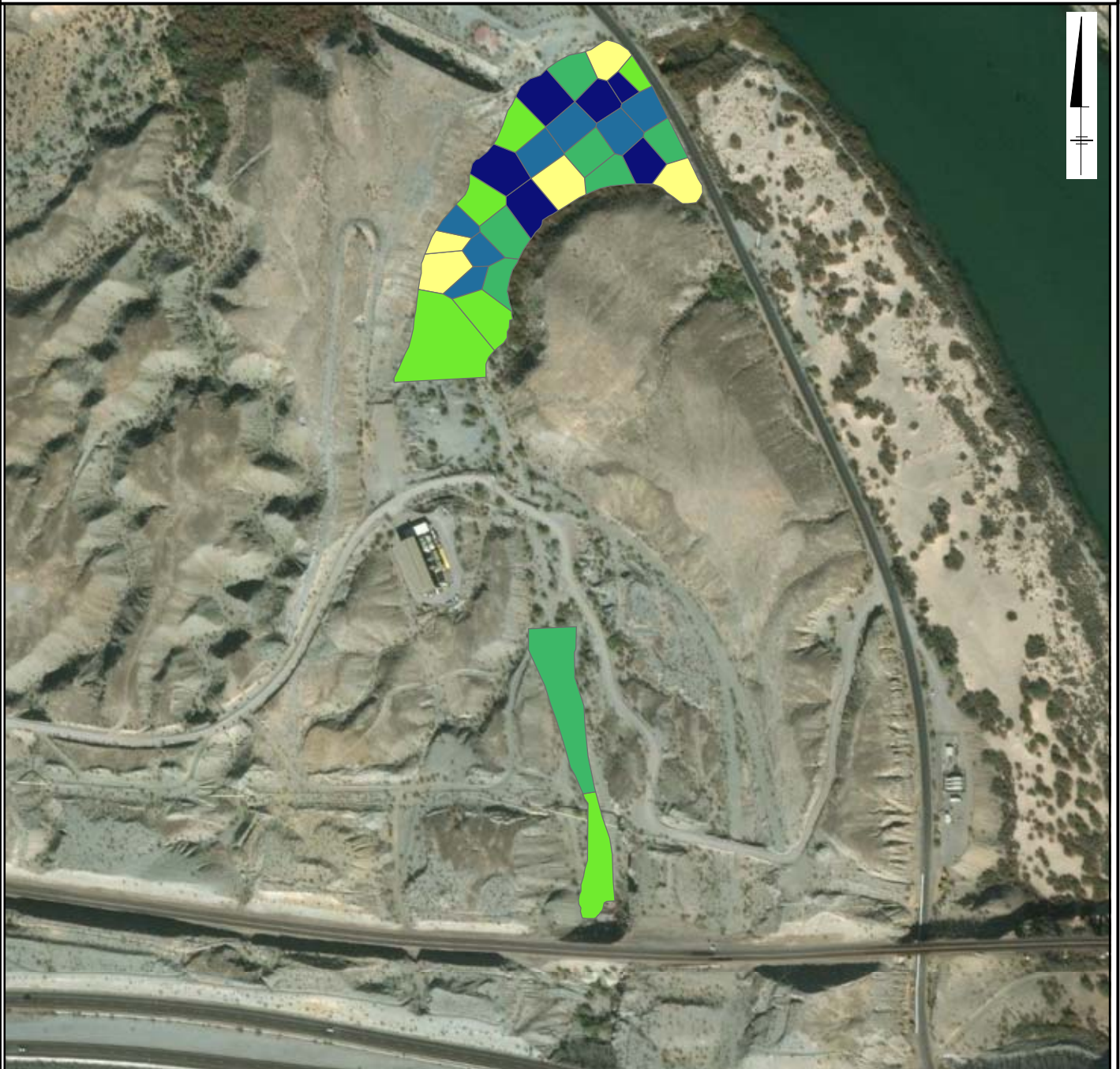
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FIGURE
NORR-A3.30

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	5.27 - 6.87
	≥6.87 - 7.73
	≥7.73 - 8.10
	≥8.10 - 8.60
	≥8.60 - 9.33

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.31

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

	NOT DETECTED
	7.77 - 9.57
	≥9.57 - 11.40
	≥11.40 - 13.50
	≥13.50 - 16.70
	≥16.70 - 19.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



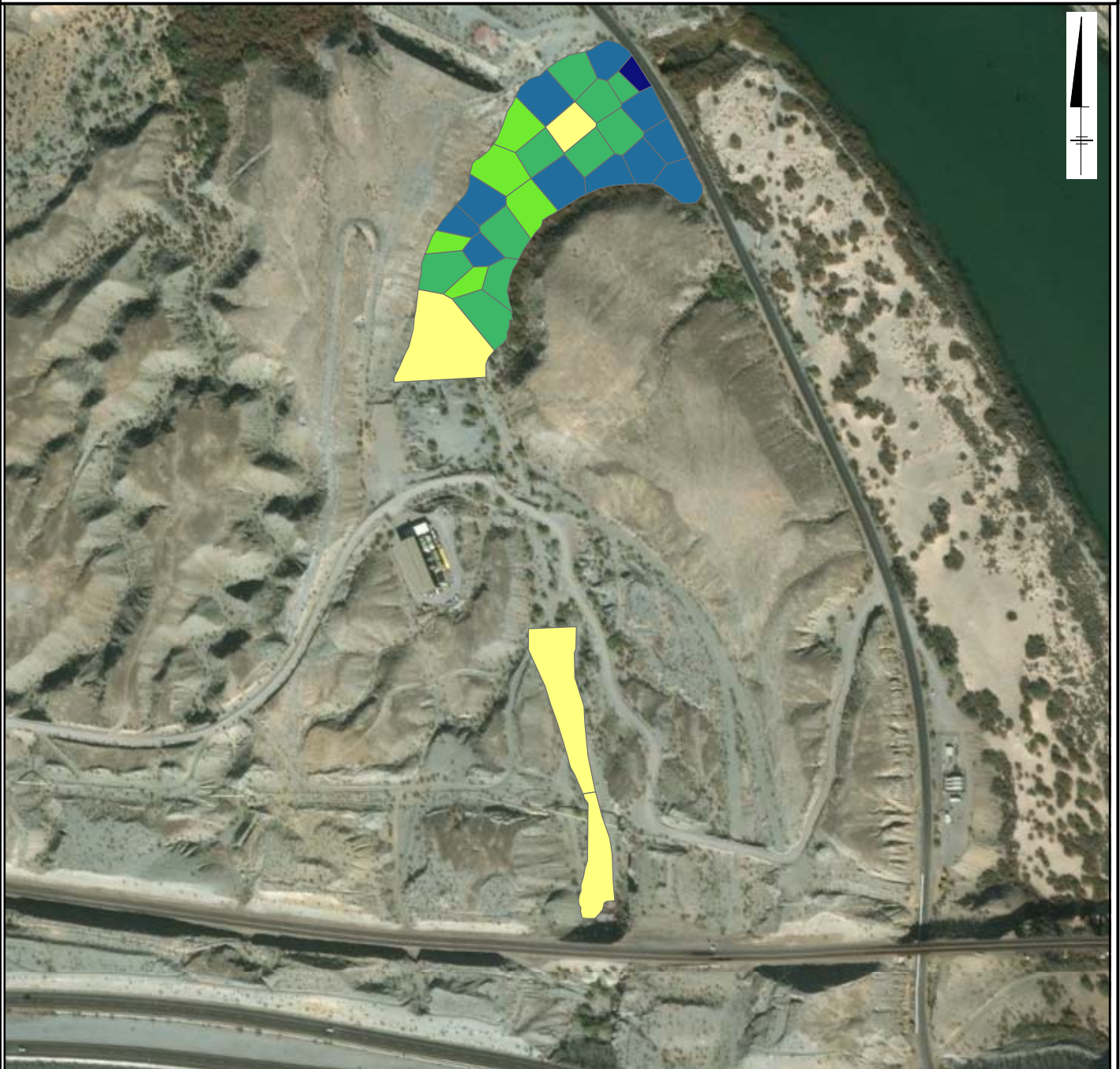
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FIGURE
NORR-A3.32

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	1.17 - 2.33
	≥2.33 - 6.33
	≥6.33 - 8.67
	≥8.67 - 13.00
	≥13.00 - 18.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



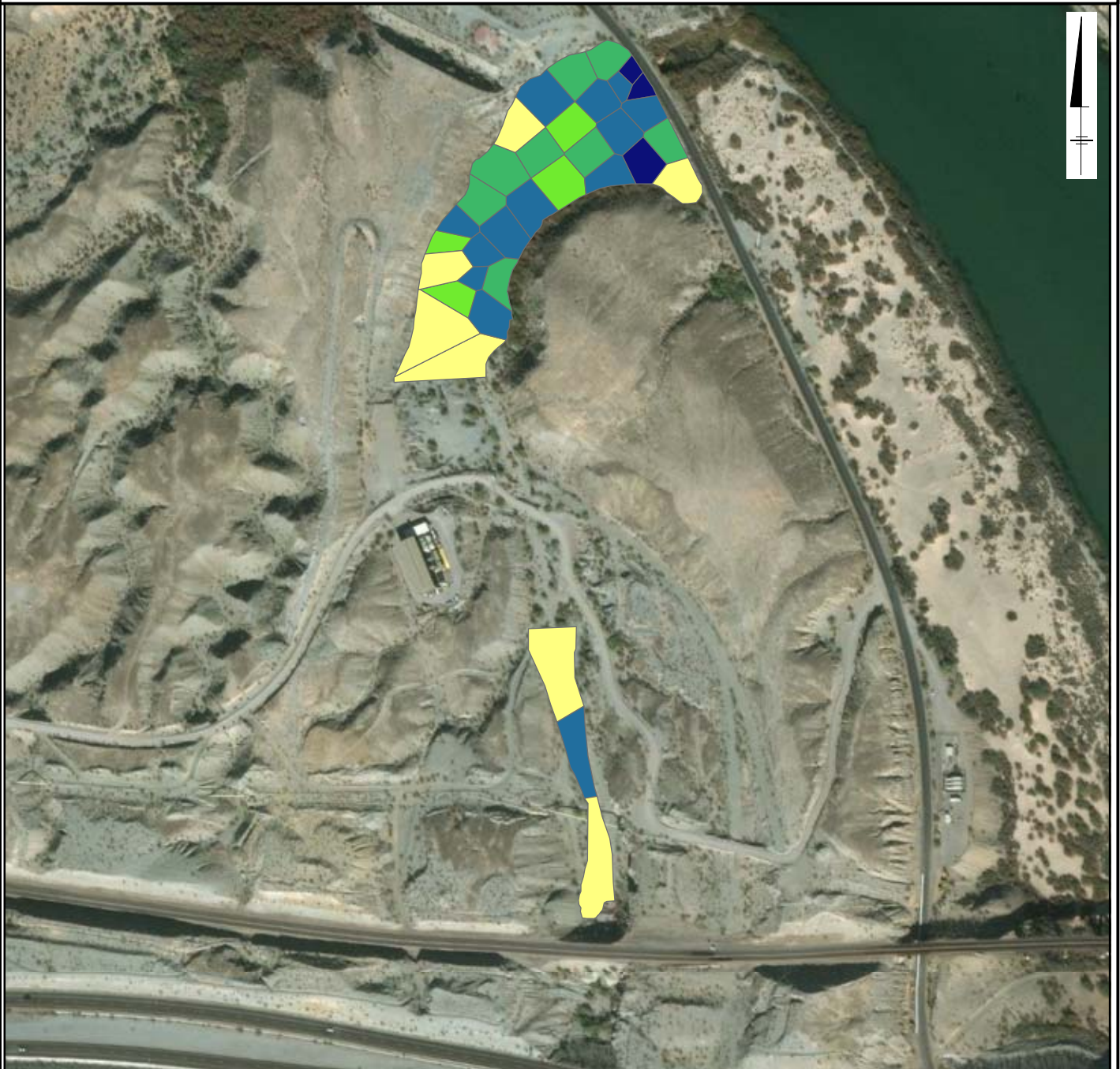
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FIGURE
NORR-A3.33

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE NICKEL

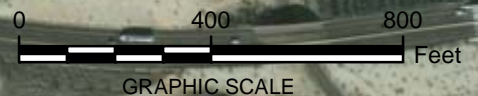


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	8.53 - 10.70
	≥10.70 - 12.30
	≥12.30 - 13.30
	≥13.30 - 14.70
	≥14.70 - 16.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



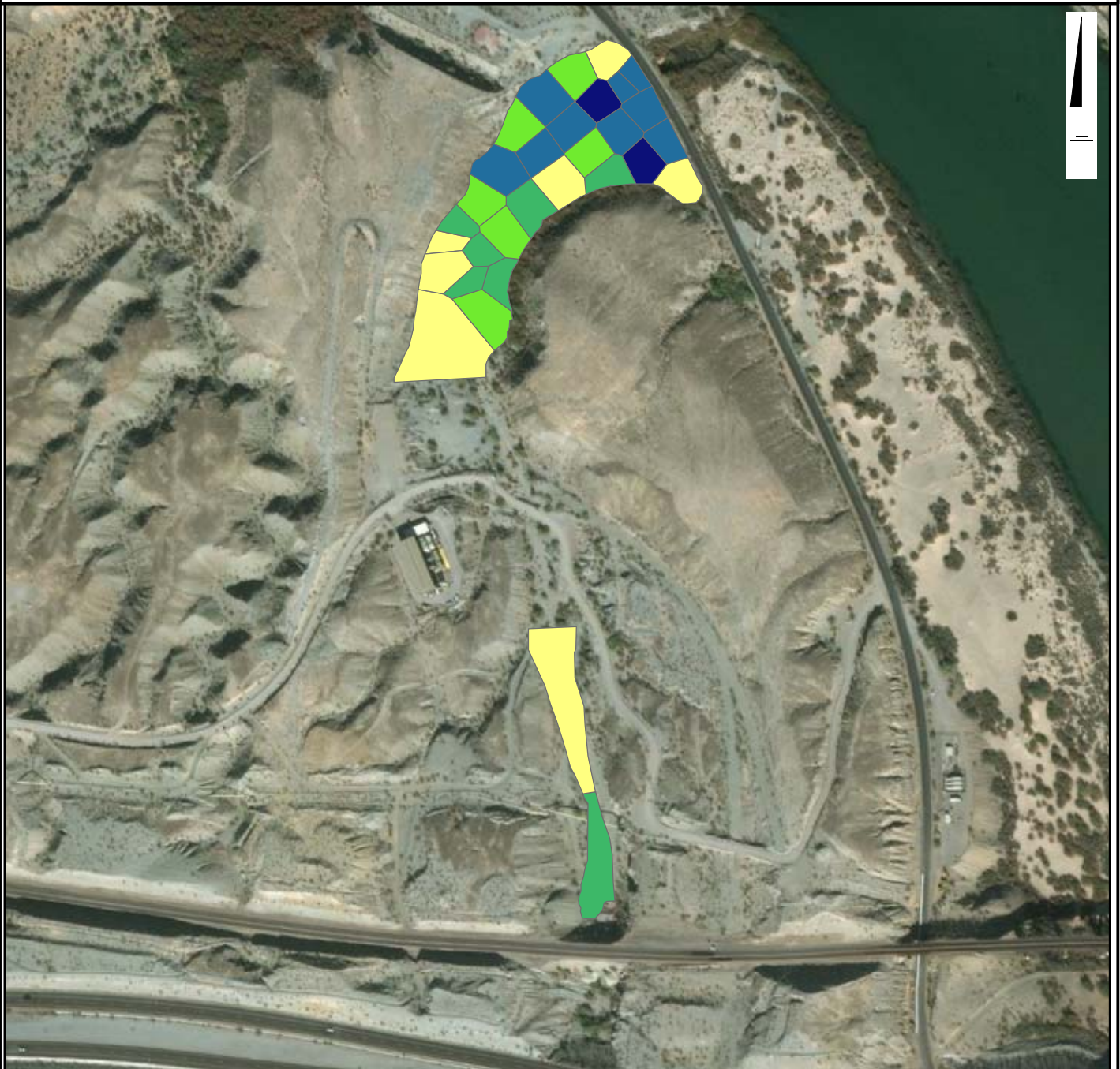
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FIGURE
NORR-A3.34

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: **VANADIUM (MG/KG)**

	NOT DETECTED
	25.30 - 28.30
	≥28.30 - 31.30
	≥31.30 - 33.70
	≥33.70 - 36.70
	≥36.70 - 40.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



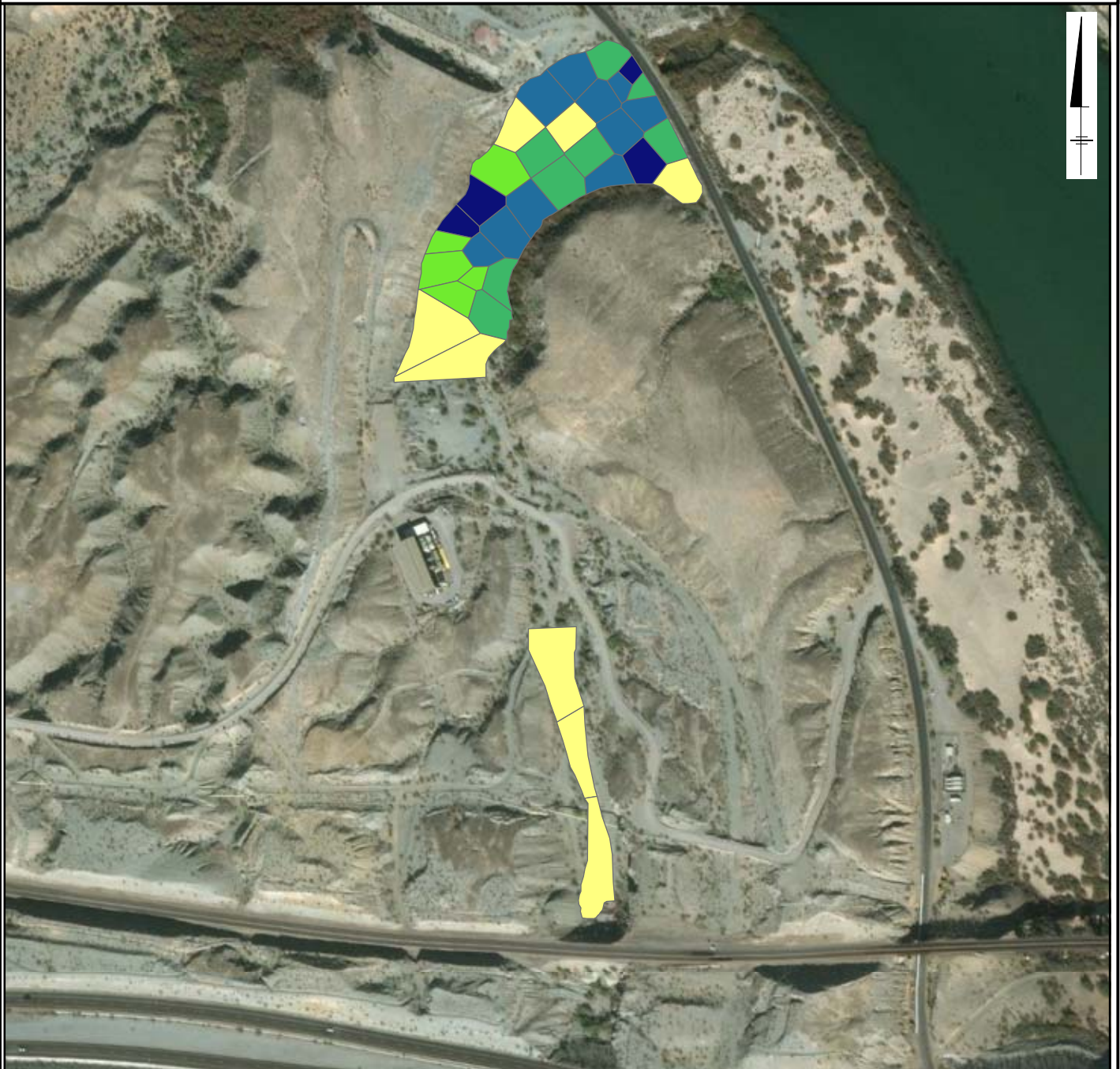
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**FIGURE
NORR-A3.35**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	28.00 - 37.80
	≥37.80 - 46.70
	≥46.70 - 51.70
	≥51.70 - 61.30
	≥61.30 - 71.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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FIGURE
NORR-A3.36

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) ANTHRACENE (UG/KG)**

	NOT DETECTED
	2.70 - 3.57
	≥3.57 - 4.30
	≥4.30 - 9.80
	≥9.80 - 15.50
	≥15.50 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

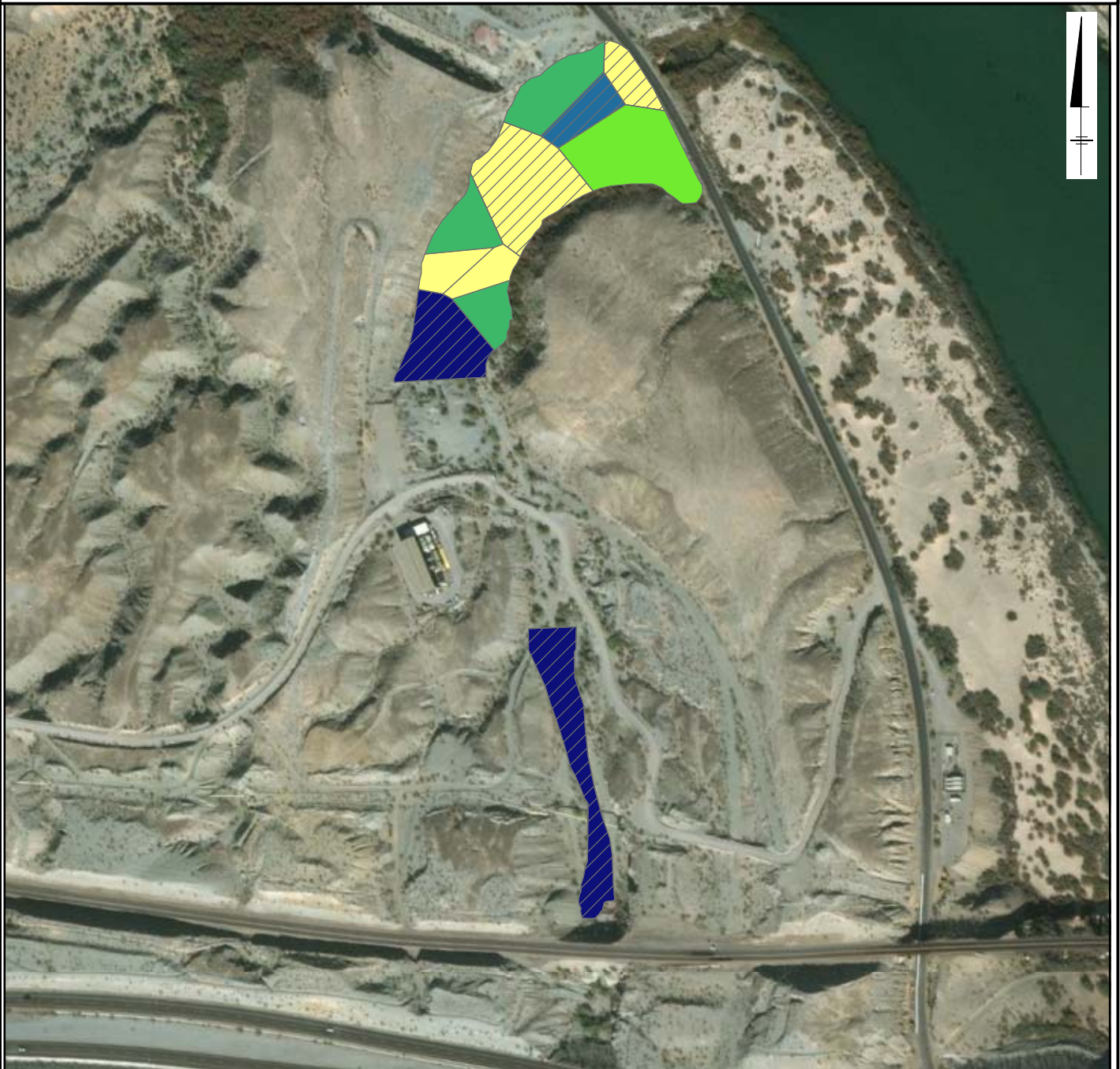
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**FIGURE
NORR-A3.37**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) PYRENE (UG/KG)

	NOT DETECTED
	2.70 - 5.00
	≥5.00 - 8.00
	≥8.00 - 14.20
	≥14.20 - 22.80
	≥22.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



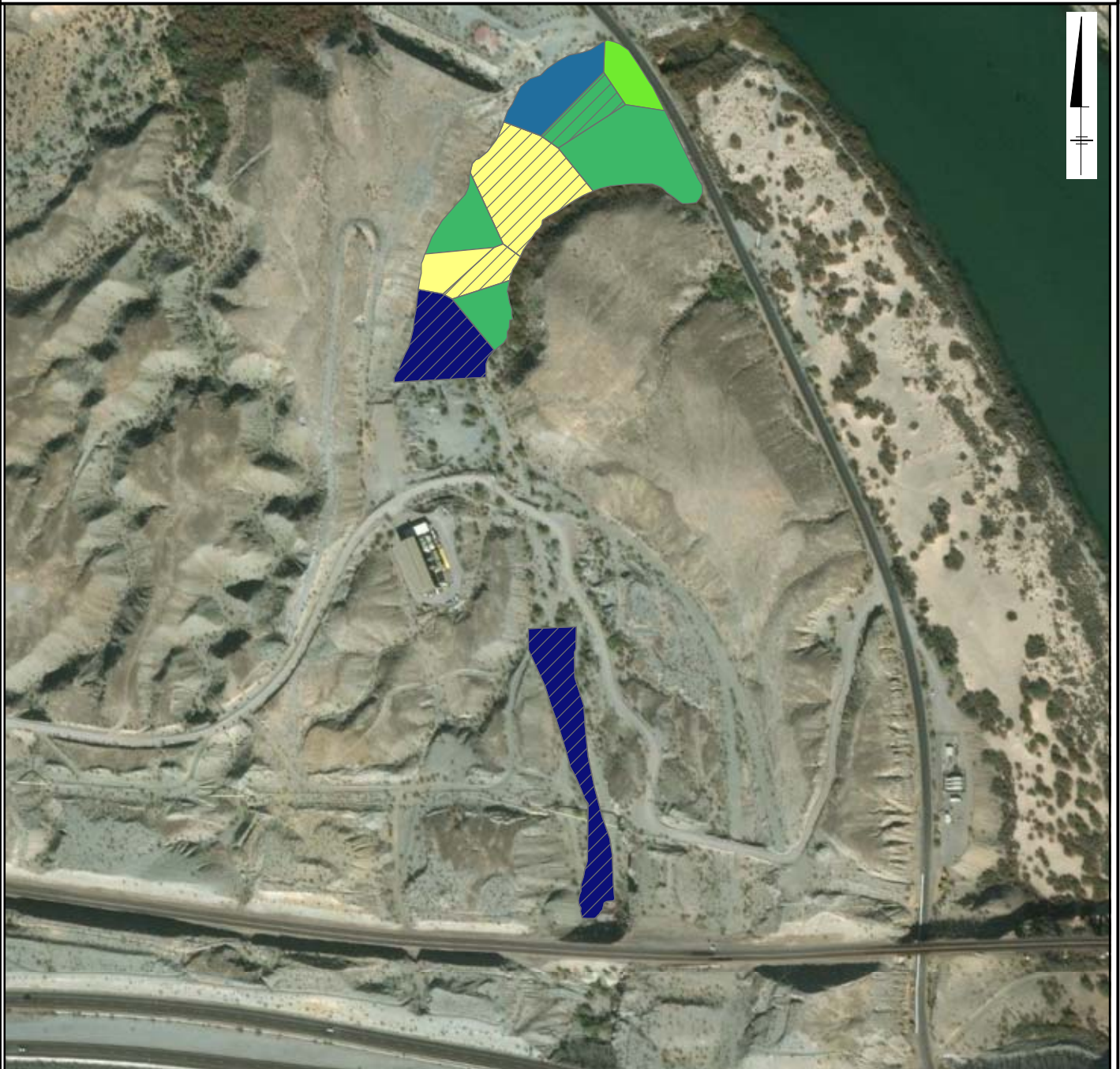
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FIGURE
NORR-A3.38

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (B) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.52 - 4.90
	≥4.90 - 10.70
	≥10.70 - 22.80
	≥22.80 - 31.00
	≥31.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.39**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

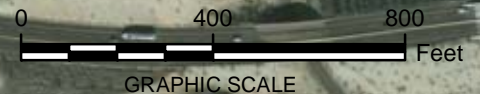


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.70 - 2.70
	≥2.70 - 3.57
	≥3.57 - 4.23
	≥4.23 - 22.80
	≥22.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.40

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (K) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.52 - 3.57
	≥3.57 - 7.60
	≥7.60 - 13.00
	≥13.00 - 22.80
	≥22.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



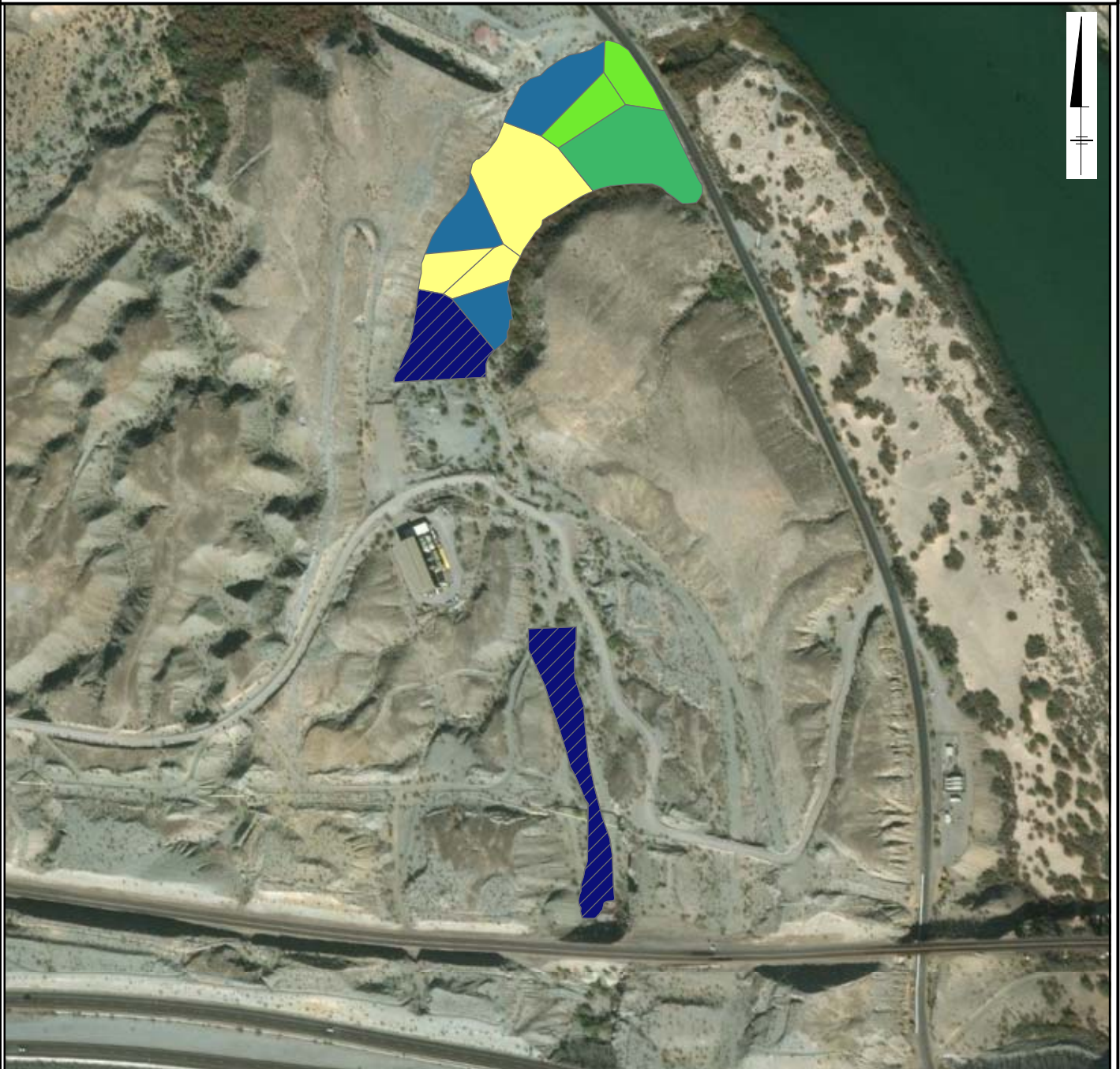
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**FIGURE
NORR-A3.41**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	4.37 - 5.67
	≥5.67 - 7.75
	≥7.75 - 11.00
	≥11.00 - 20.20
	≥20.20 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.42

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.70 - 8.00
	≥8.00 - 13.00
	≥13.00 - 21.50
	≥21.50 - 26.00
	≥26.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



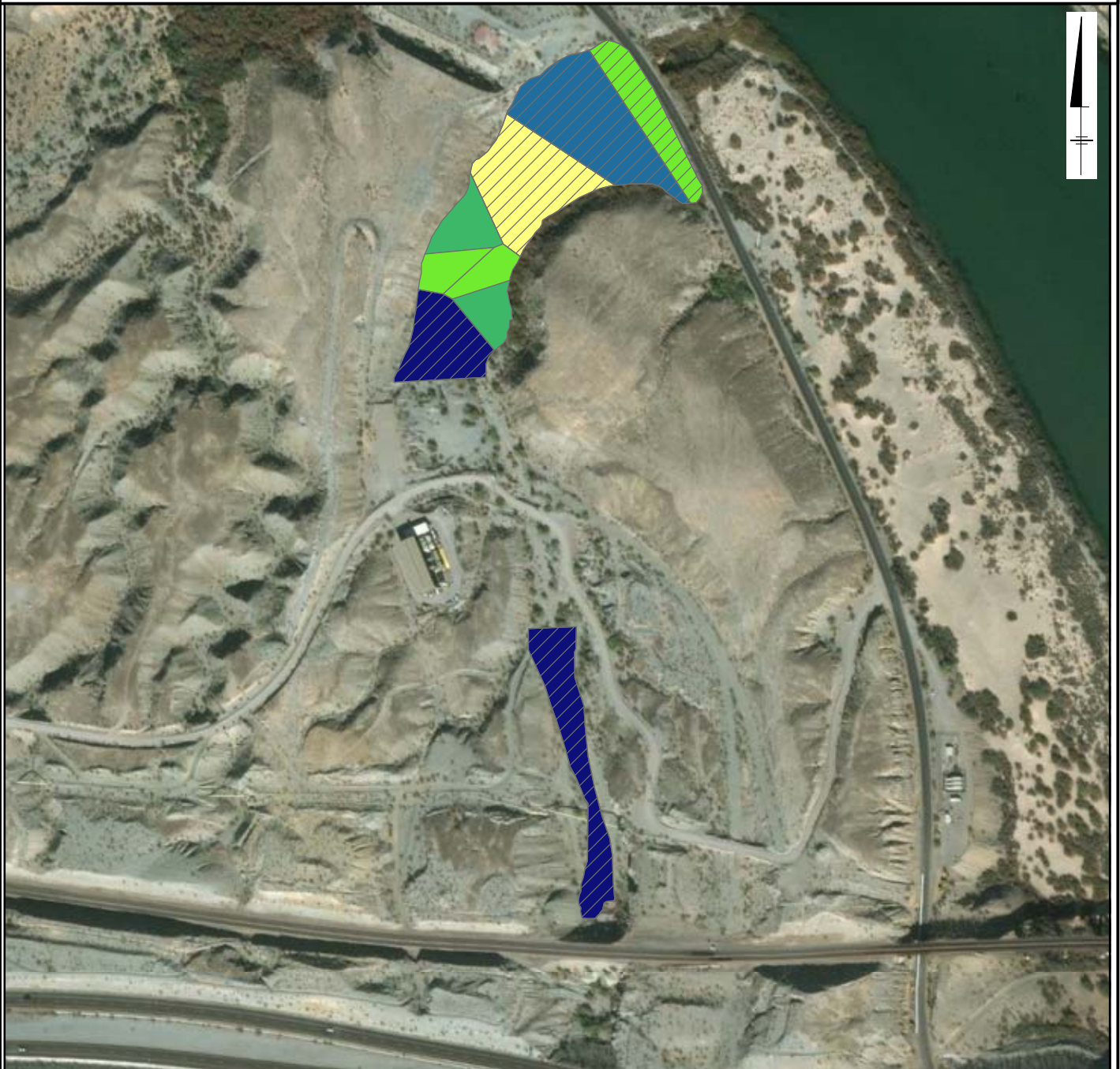
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FIGURE
NORR-A3.43

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **INDENO (1,2,3-CD) PYRENE (UG/KG)**

	NOT DETECTED
	2.70 - 2.70
	≥2.70 - 4.10
	≥4.10 - 10.20
	≥10.20 - 22.80
	≥22.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



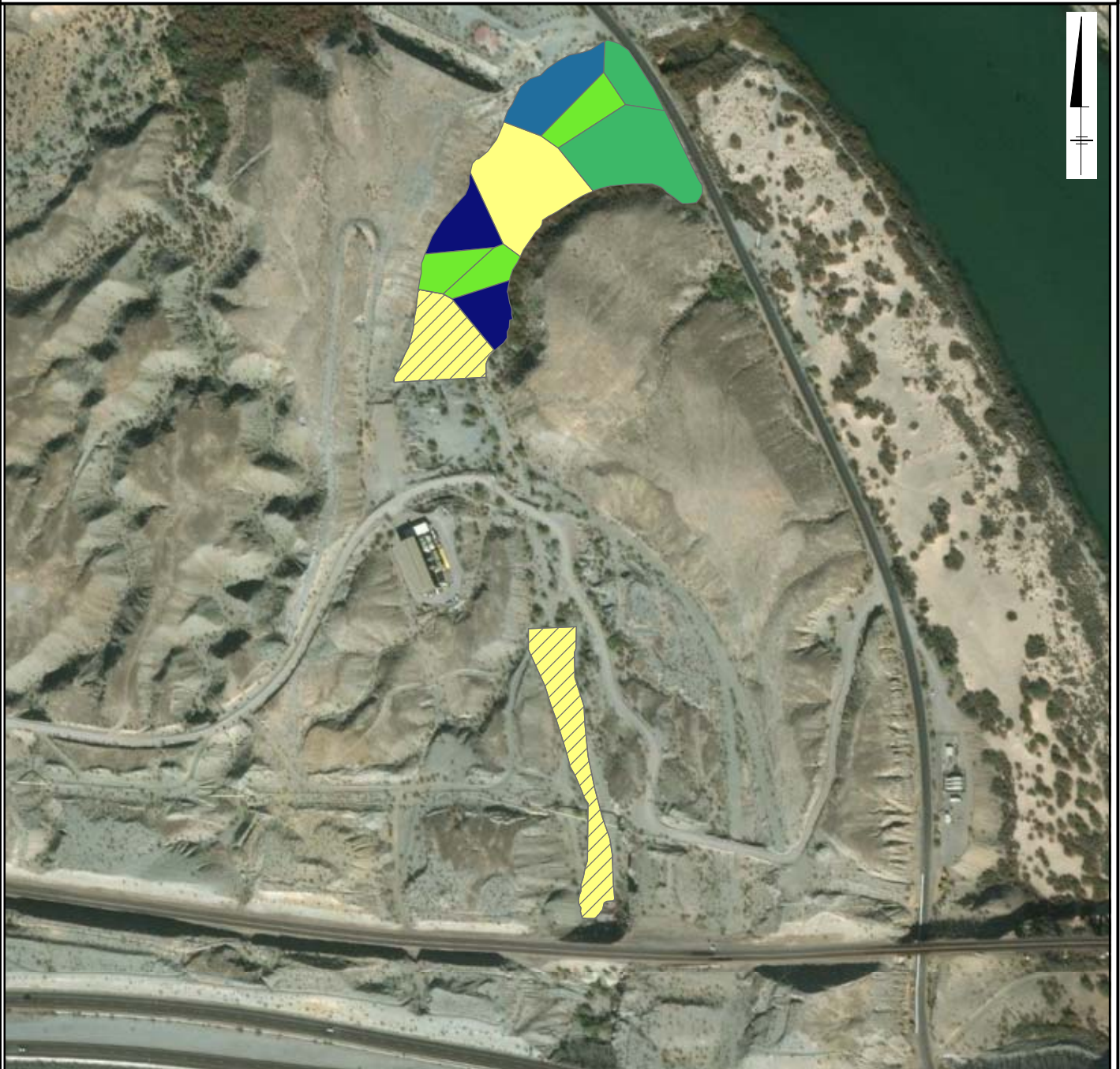
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**FIGURE
NORR-A3.44**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

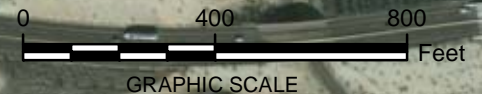


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: **PAH HIGH MOLECULAR WEIGHT (UG/KG)**

-  NOT DETECTED
-  0.00 - 4.73
-  ≥ 4.73 - 32.90
-  ≥ 32.90 - 58.50
-  ≥ 58.50 - 88.70
-  ≥ 88.70 - 149.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



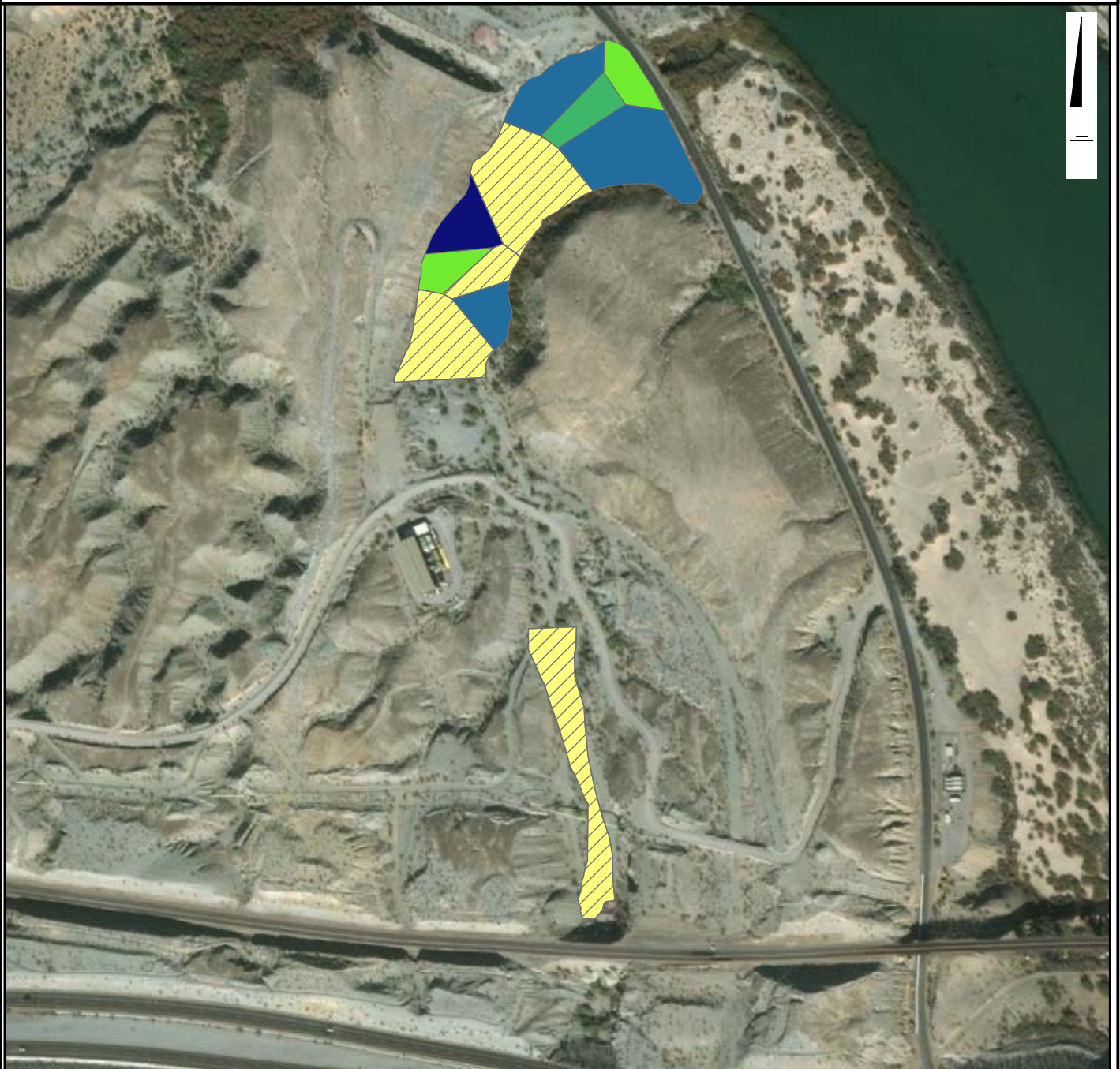
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FIGURE
NORR-A3.45

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

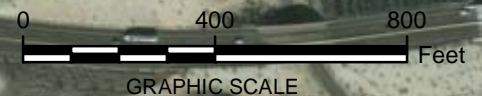


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: **PAH LOW MOLECULAR WEIGHT (UG/KG)**

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 3.33
	≥3.33 - 5.20
	≥5.20 - 8.00
	≥8.00 - 9.33

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.46

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.52 - 3.73
	≥3.73 - 6.28
	≥6.28 - 8.18
	≥8.18 - 12.00
	≥12.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



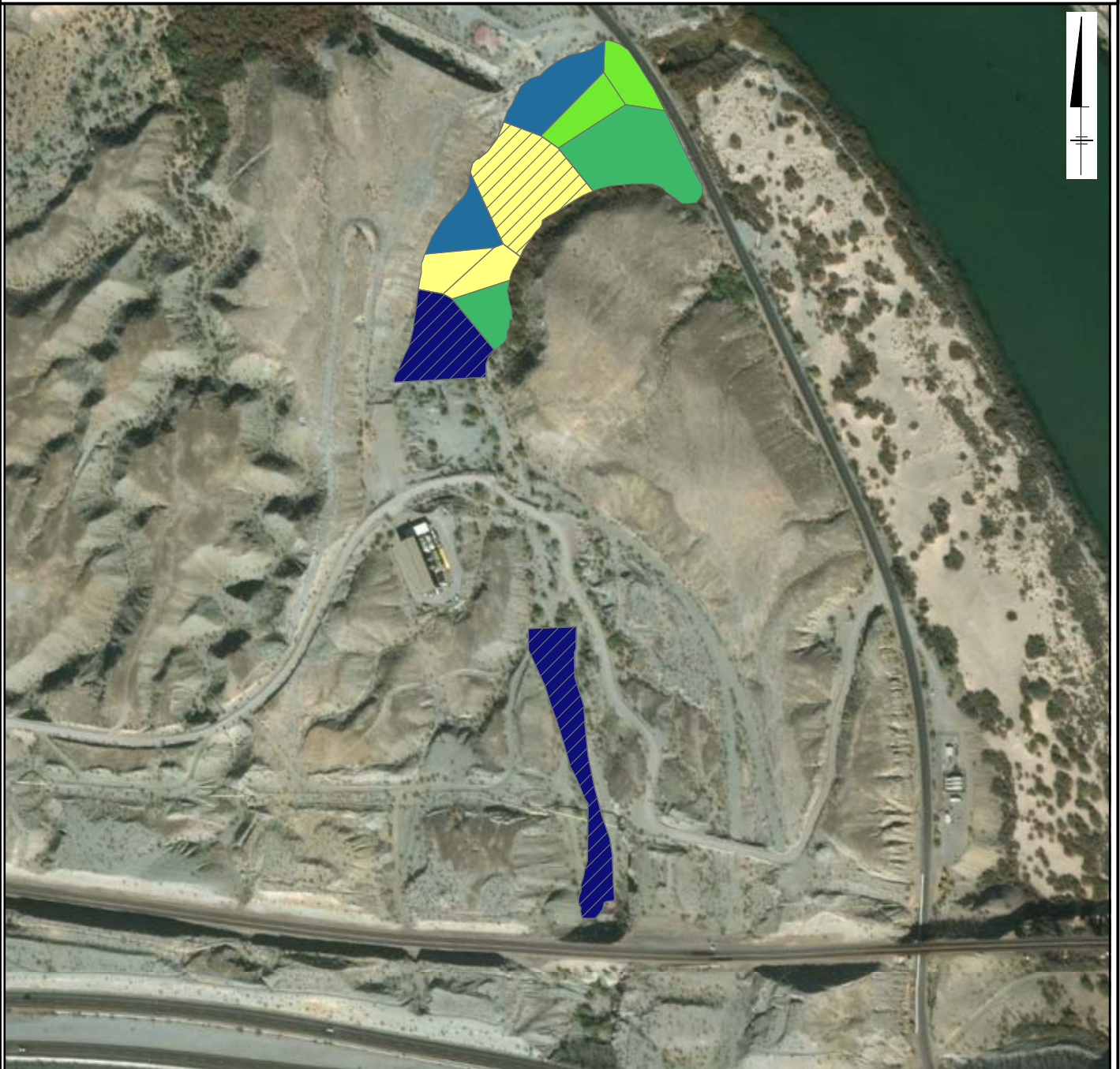
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FIGURE
NORR-A3.47

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.70 - 7.00
	≥7.00 - 11.70
	≥11.70 - 18.90
	≥18.90 - 23.00
	≥23.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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FIGURE
NORR-A3.48

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: **TEQ AVIAN (NG/KG)**

	NOT DETECTED
	0.24 - 2.73
	≥2.73 - 6.70
	≥6.70 - 16.40
	≥16.40 - 23.40
	≥23.40 - 60.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.49**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.23 - 4.80
- $\geq 4.80 - 14.20$
- $\geq 14.20 - 28.70$
- $\geq 28.70 - 48.10$
- $\geq 48.10 - 84.70$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.50

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

	NOT DETECTED
	0.23 - 4.80
	≥4.80 - 14.20
	≥14.20 - 28.70
	≥28.70 - 48.10
	≥48.10 - 84.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



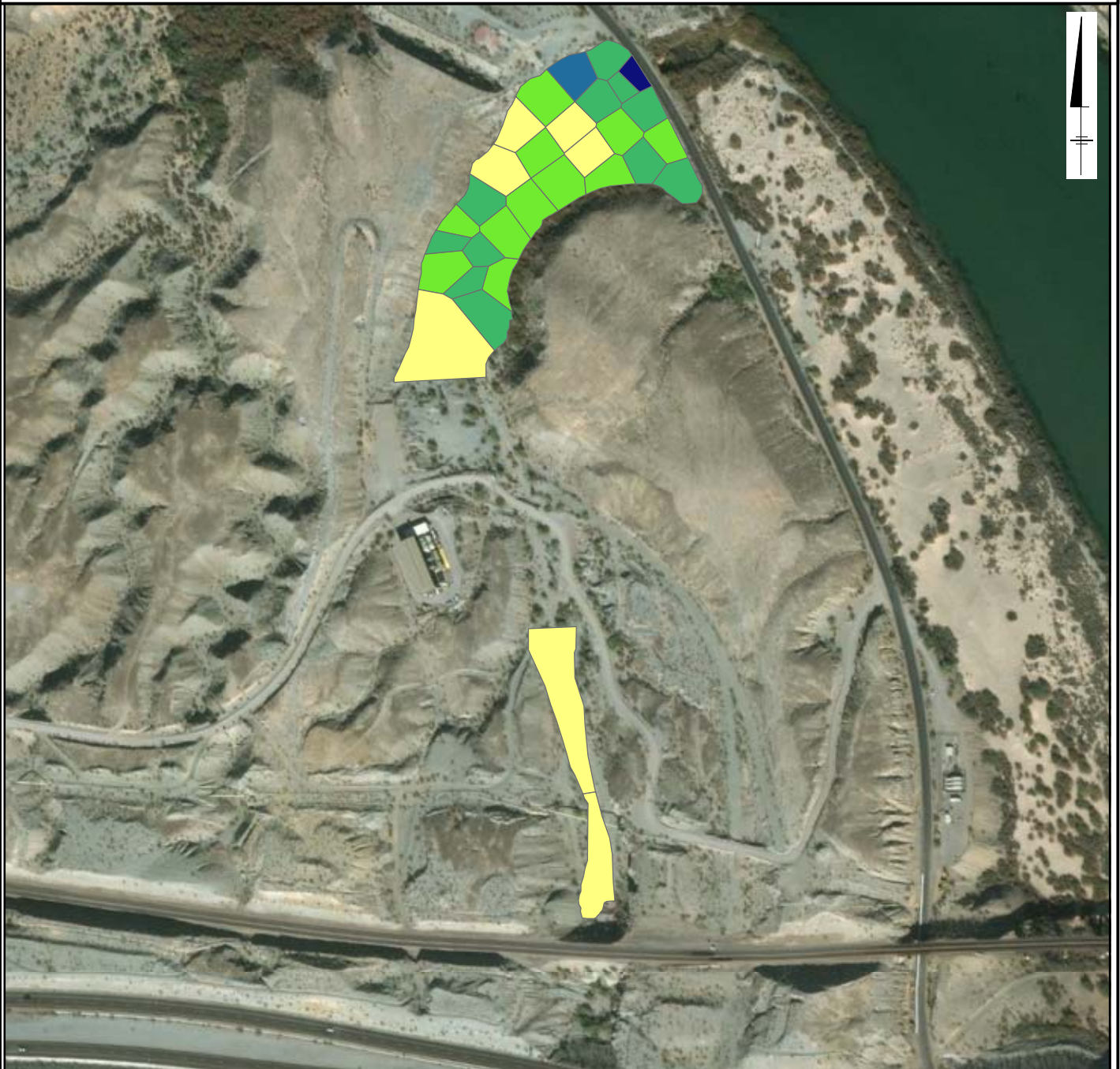
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FIGURE
NORR-A3.51

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	1.27 - 2.17
	≥2.17 - 3.27
	≥3.27 - 4.43
	≥4.43 - 5.77
	≥5.77 - 10.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

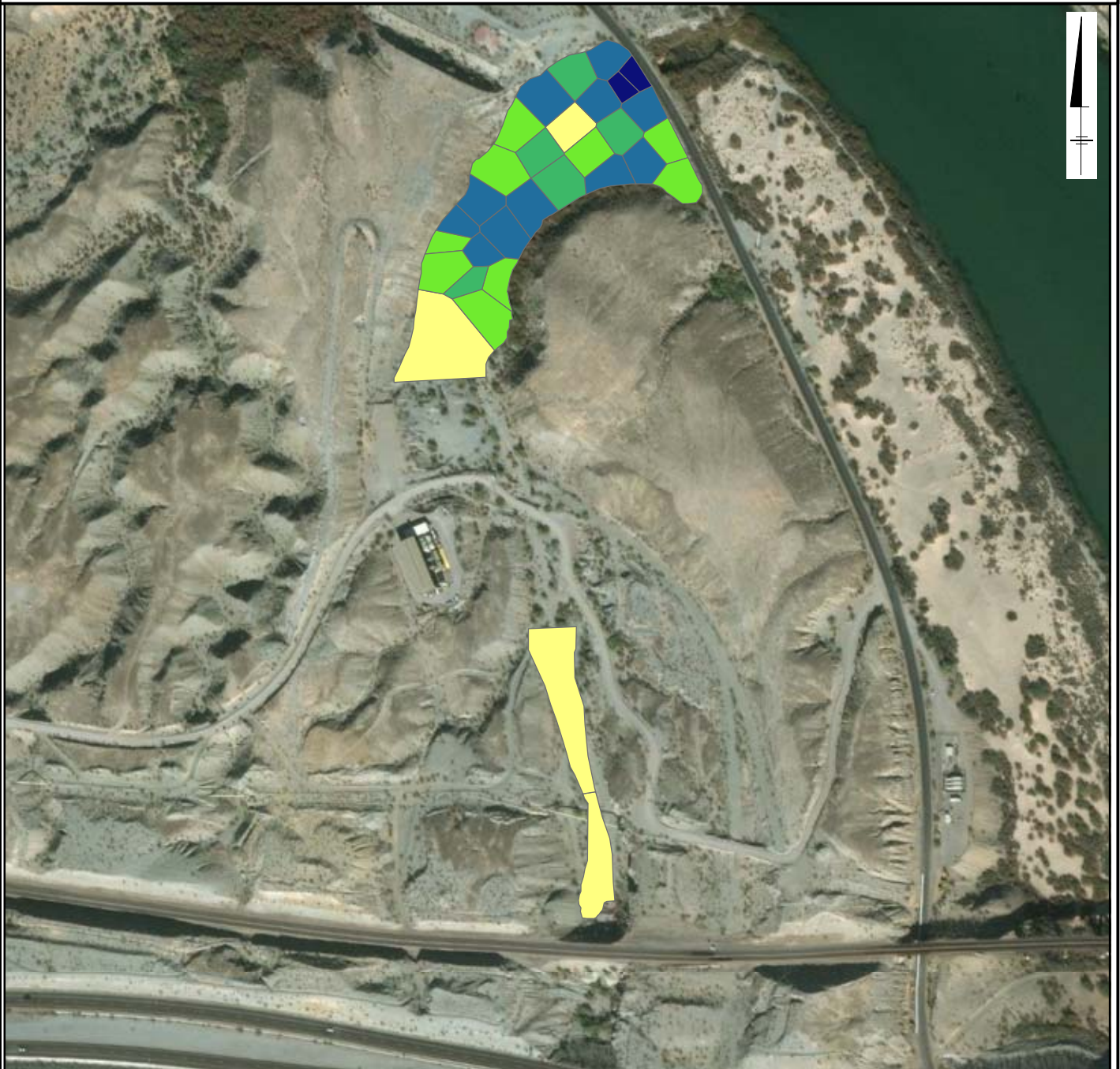
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FIGURE
NORR-A3.52

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

	NOT DETECTED
	58.20 - 72.50
	≥72.50 - 129.00
	≥129.00 - 164.00
	≥164.00 - 192.00
	≥192.00 - 260.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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FIGURE
NORR-A3.53

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: **CHROMIUM, HEXAVALENT (MG/KG)**

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.14
	≥0.14 - 0.23
	≥0.23 - 0.46
	≥0.46 - 1.07

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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**FIGURE
NORR-A3.54**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 12.40 - 15.70
- ≥ 15.70 - 21.90
- ≥ 21.90 - 29.80
- ≥ 29.80 - 37.70
- ≥ 37.70 - 53.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.55

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	6.10 - 6.85
	≥6.85 - 7.38
	≥7.38 - 7.98
	≥7.98 - 8.62
	≥8.62 - 9.58

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.56

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 7.38 - 8.68
- $\geq 8.68 - 11.10$
- $\geq 11.10 - 13.20$
- $\geq 13.20 - 14.80$
- $\geq 14.80 - 16.70$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



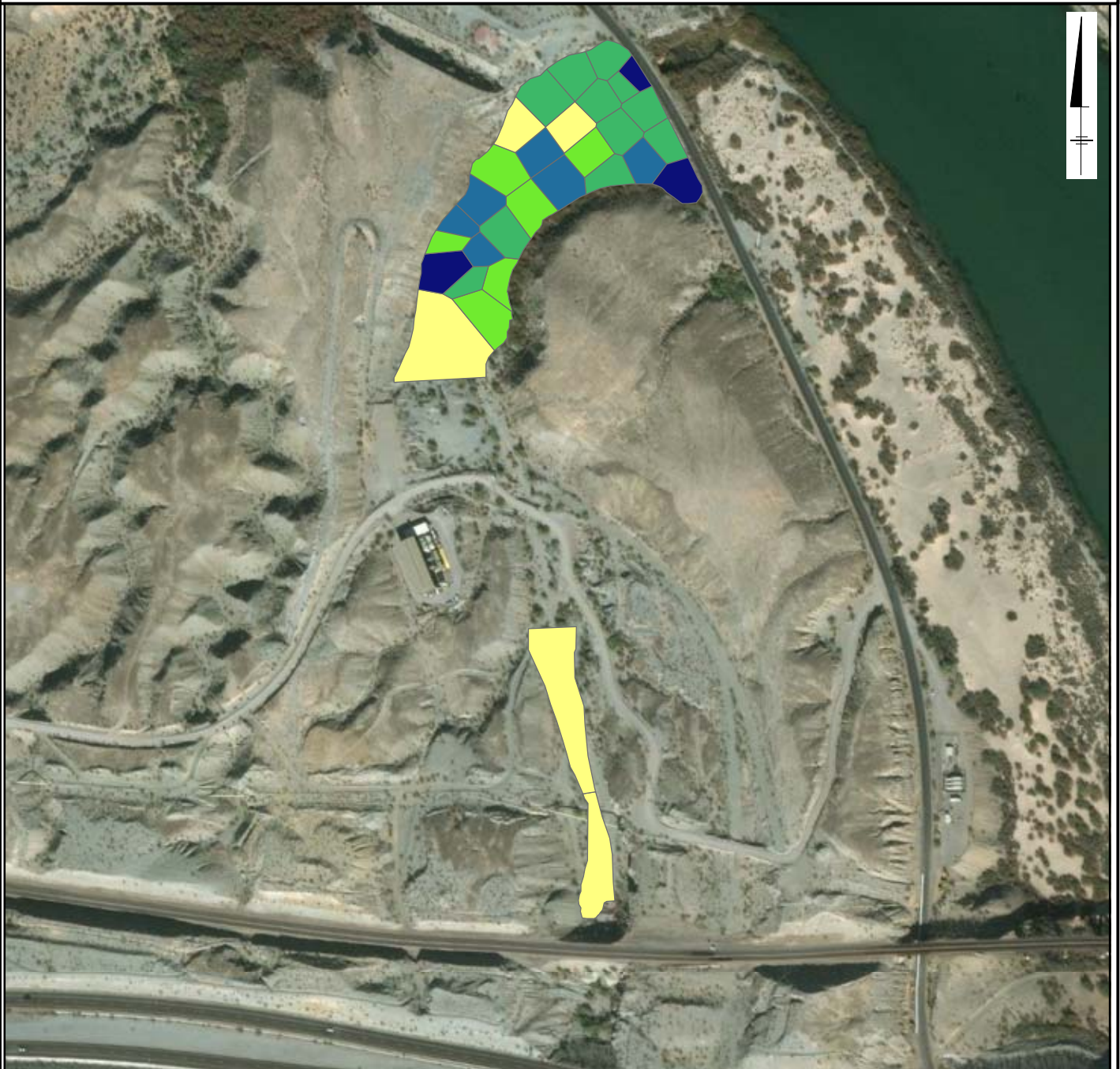
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FIGURE
NORR-A3.57

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	1.10 - 2.73
	≥2.73 - 5.55
	≥5.55 - 7.67
	≥7.67 - 9.35
	≥9.35 - 13.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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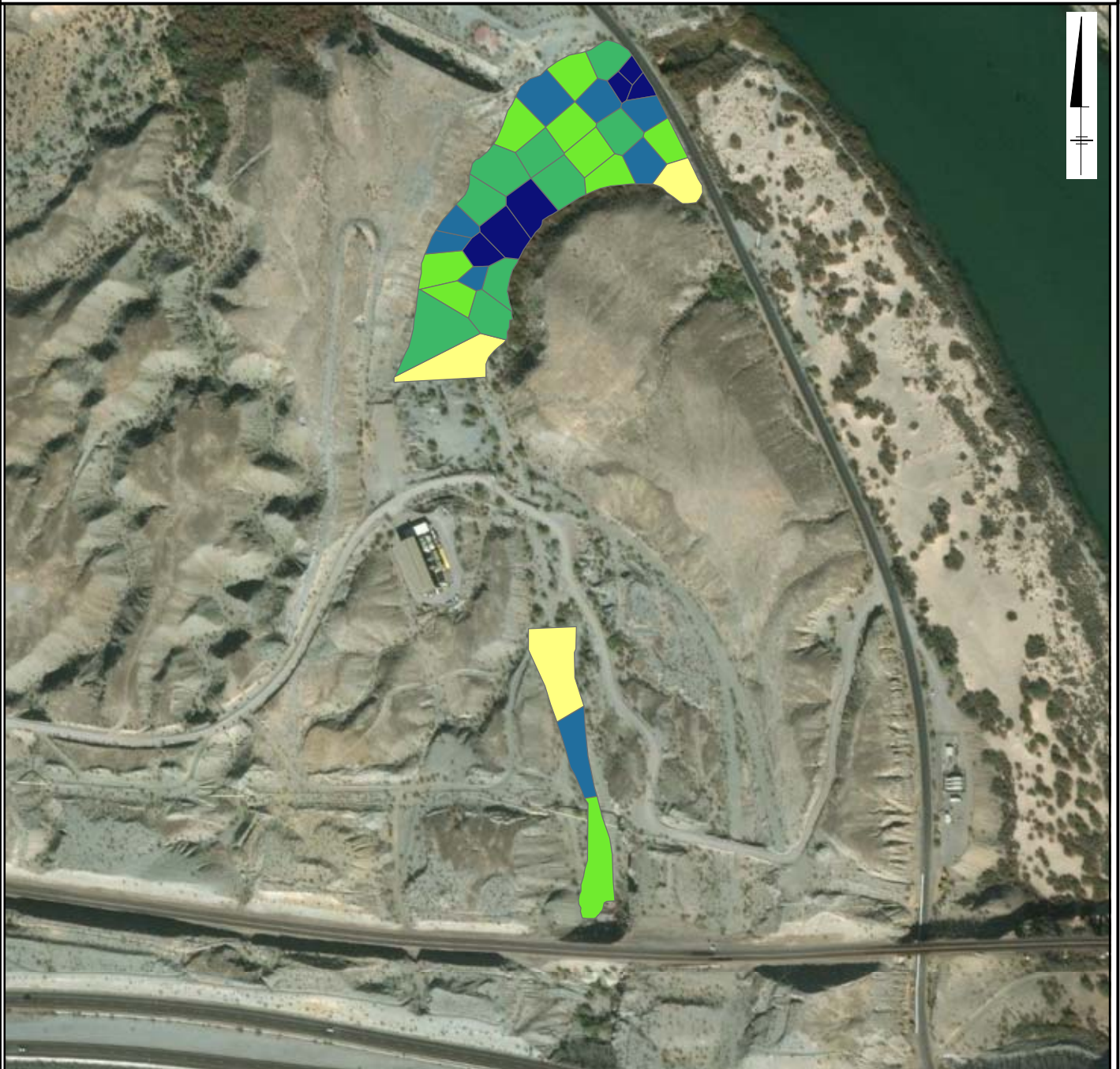
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FIGURE
NORR-A3.58

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	8.62 - 9.93
	≥9.93 - 11.40
	≥11.40 - 12.40
	≥12.40 - 13.50
	≥13.50 - 15.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

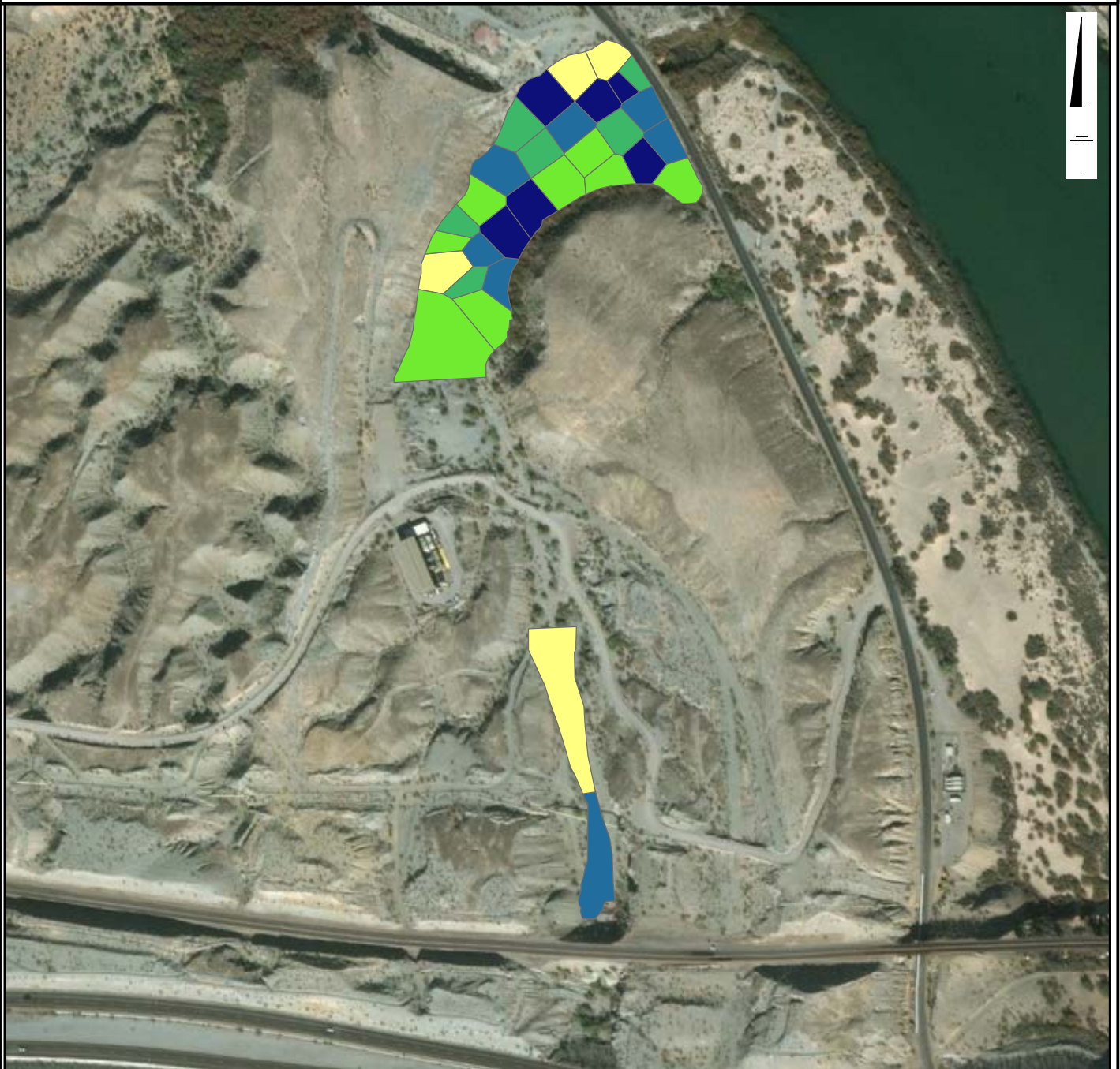
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FIGURE
NORR-A3.59

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	24.20 - 27.30
	≥27.30 - 30.00
	≥30.00 - 33.20
	≥33.20 - 34.80
	≥34.80 - 37.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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FIGURE
NORR-A3.60

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	29.80 - 33.10
	≥33.10 - 41.00
	≥41.00 - 45.50
	≥45.50 - 50.20
	≥50.20 - 60.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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FIGURE
NORR-A3.61

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) ANTHRACENE (UG/KG)**

	NOT DETECTED
	2.75 - 3.17
	≥3.17 - 4.12
	≥4.12 - 7.20
	≥7.20 - 9.80
	≥9.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

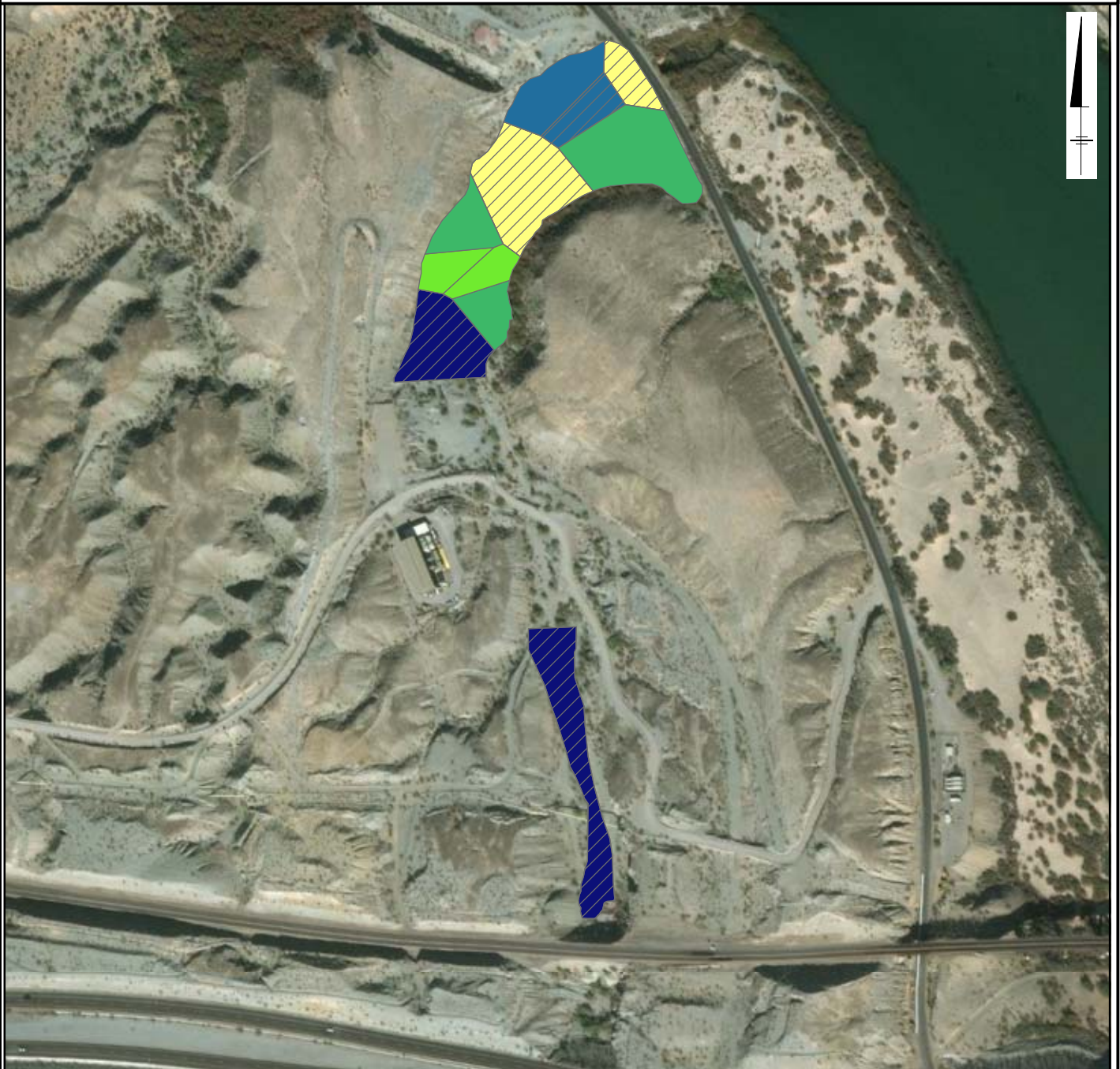
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**FIGURE
NORR-A3.62**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) PYRENE (UG/KG)**

	NOT DETECTED
	2.75 - 3.58
	≥3.58 - 6.25
	≥6.25 - 8.35
	≥8.35 - 14.00
	≥14.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

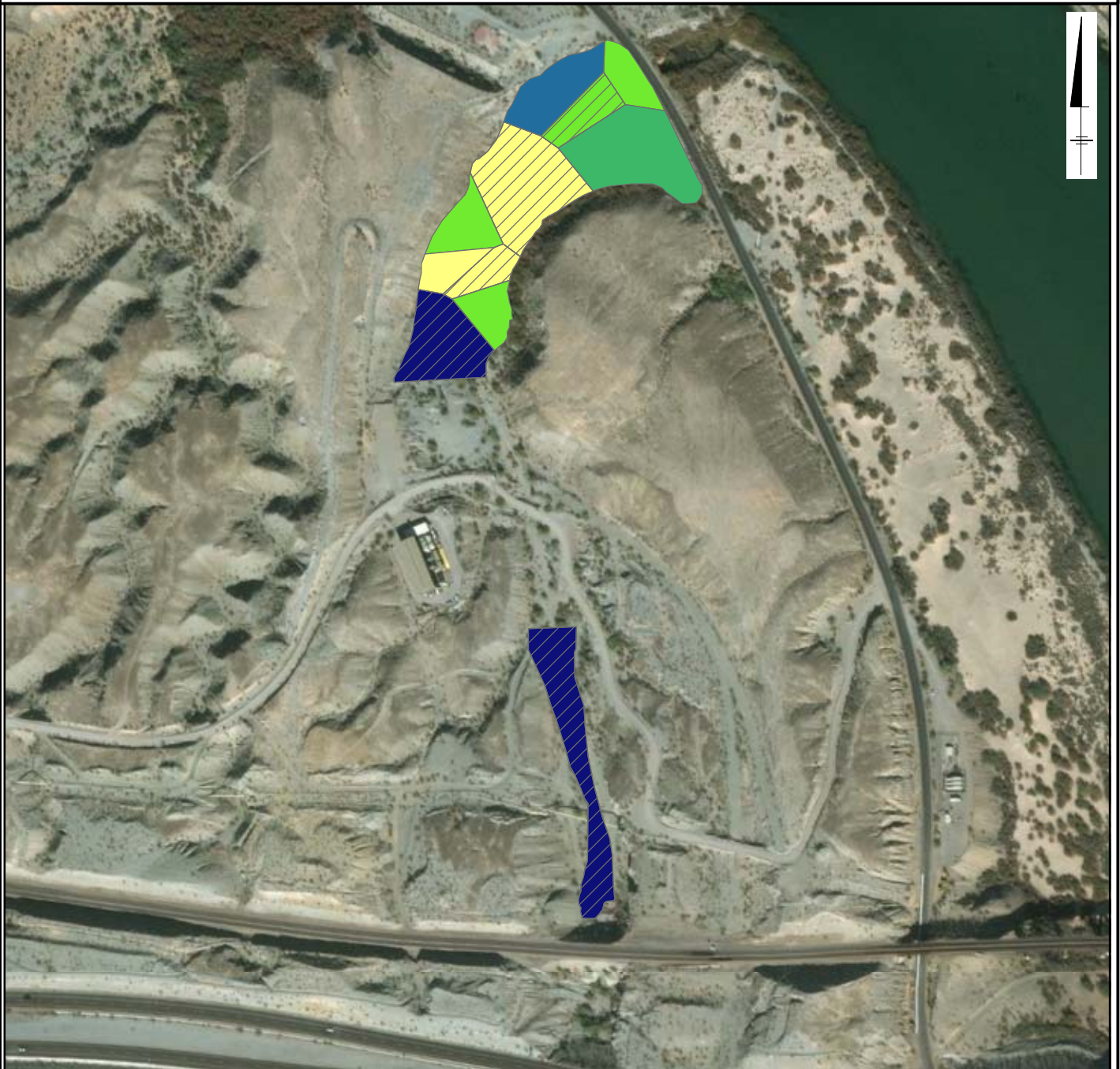
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**FIGURE
NORR-A3.63**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

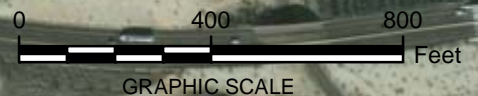


BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (B) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.54 - 6.10
	≥6.10 - 12.90
	≥12.90 - 17.00
	≥17.00 - 31.00
	≥31.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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**FIGURE
NORR-A3.64**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (GHI) PERYLENE (UG/KG)**

	NOT DETECTED
	2.75 - 4.02
	≥4.02 - 5.10
	≥5.10 - 7.35
	≥7.35 - 12.90
	≥12.90 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

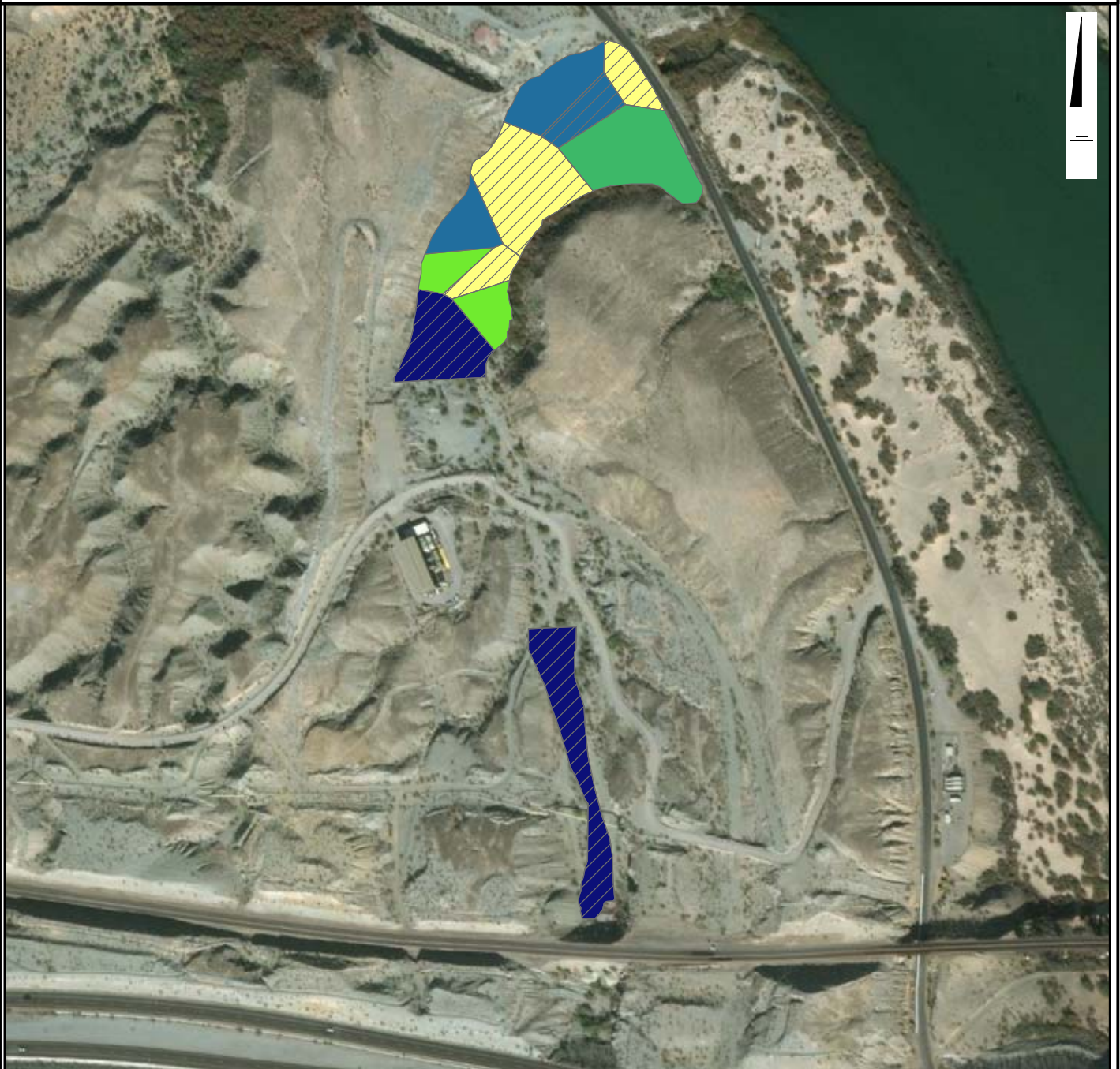
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**FIGURE
NORR-A3.65**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (K) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.54 - 3.58
	≥3.58 - 7.04
	≥7.04 - 7.60
	≥7.60 - 13.00
	≥13.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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**FIGURE
NORR-A3.66**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	4.23 - 4.23
	≥4.23 - 7.57
	≥7.57 - 11.40
	≥11.40 - 16.00
	≥16.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.67

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

	NOT DETECTED
	2.75 - 2.75
	≥2.75 - 7.42
	≥7.42 - 16.00
	≥16.00 - 26.00
	≥26.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.68

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **INDENO (1,2,3-CD) PYRENE (UG/KG)**

	NOT DETECTED
	2.75 - 3.82
	≥3.82 - 4.90
	≥4.90 - 6.38
	≥6.38 - 12.90
	≥12.90 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



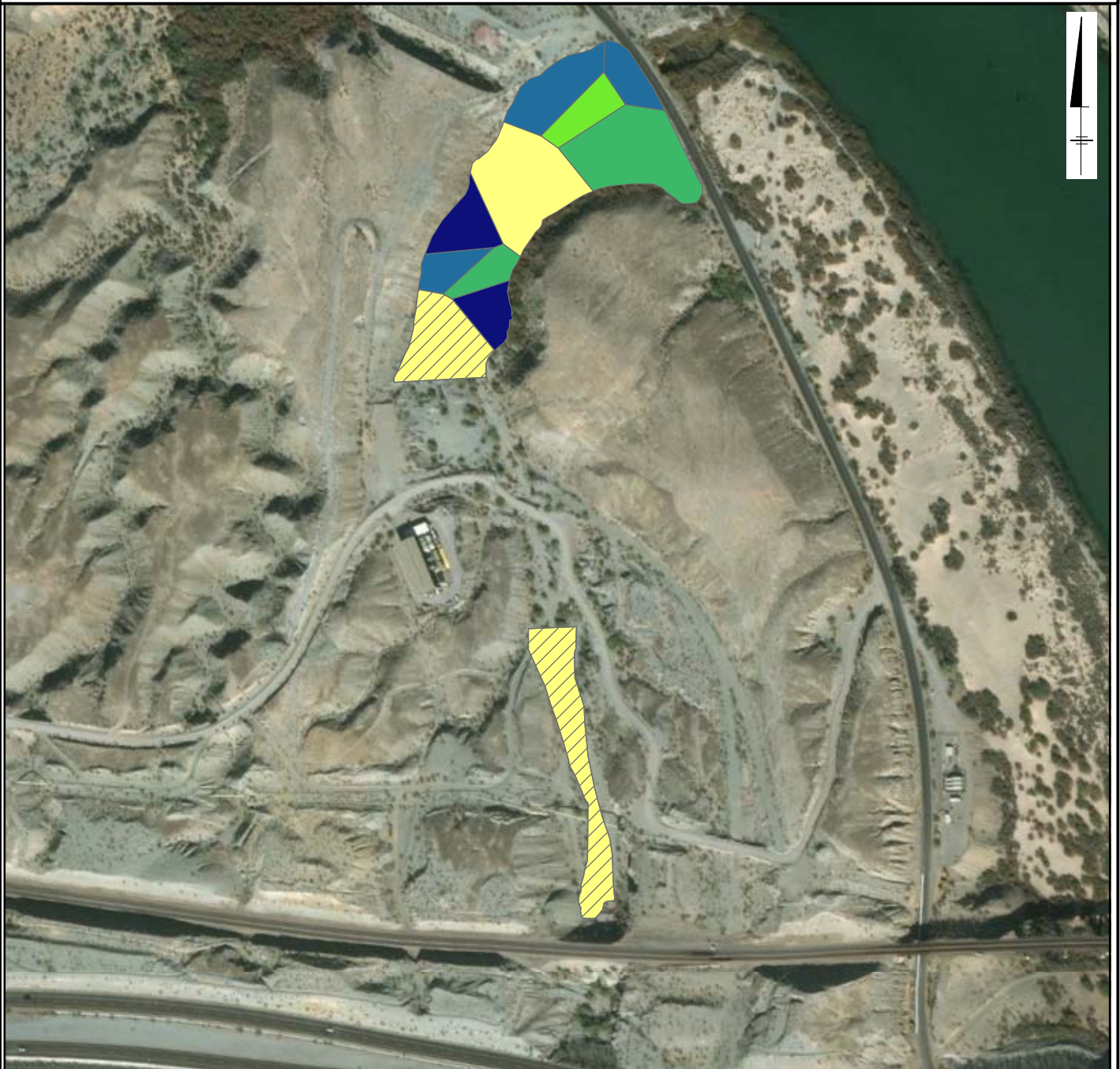
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**FIGURE
NORR-A3.69**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: **PAH HIGH MOLECULAR WEIGHT (UG/KG)**

-  NOT DETECTED
-  0.00 - 2.37
-  ≥ 2.37 - 13.30
-  ≥ 13.30 - 29.30
-  ≥ 29.30 - 51.70
-  ≥ 51.70 - 74.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

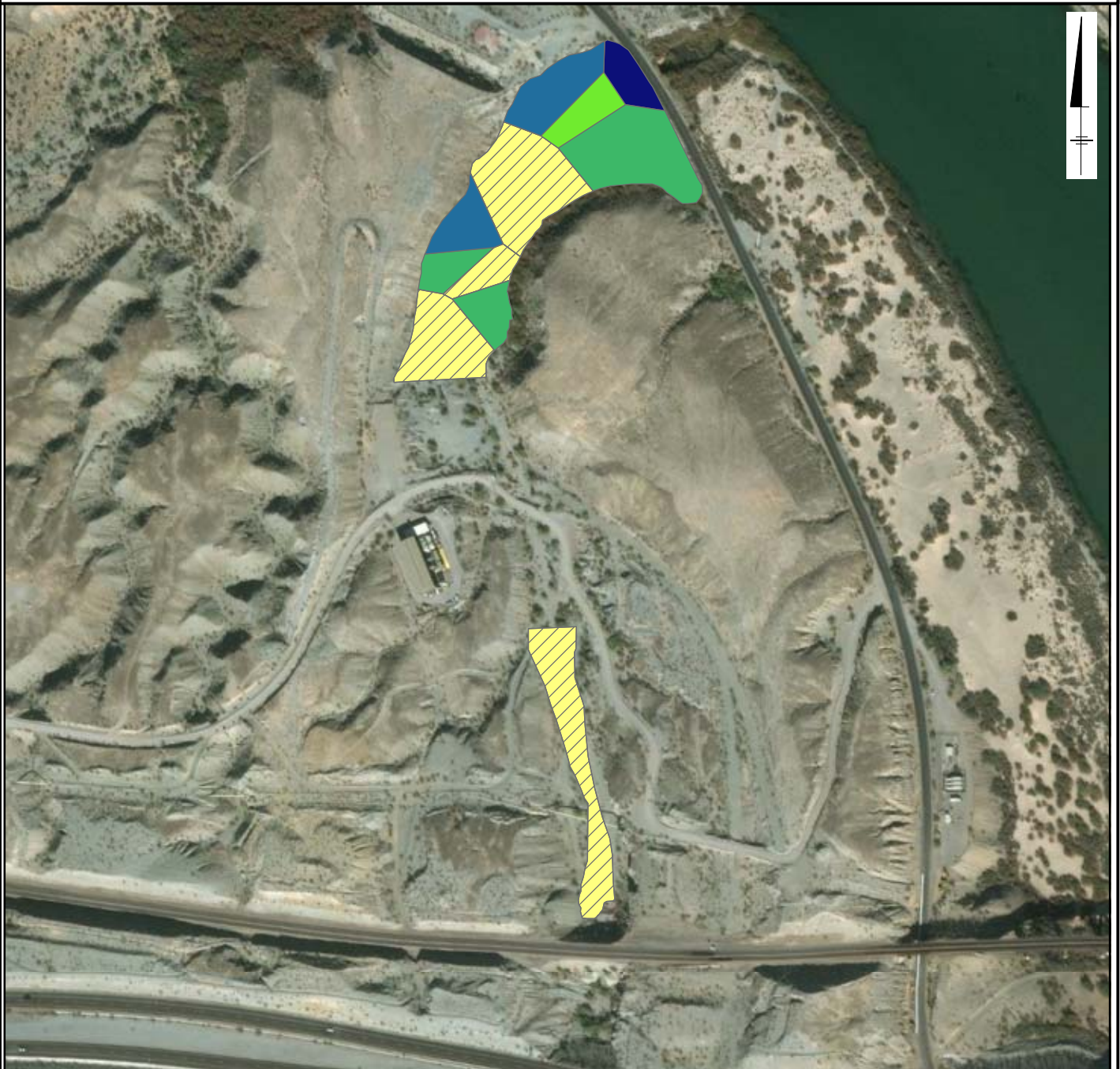
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**FIGURE
NORR-A3.70**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

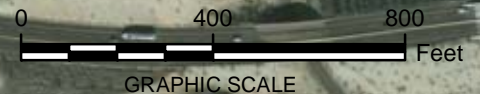


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: **PAH LOW MOLECULAR WEIGHT (UG/KG)**

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 2.60
	≥2.60 - 3.67
	≥3.67 - 4.67
	≥4.67 - 6.67

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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**FIGURE
NORR-A3.71**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

	NOT DETECTED
	2.54 - 2.75
	≥2.75 - 5.38
	≥5.38 - 7.85
	≥7.85 - 12.00
	≥12.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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FIGURE
NORR-A3.72

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.75 - 2.75
- $\geq 2.75 - 6.75$
- $\geq 6.75 - 16.00$
- $\geq 16.00 - 23.00$
- $\geq 23.00 - 170.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



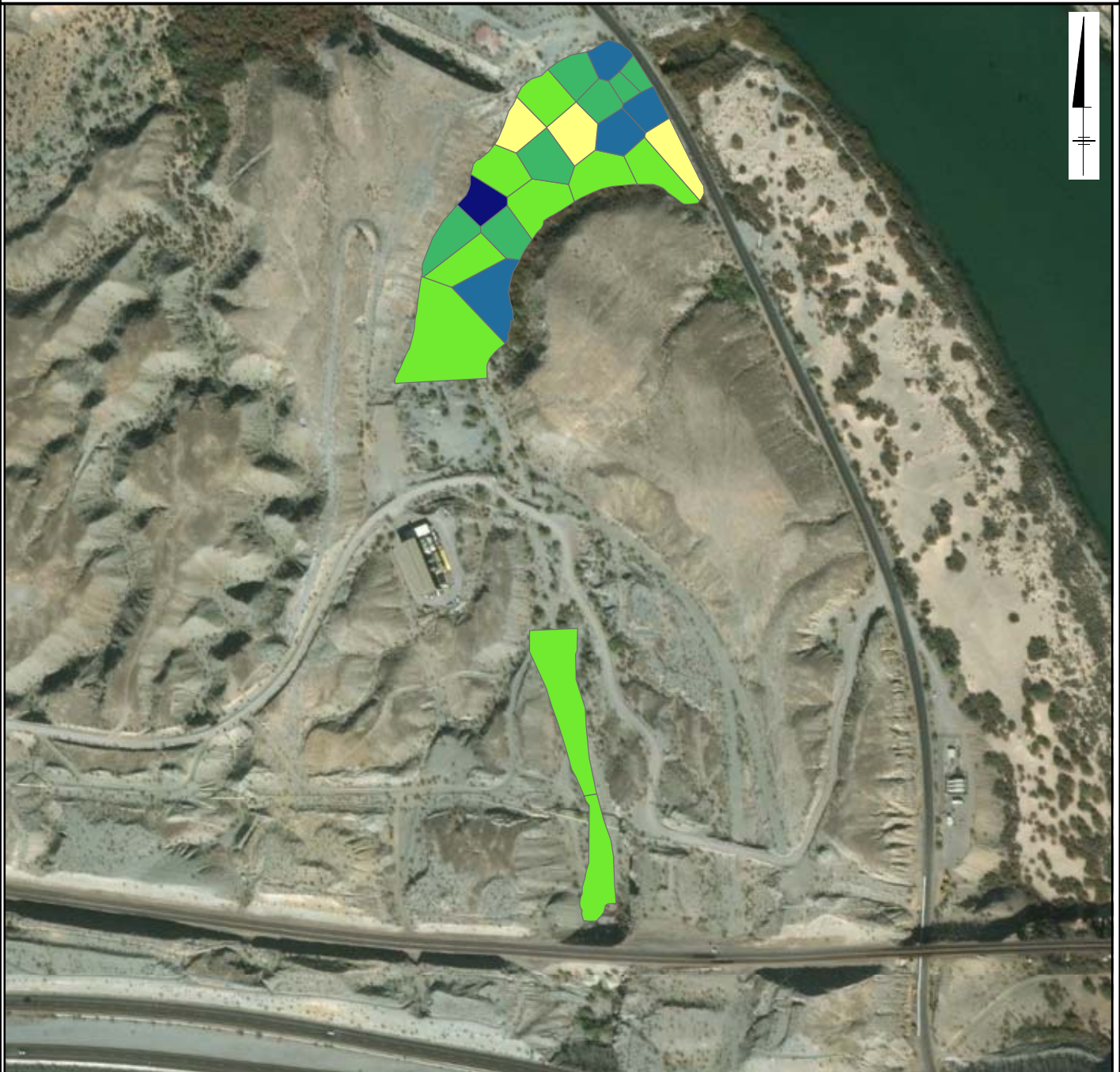
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FIGURE
NORR-A3.73

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: **TEQ AVIAN (NG/KG)**

	NOT DETECTED
	0.22 - 1.00
	≥1.00 - 4.24
	≥4.24 - 15.40
	≥15.40 - 22.50
	≥22.50 - 64.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

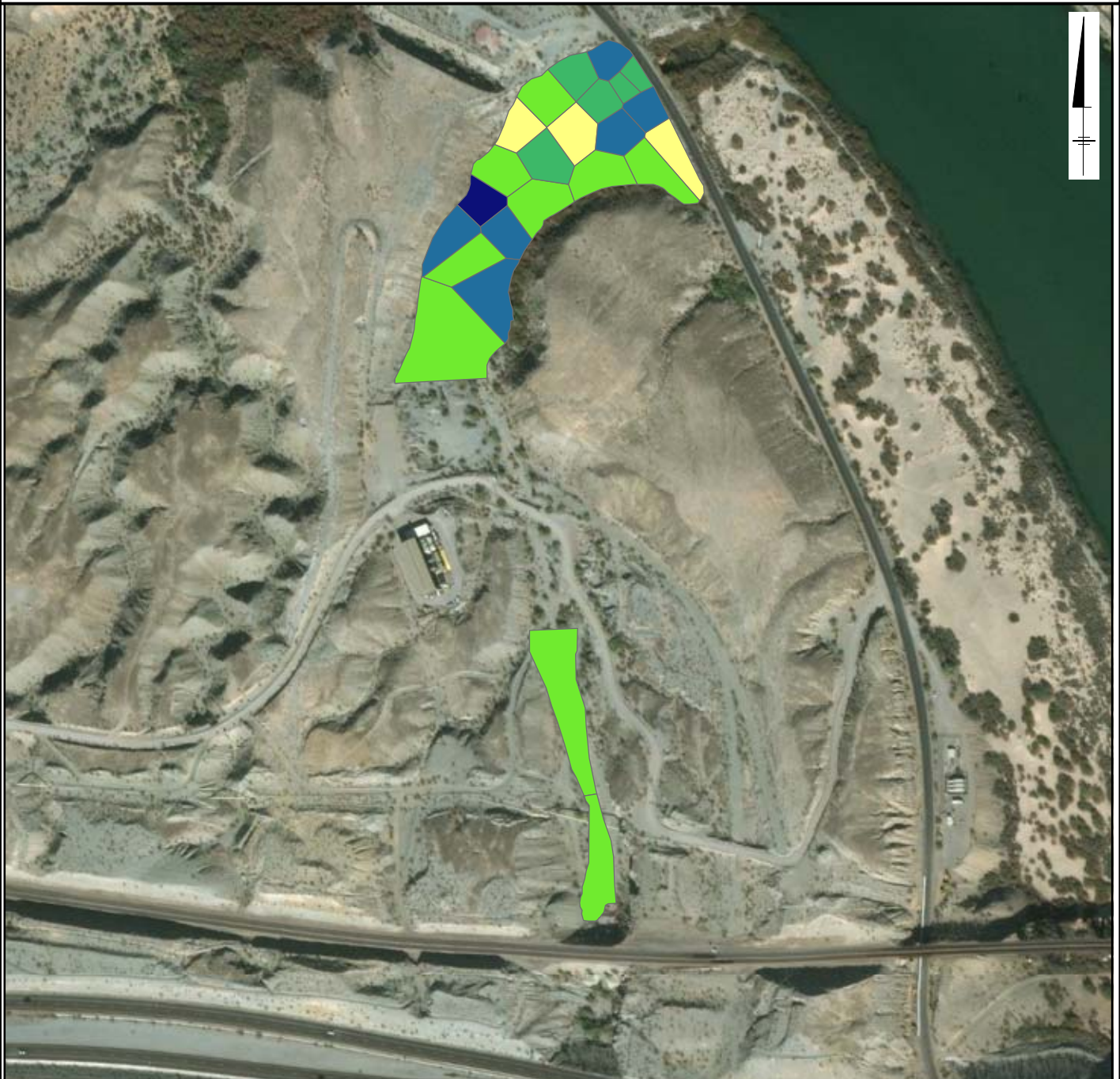
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FIGURE
NORR-A3.74

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: **TEQ HUMAN (NG/KG)**

	NOT DETECTED
	0.20 - 1.27
	≥1.27 - 8.55
	≥8.55 - 21.60
	≥21.60 - 36.50
	≥36.50 - 90.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.75**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: **TEQ MAMMALS (NG/KG)**

- NOT DETECTED
- 0.20 - 1.27
- $\geq 1.27 - 8.55$
- $\geq 8.55 - 21.60$
- $\geq 21.60 - 36.50$
- $\geq 36.50 - 90.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.76**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE ARSENIC

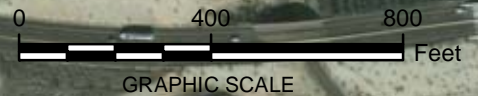


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.98 - 1.66
	≥1.66 - 2.68
	≥2.68 - 3.49
	≥3.49 - 4.78
	≥4.78 - 10.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



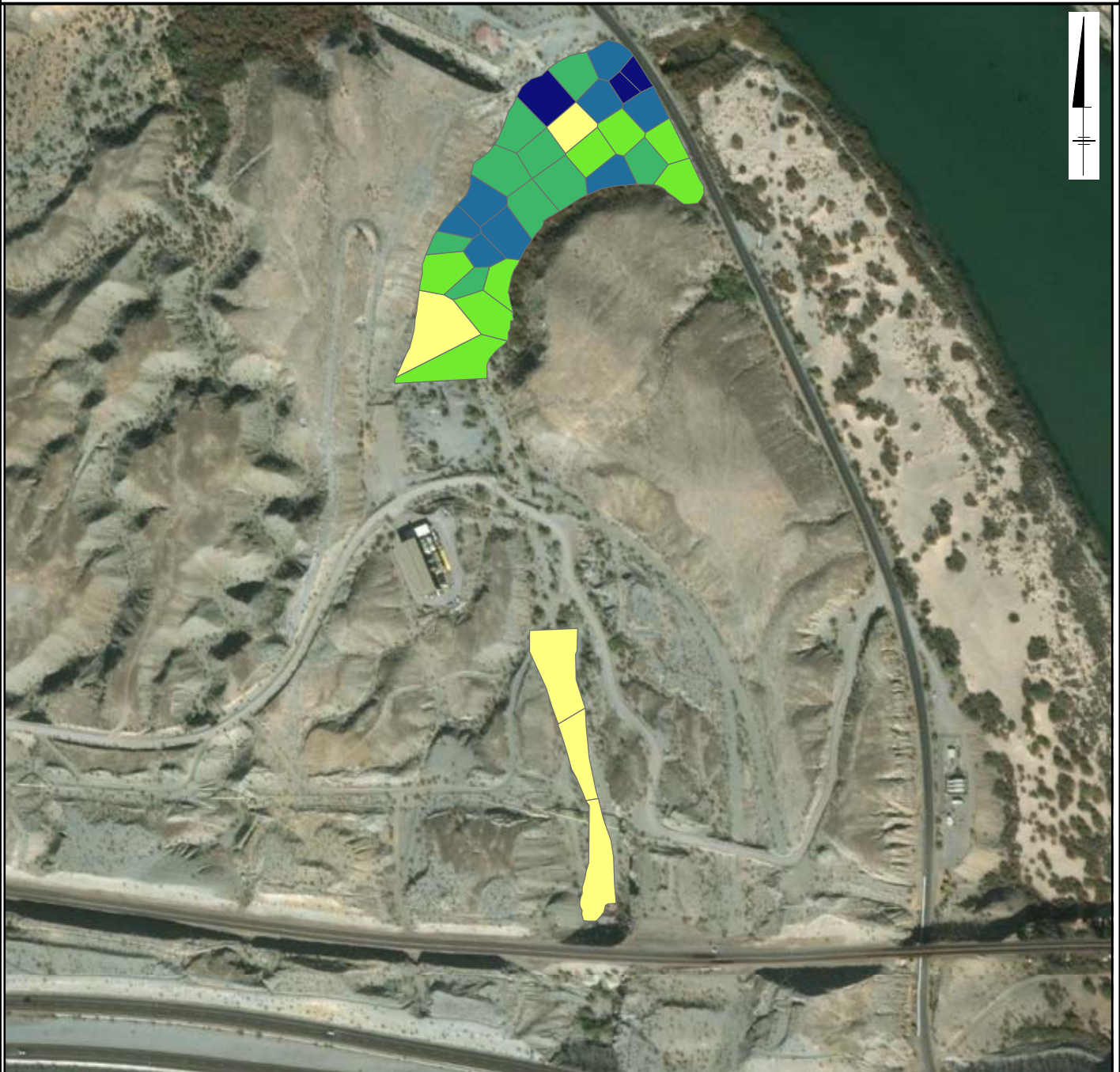
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FIGURE
NORR-A3.77

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:
BARIUM (MG/KG)

	NOT DETECTED
	43.90 - 77.60
	≥77.60 - 111.00
	≥111.00 - 142.00
	≥142.00 - 183.00
	≥183.00 - 253.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.78

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: **CHROMIUM, HEXAVALENT (MG/KG)**

	NOT DETECTED
	0.03 - 0.03
	≥0.03 - 0.16
	≥0.16 - 0.26
	≥0.26 - 0.44
	≥0.44 - 0.76

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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**FIGURE
NORR-A3.79**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL



BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	11.50 - 15.60
	≥15.60 - 19.90
	≥19.90 - 24.30
	≥24.30 - 31.00
	≥31.00 - 39.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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**FIGURE
NORR-A3.80**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

	NOT DETECTED
	6.24 - 6.69
	≥6.69 - 7.57
	≥7.57 - 8.34
	≥8.34 - 9.27
	≥9.27 - 10.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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FIGURE
NORR-A3.81

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

-  NOT DETECTED
-  7.04 - 8.61
-  $\geq 8.61 - 10.40$
-  $\geq 10.40 - 12.40$
-  $\geq 12.40 - 14.30$
-  $\geq 14.30 - 16.80$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



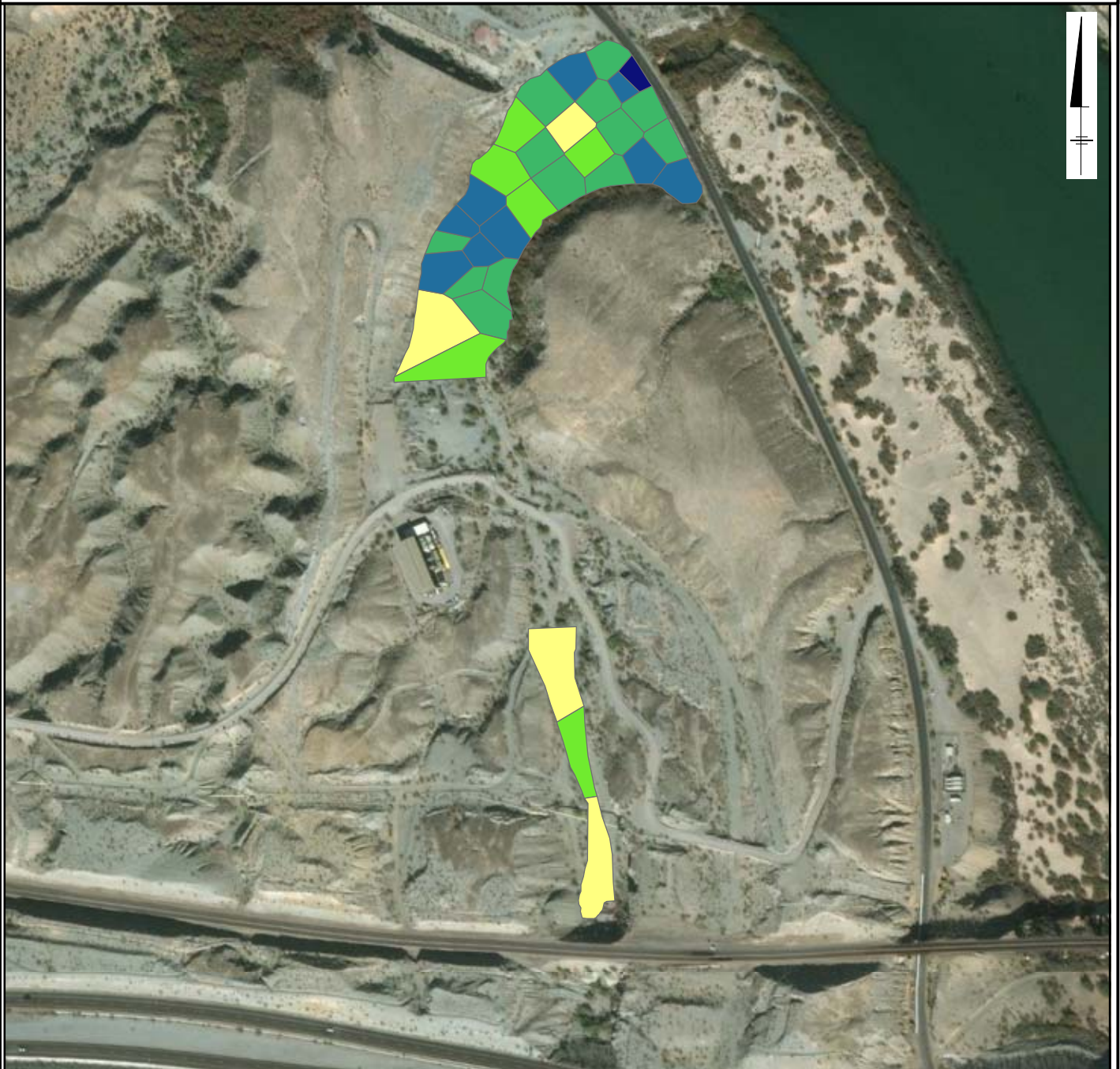
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FIGURE
NORR-A3.82

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE LEAD



BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND: LEAD (MG/KG)

	NOT DETECTED
	1.29 - 1.77
	≥ 1.77 - 3.14
	≥ 3.14 - 5.43
	≥ 5.43 - 8.28
	≥ 8.28 - 11.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.83

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 8.43 - 10.10
- ≥ 10.10 - 11.40
- ≥ 11.40 - 12.60
- ≥ 12.60 - 14.10
- ≥ 14.10 - 15.40

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.84

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: **VANADIUM (MG/KG)**

	NOT DETECTED
	23.30 - 27.50
	≥27.50 - 30.50
	≥30.50 - 32.70
	≥32.70 - 34.70
	≥34.70 - 38.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



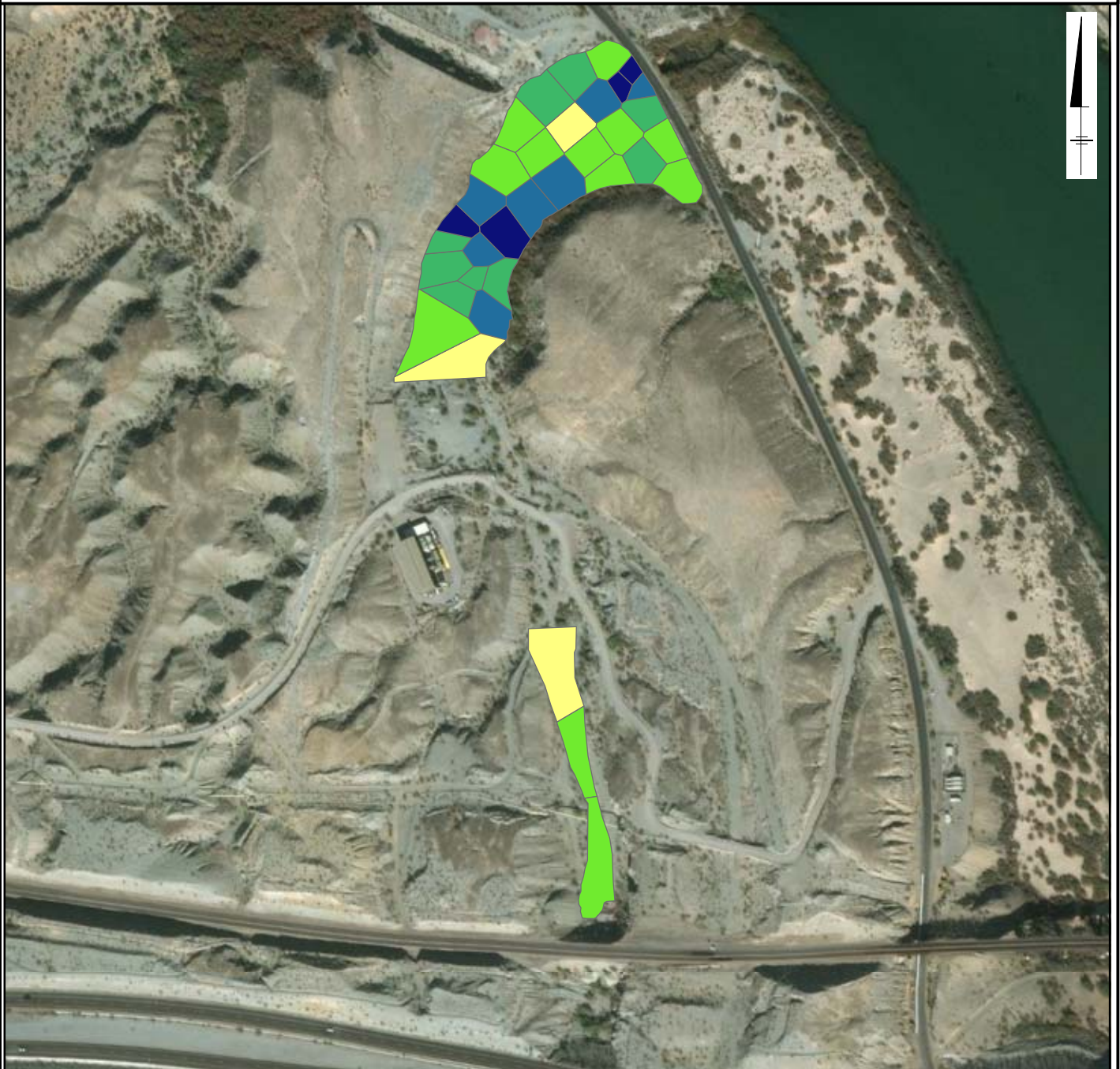
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**FIGURE
NORR-A3.85**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

	NOT DETECTED
	30.40 - 33.30
	≥33.30 - 38.80
	≥38.80 - 43.80
	≥43.80 - 47.30
	≥47.30 - 56.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.86

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) ANTHRACENE (UG/KG)**

	NOT DETECTED
	2.77 - 3.00
	≥3.00 - 3.59
	≥3.59 - 4.47
	≥4.47 - 9.80
	≥9.80 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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**FIGURE
NORR-A3.87**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (A) PYRENE (UG/KG)**

	NOT DETECTED
	2.77 - 4.18
	≥4.18 - 6.06
	≥6.06 - 8.85
	≥8.85 - 14.00
	≥14.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

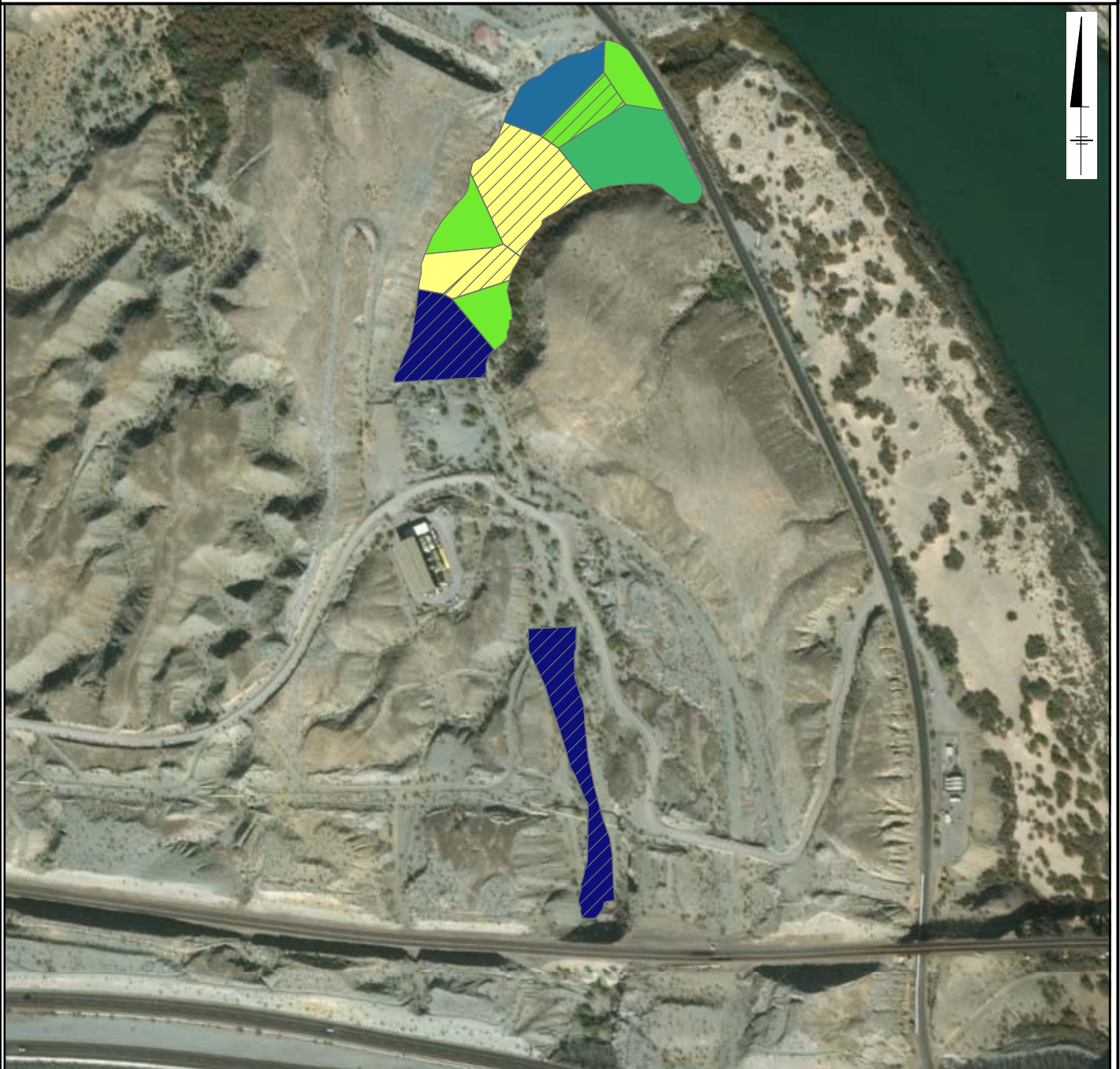
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FIGURE
NORR-A3.88

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (B) FLUORANTHENE (UG/KG)**

-  NOT DETECTED
-  2.57 - 4.68
-  $\geq 4.68 - 10.20$
-  $\geq 10.20 - 17.00$
-  $\geq 17.00 - 31.00$
-  $\geq 31.00 - 170.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



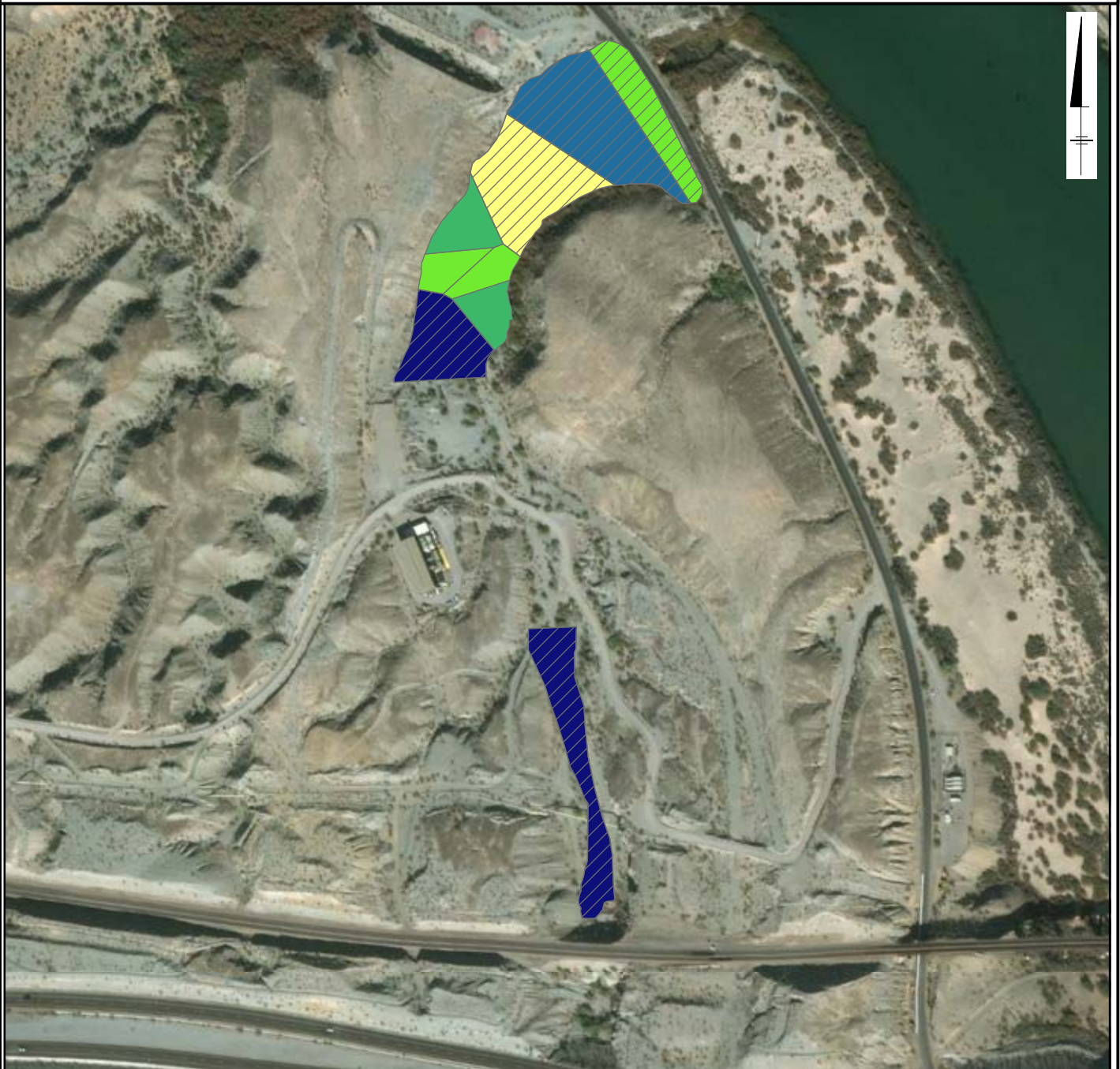
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**FIGURE
NORR-A3.89**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (GHI) PERYLENE (UG/KG)**

	NOT DETECTED
	2.77 - 2.77
	≥2.77 - 4.08
	≥4.08 - 5.46
	≥5.46 - 8.85
	≥8.85 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.90**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: **BENZO (K) FLUORANTHENE (UG/KG)**

	NOT DETECTED
	2.57 - 3.59
	≥3.59 - 5.27
	≥5.27 - 8.85
	≥8.85 - 13.00
	≥13.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

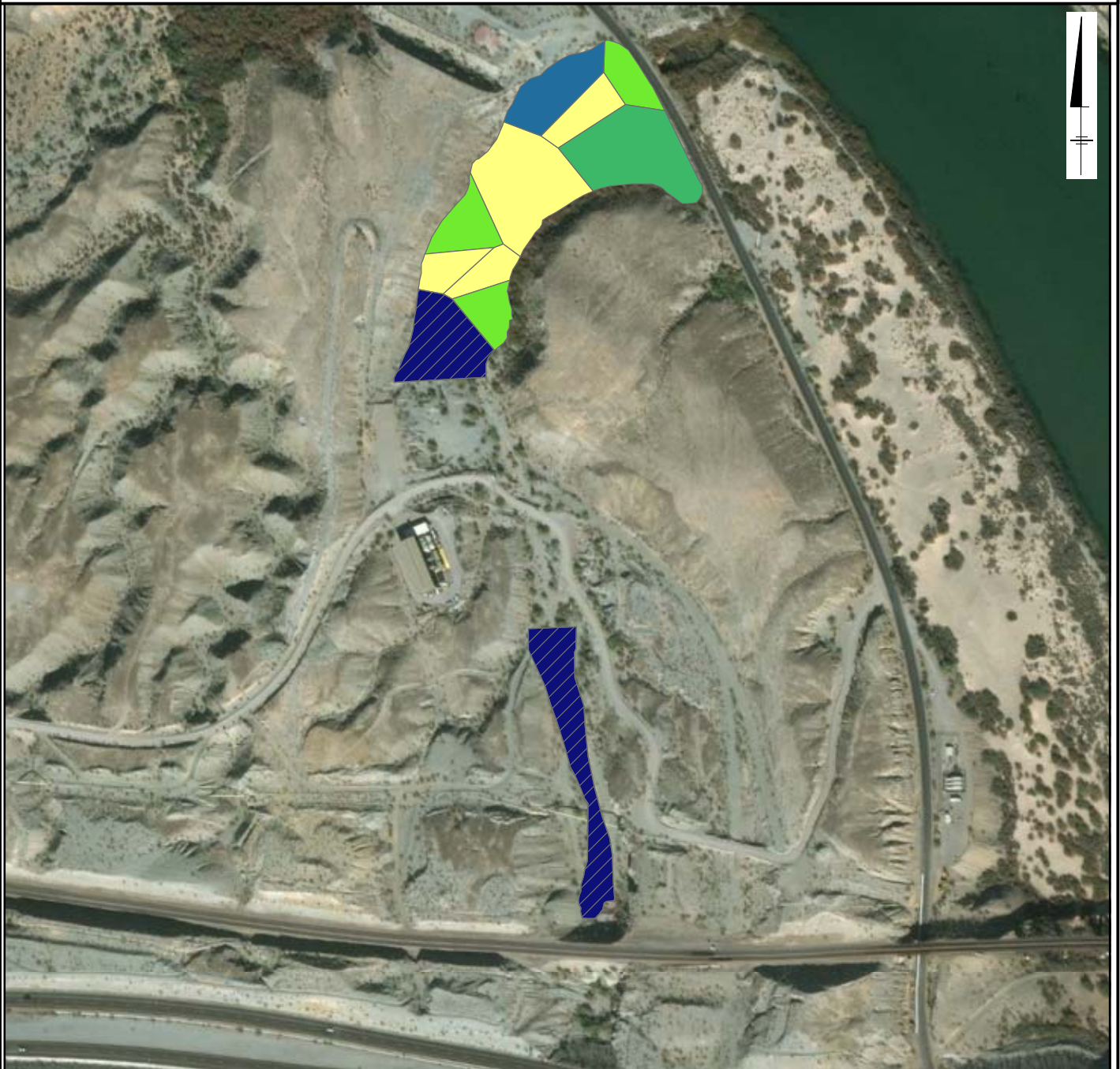
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**FIGURE
NORR-A3.91**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE CHRYSENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

	NOT DETECTED
	3.66 - 4.77
	≥4.77 - 7.86
	≥7.86 - 11.00
	≥11.00 - 16.00
	≥16.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.92

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.77 - 2.77
- $\geq 2.77 - 5.55$
- $\geq 5.55 - 9.67$
- $\geq 9.67 - 26.00$
- $\geq 26.00 - 170.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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FIGURE
NORR-A3.93

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.77 - 2.77
	≥2.77 - 3.96
	≥3.96 - 4.87
	≥4.87 - 8.85
	≥8.85 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



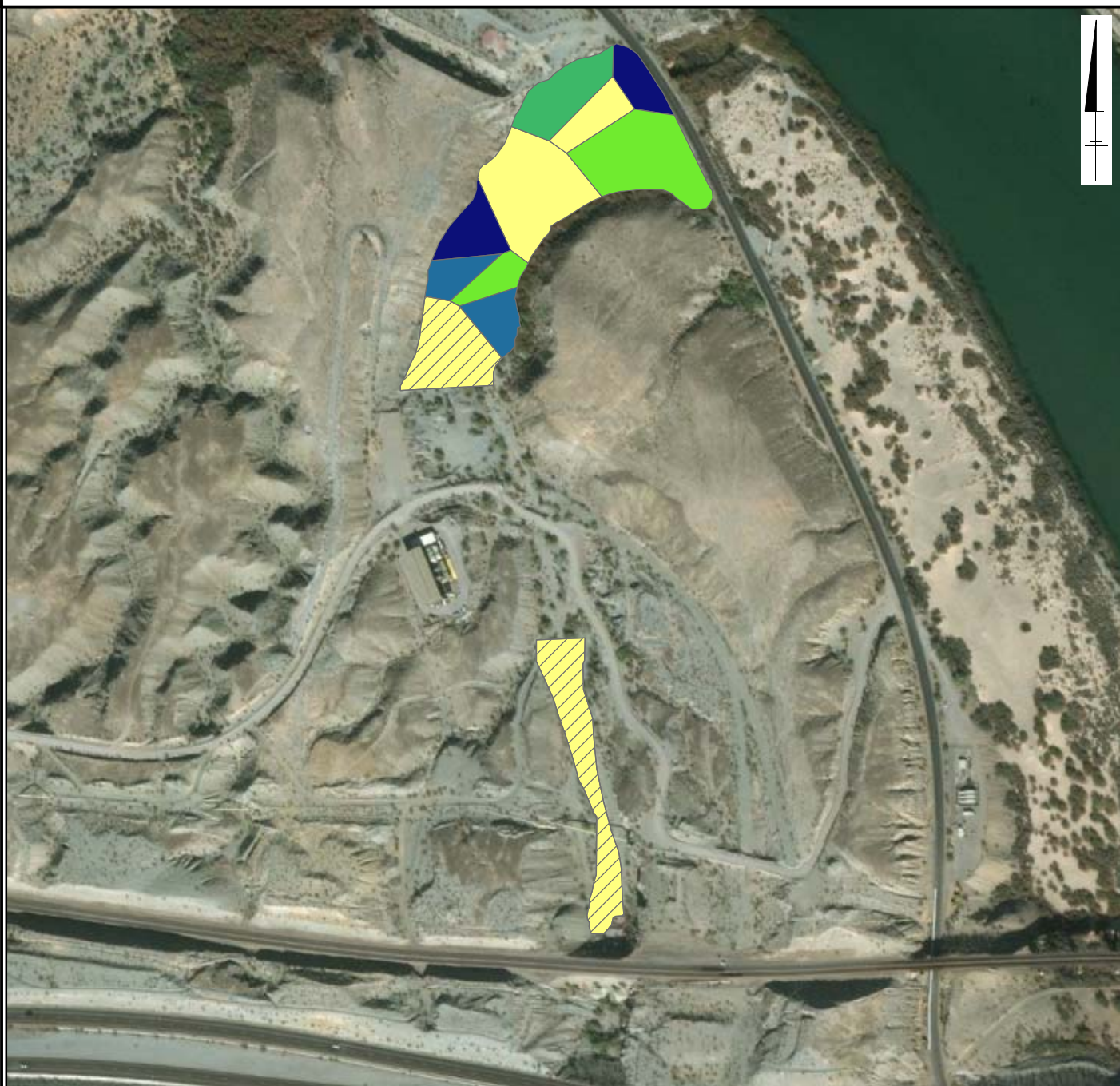
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FIGURE
NORR-A3.94

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: **PAH HIGH MOLECULAR WEIGHT (UG/KG)**

-  NOT DETECTED
-  0.00 - 8.00
-  ≥ 8.00 - 17.60
-  ≥ 17.60 - 26.60
-  ≥ 26.60 - 37.80
-  ≥ 37.80 - 49.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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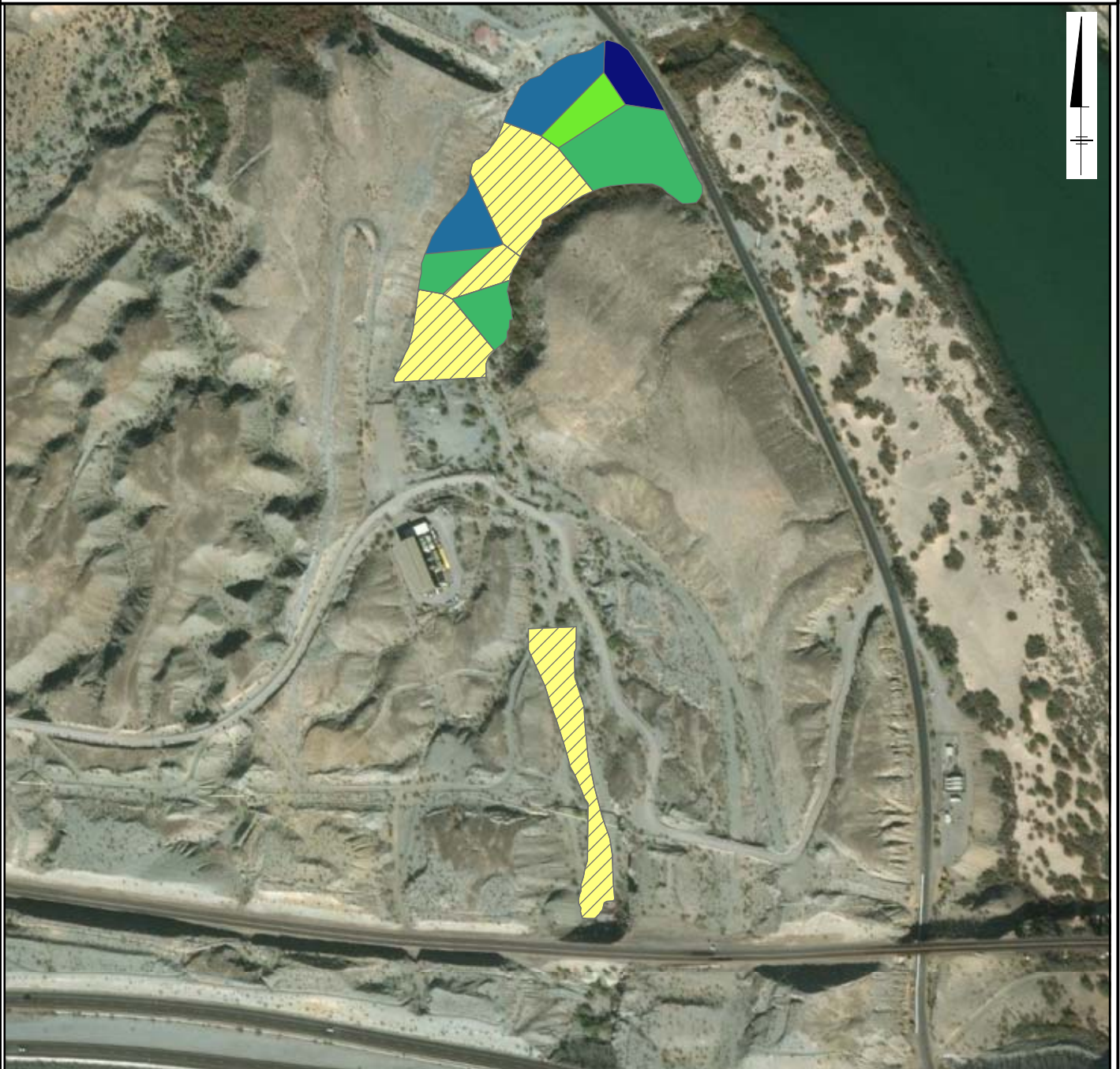
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**FIGURE
NORR-A3.95**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: **PAH LOW MOLECULAR WEIGHT (UG/KG)**

	NOT DETECTED
	0.00 - 0.00
	≥0.00 - 1.56
	≥1.56 - 2.20
	≥2.20 - 2.80
	≥2.80 - 8.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.96**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

-  NOT DETECTED
-  2.57 - 2.77
-  ≥2.77 - 4.27
-  ≥4.27 - 4.86
-  ≥4.86 - 12.00
-  ≥12.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

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FIGURE
NORR-A3.97

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

	NOT DETECTED
	2.77 - 2.77
	≥2.77 - 5.15
	≥5.15 - 8.13
	≥8.13 - 23.00
	≥23.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



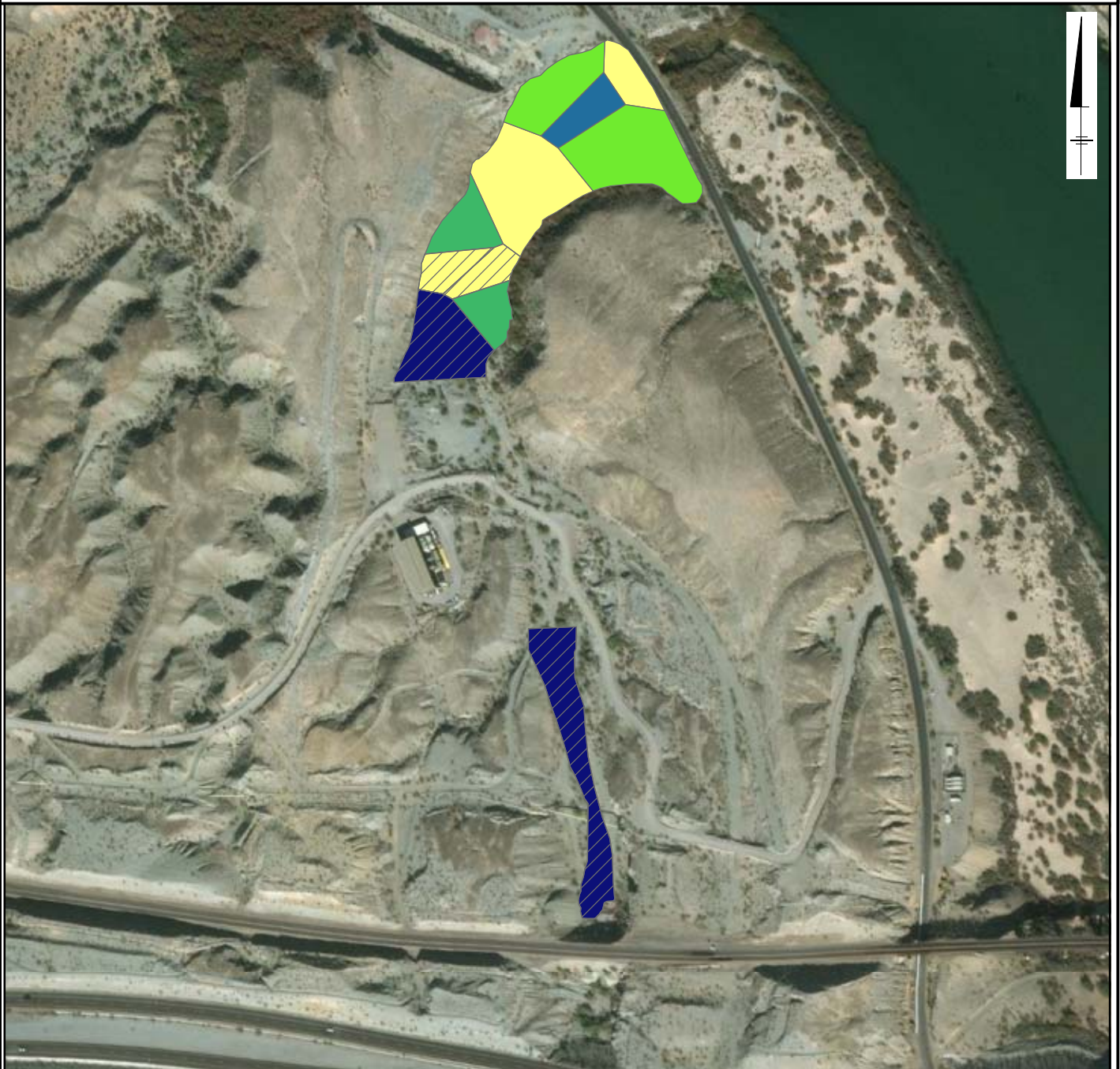
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FIGURE
NORR-A3.98

NORTH OF RAILROAD 0 - 0.5 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

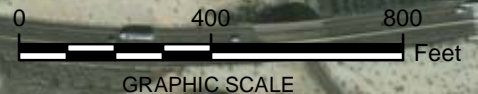


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: **B(A)P EQUIVALENT (UG/KG)**

	NOT DETECTED
	5.80 - 9.00
	≥9.00 - 21.00
	≥21.00 - 32.00
	≥32.00 - 72.00
	≥72.00 - 390.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



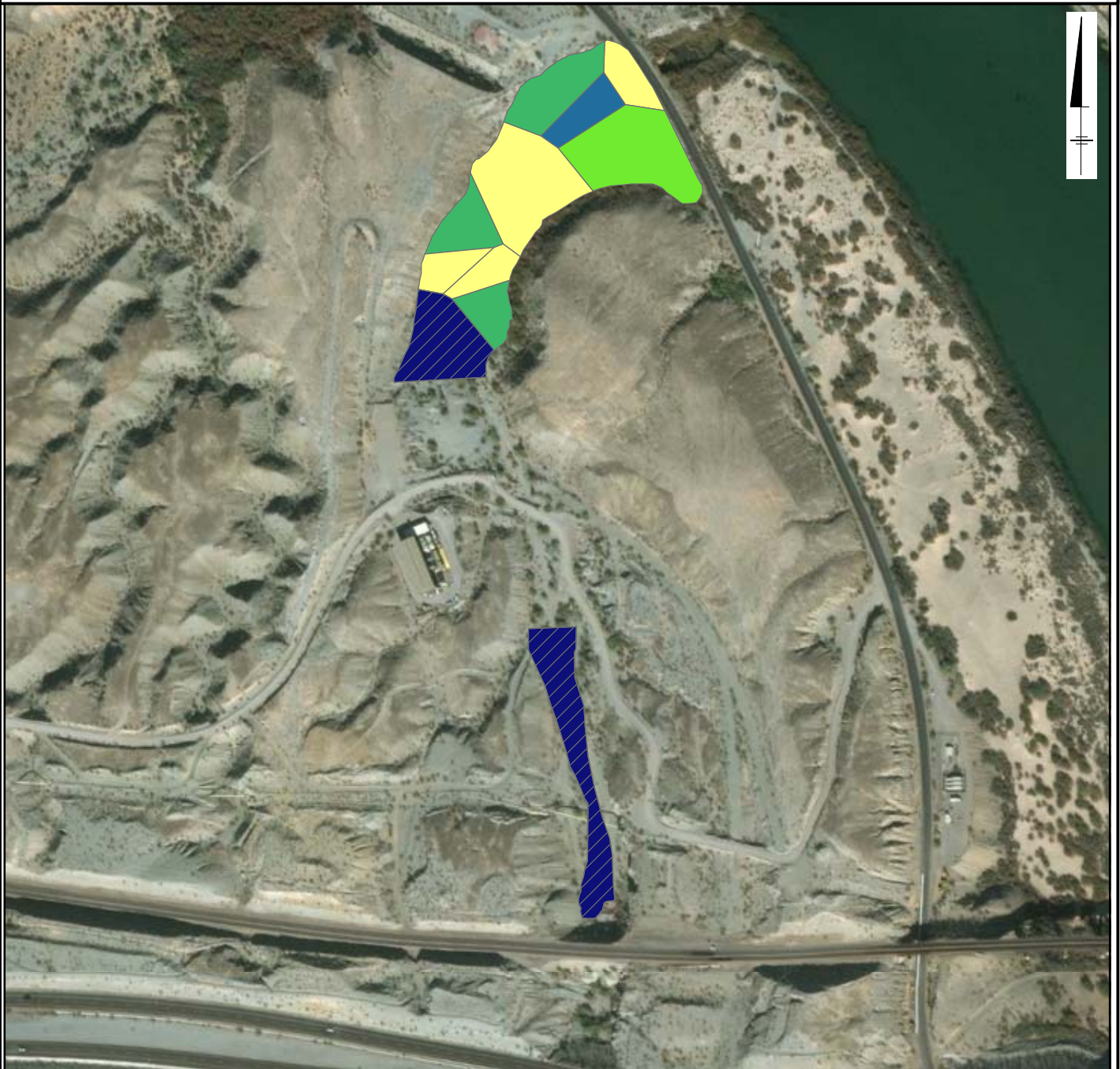
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**FIGURE
NORR-A3.99**

NORTH OF RAILROAD 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

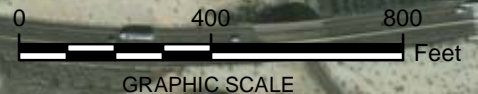


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: **B(A)P EQUIVALENT (UG/KG)**

	NOT DETECTED
	6.23 - 9.00
	≥9.00 - 14.00
	≥14.00 - 23.30
	≥23.30 - 50.50
	≥50.50 - 390.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.100**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND: **2,3,7,8-TCDD (NG/KG)**

	NOT DETECTED
	0.03 - 0.06
	≥0.06 - 0.09
	≥0.09 - 0.14
	≥0.14 - 0.23
	≥0.23 - 0.65

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 400 800
Feet
GRAPHIC SCALE

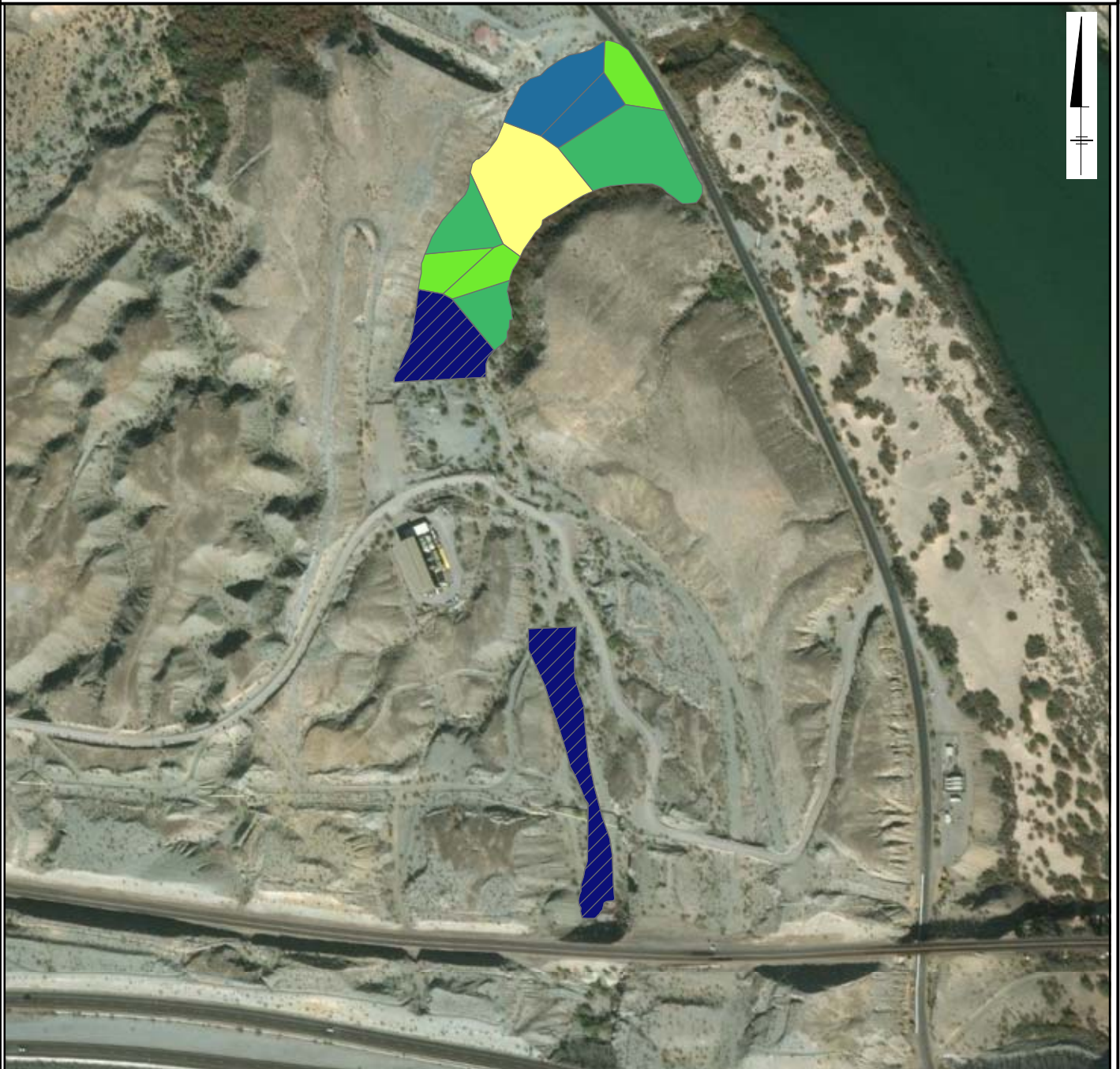
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**FIGURE
NORR-A3.101**

NORTH OF RAILROAD 0 - 6 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

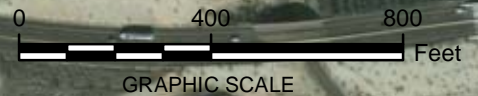


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: **B(A)P EQUIVALENT (UG/KG)**

- NOT DETECTED
- 6.37 - 6.37
- $\geq 6.37 - 10.40$
- $\geq 10.40 - 14.60$
- $\geq 14.60 - 28.80$
- $\geq 28.80 - 390.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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**FIGURE
NORR-A3.102**

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2,3,7,8-TCDD (NG/KG)

	NOT DETECTED
	0.03 - 0.05
	≥0.05 - 0.11
	≥0.11 - 0.27
	≥0.27 - 0.54
	≥0.54 - 1.12

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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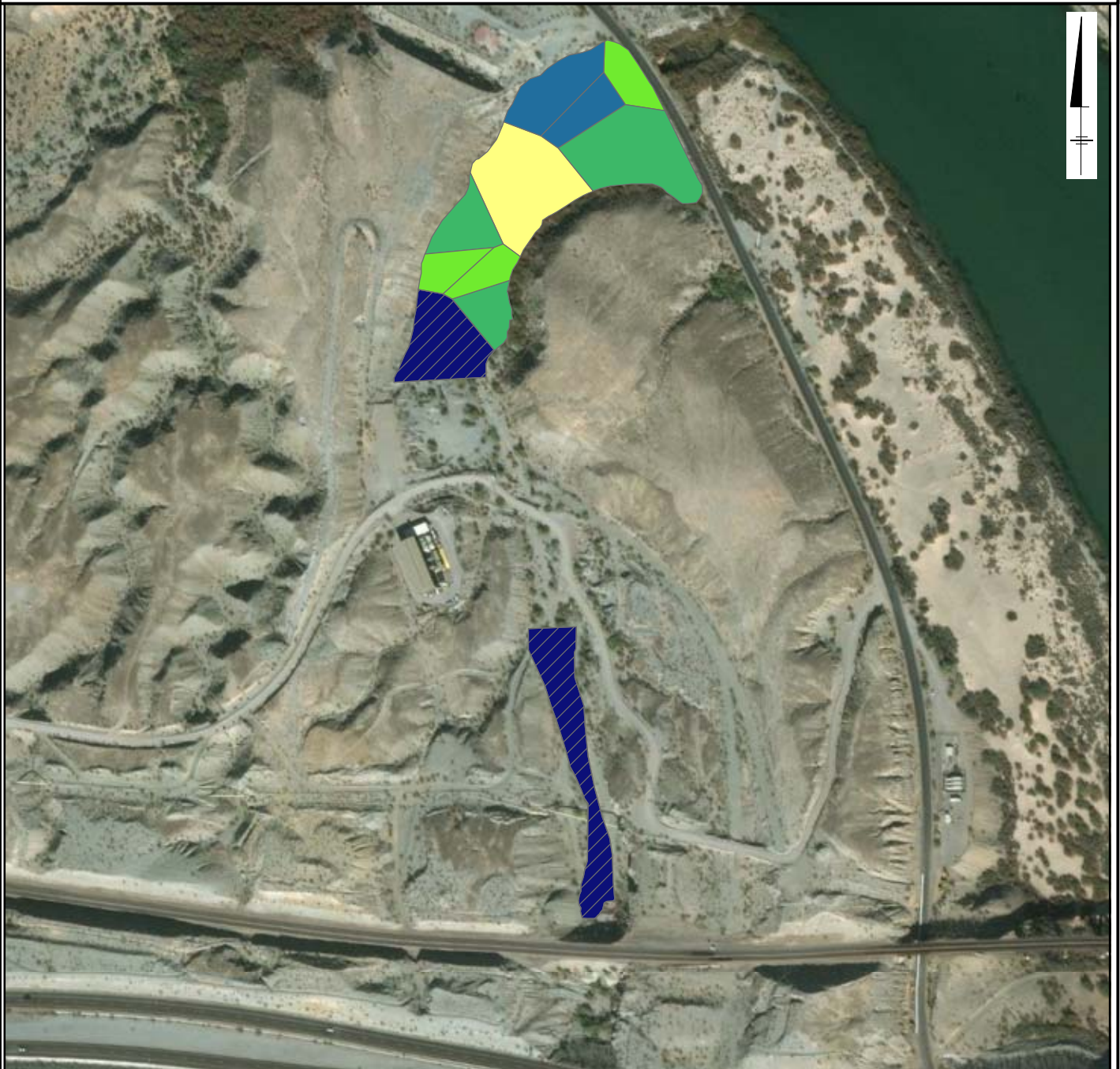
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FIGURE
NORR-A3.103

NORTH OF RAILROAD 0 - 10 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

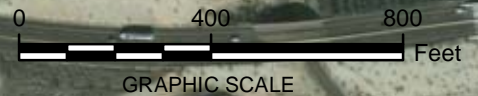


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: **B(A)P EQUIVALENT (UG/KG)**

	NOT DETECTED
	6.42 - 6.42
	≥6.42 - 9.00
	≥9.00 - 14.00
	≥14.00 - 21.00
	≥21.00 - 390.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE NORR-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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**FIGURE
NORR-A3.104**

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at North of the Railroad Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment NORR-B1

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at NoRR Using Depth-Weighted EPCs

Tables

NORR-B1.1a	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.1b	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-B1.1c	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-B1.1d	Baseline Scenario Dose Calculations for Carcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-B1.2a	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Child
NORR-B1.2b	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B1.2c	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B1.2d	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B1.2e	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B1.2f	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Shallow Soil EPCs: Hypothetical Future Resident Adult
NORR-B1.2g	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult
NORR-B1.3a	Baseline Scenario ILCRs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.3b	Baseline Scenario ILCRs for COPCs in Home-Produced Food Using NoRR Depth-Weighted Soil EPCs: Hypothetical Future Resident
NORR-B1.3c	Baseline Scenario ILCRs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-B1.4a	Baseline Scenario HIs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Child
NORR-B1.4b	Baseline Scenario HIs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B1.4c	Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Depth-Weighted Soil EPCs: Hypothetical Future Resident Child
NORR-B1.4d	Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B1.4e	Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Depth-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B1.4f	Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult
NORR-B1.5a	Baseline Scenario Risk Evaluation for Lead in NoRR Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.5b	Baseline Scenario Risk Evaluation for Lead in NoRR Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.5c	Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface I Soil (0 to 6 feet bgs) Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.5d	Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface II Soil (0 to 10 feet bgs) Using Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.5e	Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs) Depth-Weighted EPCs: Hypothetical Future Resident
NORR-B1.5f	Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs) Depth-Weighted EPCs: Hypothetical Future Resident

Table NORR-B1.1a
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 3 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 6 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.7E-10	NV	NA	2.4E-06	3.1E-10	NV	NA	2.8E-06	2.1E-10	NV	NA	1.9E-06	1.5E-10	NV	NA	1.3E-06
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	2.2E-09	NV	NC	NC	2.1E-09	NV	NC	NC	2.1E-09	NV	NC	NC	2.2E-09	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Polychlorinated Biphenyls																
Total PCBs	1.5E-11	1.2E-07	4.1E-08	8.5E-08	6.3E-11	1.2E-07	1.7E-07	3.5E-07	9.3E-11	1.2E-07	2.5E-07	5.1E-07	5.7E-11	1.2E-07	1.5E-07	3.2E-07
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
TPH as motor oil	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Dioxins/Furans																
TEQ Human	1.8E-14	3.9E-12	9.7E-12	1.0E-10	1.3E-14	3.9E-12	7.1E-12	7.4E-11	7.6E-15	3.9E-12	4.0E-12	4.2E-11	7.0E-15	3.9E-12	3.7E-12	3.8E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.1b
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	--	--	5.0E-05	2.7E-04	1.0E-04	3.8E-03	--	--	9.9E-06	8.0E-05	3.4E-05	1.2E-03	--	--	9.9E-06	8.0E-05	3.4E-05	1.2E-03
Chromium, total	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Cobalt	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Copper	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NC	NC	NC	NC	--	--	3.4E-16	6.4E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Fluoranthene	NC	NC	NC	NC	--	--	4.8E-16	9.0E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Phenanthrene	NC	NC	NC	NC	--	--	2.0E-16	3.9E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Pyrene	NC	NC	NC	NC	--	--	4.1E-16	7.8E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Polychlorinated Biphenyls																		
Total PCBs	9.8E-12	2.6E-11	6.4E-10	4.5E-10	--	--	2.7E-12	7.4E-12	1.2E-10	1.3E-10	--	--	2.7E-12	7.4E-12	1.2E-10	1.3E-10	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
TPH as motor oil	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Dioxins/Furans																		
TEQ Human	6.4E-15	1.3E-14	3.2E-13	2.3E-13	--	--	1.8E-15	3.7E-15	6.3E-14	6.8E-14	--	--	1.8E-15	3.7E-15	6.3E-14	6.8E-14	--	--

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.1c
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	--	--	5.9E-05	3.2E-04	1.2E-04	4.5E-03	--	--	1.2E-05	9.4E-05	4.0E-05	1.3E-03	--	--	1.2E-05	9.4E-05	4.0E-05	1.3E-03
Chromium, total	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Cobalt	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Copper	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NC	NC	NC	NC	--	--	1.9E-16	3.7E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Fluoranthene	NC	NC	NC	NC	--	--	3.9E-16	7.5E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Phenanthrene	NC	NC	NC	NC	--	--	1.8E-16	3.4E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Pyrene	NC	NC	NC	NC	--	--	3.4E-16	6.5E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Polychlorinated Biphenyls																		
Total PCBs	4.0E-11	1.1E-10	2.6E-09	1.8E-09	--	--	1.1E-11	3.0E-11	5.1E-10	5.5E-10	--	--	1.1E-11	3.0E-11	5.1E-10	5.5E-10	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
TPH as motor oil	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Dioxins/Furans																		
TEQ Human	4.7E-15	9.8E-15	2.4E-13	1.7E-13	--	--	1.3E-15	2.7E-15	4.6E-14	5.0E-14	--	--	1.3E-15	2.7E-15	4.6E-14	5.0E-14	--	--

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.1d
Baseline Scenario Dose Calculations for Carcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	4.4E-13	8.2E-13	6.6E-08	4.7E-08	--	--	1.2E-13	2.3E-13	1.3E-08	1.4E-08	--	--	1.2E-13	2.3E-13	1.3E-08	1.4E-08	--	--
Polychlorinated Biphenyls																		
Total PCBs	7.6E-08	2.0E-07	4.9E-06	3.5E-06	--	--	2.1E-08	5.7E-08	9.6E-07	1.0E-06	--	--	2.1E-08	5.7E-08	9.6E-07	1.0E-06	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	6.8E-02	4.8E-02	--	--	--	--	1.3E-02	1.4E-02	--	--	--	--	1.3E-02	1.4E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans																		
TEQ Human	1.4E-12	2.9E-12	7.0E-11	4.9E-11	--	--	3.8E-13	8.1E-13	1.4E-11	1.5E-11	--	--	3.8E-13	8.1E-13	1.4E-11	1.5E-11	--	--

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.2a
Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs) ^a				Child Resident (0 to 3 feet bgs) ^a				Child Resident (0 to 6 feet bgs) ^a				Child Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.6E-10	NV	NA	4.7E-06	3.1E-10	NV	NA	5.5E-06	2.1E-10	NV	NA	3.7E-06	1.4E-10	NV	NA	2.6E-06
Chromium, total	2.5E-08	NV	1.3E-05	4.6E-04	2.3E-08	NV	1.2E-05	4.2E-04	2.0E-08	NV	1.1E-05	3.7E-04	1.7E-08	NV	9.1E-06	3.1E-04
Cobalt	5.9E-09	NV	3.1E-06	1.1E-04	5.8E-09	NV	3.0E-06	1.0E-04	5.7E-09	NV	3.0E-06	1.0E-04	5.8E-09	NV	3.1E-06	1.1E-04
Copper	1.1E-08	NV	5.7E-06	2.0E-04	1.0E-08	NV	5.3E-06	1.8E-04	9.2E-09	NV	4.8E-06	1.7E-04	8.4E-09	NV	4.4E-06	1.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	1.8E-07	NV	9.3E-05	3.2E-03
Zinc	4.1E-08	NV	2.1E-05	7.4E-04	3.7E-08	NV	2.0E-05	6.7E-04	3.3E-08	NV	1.7E-05	6.0E-04	3.1E-08	NV	1.6E-05	5.5E-04
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.2E-11	NV	9.5E-08	2.2E-07	6.9E-12	NV	5.5E-08	1.3E-07	4.6E-12	NV	3.6E-08	8.3E-08	3.5E-12	NV	2.8E-08	6.4E-08
Fluoranthene	1.7E-11	NV	1.3E-07	3.1E-07	1.4E-11	NV	1.1E-07	2.6E-07	1.2E-11	NV	9.7E-08	2.2E-07	1.2E-11	NV	9.2E-08	2.1E-07
Phenanthrene	7.3E-12	NV	5.7E-08	1.3E-07	6.3E-12	NV	5.0E-08	1.1E-07	5.8E-12	NV	4.6E-08	1.0E-07	5.6E-12	NV	4.4E-08	1.0E-07
Pyrene	1.5E-11	4.3E-09	1.2E-07	2.7E-07	1.2E-11	4.3E-09	9.6E-08	2.2E-07	1.0E-11	4.3E-09	8.2E-08	1.9E-07	9.8E-12	4.3E-09	7.7E-08	1.8E-07
Polychlorinated Biphenyls																
Total PCBs	4.2E-11	3.2E-07	3.3E-07	7.5E-07	1.7E-10	3.2E-07	1.3E-06	3.1E-06	2.5E-10	3.2E-07	2.0E-06	4.5E-06	1.5E-10	3.2E-07	1.2E-06	2.8E-06
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-08	4.4E-03	1.1E-04	3.7E-04	1.6E-08	4.4E-03	8.5E-05	2.9E-04	1.1E-08	4.4E-03	5.8E-05	2.0E-04	8.0E-09	4.4E-03	4.2E-05	1.5E-04
TPH as motor oil	2.2E-08	NV	1.1E-04	4.0E-04	1.9E-08	NV	1.0E-04	3.5E-04	1.6E-08	NV	8.2E-05	2.8E-04	1.2E-08	NV	6.3E-05	2.2E-04
Dioxins/Furans																
TEQ Human	4.9E-14	1.1E-11	7.7E-11	8.9E-10	3.6E-14	1.1E-11	5.7E-11	6.5E-10	2.1E-14	1.1E-11	3.2E-11	3.7E-10	1.9E-14	1.1E-11	3.0E-11	3.4E-10

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.2b
Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs) ^a				Adult Resident (0 to 3 feet bgs) ^a				Adult Resident (0 to 6 feet bgs) ^a				Adult Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.6E-10	NV	NA	4.4E-07	3.1E-10	NV	NA	5.2E-07	2.1E-10	NV	NA	3.5E-07	1.4E-10	NV	NA	2.4E-07
Chromium, total	2.5E-08	NV	1.8E-06	4.3E-05	2.3E-08	NV	1.7E-06	3.9E-05	2.0E-08	NV	1.5E-06	3.5E-05	1.7E-08	NV	1.2E-06	2.9E-05
Cobalt	5.9E-09	NV	4.2E-07	1.0E-05	5.8E-09	NV	4.1E-07	9.8E-06	5.7E-09	NV	4.1E-07	9.8E-06	5.8E-09	NV	4.2E-07	9.9E-06
Copper	1.1E-08	NV	7.7E-07	1.8E-05	1.0E-08	NV	7.2E-07	1.7E-05	9.2E-09	NV	6.6E-07	1.6E-05	8.4E-09	NV	6.0E-07	1.4E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	1.8E-07	NV	1.3E-05	3.0E-04
Zinc	4.1E-08	NV	2.9E-06	6.9E-05	3.7E-08	NV	2.7E-06	6.3E-05	3.3E-08	NV	2.4E-06	5.6E-05	3.1E-08	NV	2.2E-06	5.2E-05
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.2E-11	NV	1.3E-08	2.0E-08	6.9E-12	NV	7.4E-09	1.2E-08	4.6E-12	NV	4.9E-09	7.8E-09	3.5E-12	NV	3.8E-09	6.0E-09
Fluoranthene	1.7E-11	NV	1.8E-08	2.9E-08	1.4E-11	NV	1.5E-08	2.4E-08	1.2E-11	NV	1.3E-08	2.1E-08	1.2E-11	NV	1.3E-08	2.0E-08
Phenanthrene	7.3E-12	NV	7.8E-09	1.2E-08	6.3E-12	NV	6.8E-09	1.1E-08	5.8E-12	NV	6.2E-09	9.8E-09	5.6E-12	NV	6.1E-09	9.6E-09
Pyrene	1.5E-11	4.3E-09	1.6E-08	2.5E-08	1.2E-11	4.3E-09	1.3E-08	2.1E-08	1.0E-11	4.3E-09	1.1E-08	1.8E-08	9.8E-12	4.3E-09	1.1E-08	1.7E-08
Polychlorinated Biphenyls																
Total PCBs	4.2E-11	3.2E-07	4.5E-08	7.1E-08	1.7E-10	3.2E-07	1.8E-07	2.9E-07	2.5E-10	3.2E-07	2.7E-07	4.2E-07	1.5E-10	3.2E-07	1.7E-07	2.6E-07
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-08	4.4E-03	1.5E-05	3.5E-05	1.6E-08	4.4E-03	1.2E-05	2.7E-05	1.1E-08	4.4E-03	7.9E-06	1.9E-05	8.0E-09	4.4E-03	5.8E-06	1.4E-05
TPH as motor oil	2.2E-08	NV	1.6E-05	3.7E-05	1.9E-08	NV	1.4E-05	3.3E-05	1.6E-08	NV	1.1E-05	2.7E-05	1.2E-08	NV	8.7E-06	2.0E-05
Dioxins/Furans																
TEQ Human	4.9E-14	1.1E-11	1.1E-11	8.3E-11	3.6E-14	1.1E-11	7.8E-12	6.1E-11	2.1E-14	1.1E-11	4.4E-12	3.5E-11	1.9E-14	1.1E-11	4.1E-12	3.2E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.2c

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	5.0E-05	2.7E-04	1.0E-04	3.8E-03	--	--	3.6E-05	2.0E-04	7.8E-05	2.7E-03
Chromium, total	--	--	3.9E-07	2.8E-07	--	--	--	--	2.8E-07	2.0E-07	--	--
Cobalt	--	--	9.0E-08	6.4E-08	--	--	--	--	6.5E-08	4.7E-08	--	--
Copper	--	--	1.7E-07	1.2E-07	--	--	--	--	1.2E-07	8.6E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	6.2E-07	4.4E-07	--	--	--	--	4.5E-07	3.2E-07	--	--
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	1.2E-15	2.3E-15	1.8E-10	1.3E-10	--	--	9.0E-16	1.4E-15	1.3E-10	9.5E-11	--	--
Fluoranthene	1.7E-15	3.2E-15	2.6E-10	1.8E-10	--	--	1.3E-15	2.0E-15	1.9E-10	1.3E-10	--	--
Phenanthrene	7.4E-16	1.4E-15	1.1E-10	7.9E-11	--	--	5.5E-16	8.6E-16	8.0E-11	5.8E-11	--	--
Pyrene	1.5E-15	2.8E-15	2.3E-10	1.6E-10	--	--	1.1E-15	1.8E-15	1.6E-10	1.2E-10	--	--
Polychlorinated Biphenyls												
Total PCBs	9.8E-12	2.6E-11	6.4E-10	4.5E-10	--	--	7.3E-12	1.6E-11	4.6E-10	3.3E-10	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	3.1E-07	2.2E-07	--	--	--	--	2.2E-07	1.6E-07	--	--
TPH as motor oil	--	--	3.4E-07	2.4E-07	--	--	--	--	2.4E-07	1.7E-07	--	--
Dioxins/Furans												
TEQ Human	6.4E-15	1.3E-14	3.2E-13	2.3E-13	--	--	4.8E-15	8.4E-15	2.3E-13	1.7E-13	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.2d

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	5.9E-05	3.2E-04	1.2E-04	4.5E-03	--	--	4.2E-05	2.3E-04	9.1E-05	3.2E-03
Chromium, total	--	--	3.5E-07	2.5E-07	--	--	--	--	2.5E-07	1.8E-07	--	--
Cobalt	--	--	8.8E-08	6.3E-08	--	--	--	--	6.4E-08	4.6E-08	--	--
Copper	--	--	1.5E-07	1.1E-07	--	--	--	--	1.1E-07	7.9E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	5.7E-07	4.0E-07	--	--	--	--	4.1E-07	2.9E-07	--	--
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	7.0E-16	1.3E-15	1.1E-10	7.5E-11	--	--	5.2E-16	8.2E-16	7.6E-11	5.5E-11	--	--
Fluoranthene	1.4E-15	2.7E-15	2.2E-10	1.5E-10	--	--	1.1E-15	1.7E-15	1.6E-10	1.1E-10	--	--
Phenanthrene	6.4E-16	1.2E-15	9.7E-11	6.9E-11	--	--	4.8E-16	7.5E-16	7.0E-11	5.0E-11	--	--
Pyrene	1.2E-15	2.3E-15	1.9E-10	1.3E-10	--	--	9.2E-16	1.4E-15	1.3E-10	9.7E-11	--	--
Polychlorinated Biphenyls												
Total PCBs	4.0E-11	1.1E-10	2.6E-09	1.8E-09	--	--	3.0E-11	6.7E-11	1.9E-09	1.3E-09	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	2.5E-07	1.7E-07	--	--	--	--	1.8E-07	1.3E-07	--	--
TPH as motor oil	--	--	3.0E-07	2.1E-07	--	--	--	--	2.1E-07	1.5E-07	--	--
Dioxins/Furans												
TEQ Human	4.7E-15	9.8E-15	2.4E-13	1.7E-13	--	--	3.5E-15	6.2E-15	1.7E-13	1.2E-13	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

5/21/2018

Table NORR-B1.2e

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using
NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Future Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	4.4E-13	8.2E-13	6.6E-08	4.7E-08	--	--	3.2E-13	5.1E-13	4.7E-08	3.4E-08	--	--
Polychlorinated Biphenyls												
Total PCBs	7.6E-08	2.0E-07	4.9E-06	3.5E-06	--	--	5.6E-08	1.3E-07	3.5E-06	2.5E-06	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	6.8E-02	4.8E-02	--	--	--	--	4.9E-02	3.5E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans												
TEQ Human	1.4E-12	2.9E-12	7.0E-11	4.9E-11	--	--	1.0E-12	1.8E-12	5.0E-11	3.6E-11	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.2f

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
NoRR Depth-Weighted Shallow Soil EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs)						Adult Resident (0 to 3 feet bgs)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	9.4E-06	8.5E-05	3.0E-05	1.1E-03	--	--	1.1E-05	1.0E-04	3.6E-05	1.2E-03
Chromium, total	--	--	7.2E-08	8.7E-08	--	--	--	--	6.6E-08	7.9E-08	--	--
Cobalt	--	--	1.7E-08	2.0E-08	--	--	--	--	1.6E-08	2.0E-08	--	--
Copper	--	--	3.1E-08	3.7E-08	--	--	--	--	2.8E-08	3.4E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	1.2E-07	1.4E-07	--	--	--	--	1.1E-07	1.3E-07	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	3.2E-16	5.2E-16	3.4E-11	4.1E-11	--	--	1.9E-16	3.0E-16	2.0E-11	2.4E-11	--	--
Fluoranthene	4.6E-16	7.3E-16	4.8E-11	5.8E-11	--	--	3.8E-16	6.1E-16	4.0E-11	4.8E-11	--	--
Phenanthrene	2.0E-16	3.1E-16	2.1E-11	2.5E-11	--	--	1.7E-16	2.7E-16	1.8E-11	2.2E-11	--	--
Pyrene	4.0E-16	6.3E-16	4.2E-11	5.0E-11	--	--	3.3E-16	5.2E-16	3.5E-11	4.2E-11	--	--
Polychlorinated Biphenyls												
Total PCBs	2.6E-12	6.0E-12	1.2E-10	1.4E-10	--	--	1.1E-11	2.4E-11	4.8E-10	5.8E-10	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	5.8E-08	7.0E-08	--	--	--	--	4.6E-08	5.5E-08	--	--
TPH as motor oil	--	--	6.2E-08	7.5E-08	--	--	--	--	5.5E-08	6.6E-08	--	--
Dioxins/Furans												
TEQ Human	1.7E-15	3.0E-15	6.0E-14	7.2E-14	--	--	1.3E-15	2.2E-15	4.4E-14	5.3E-14	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.2g

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food
Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Resident (0 to 10 feet bgs)					
	Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics						
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV
Lead	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV
Pyrene	1.2E-13	1.9E-13	1.2E-08	1.5E-08	--	--
Polychlorinated Biphenyls						
Total PCBs	2.0E-08	4.6E-08	9.1E-07	1.1E-06	--	--
Total Petroleum Hydrocarbons						
TPH as diesel	--	--	1.3E-02	1.5E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV
Dioxins/Furans						
TEQ Human	3.7E-13	6.5E-13	1.3E-11	1.6E-11	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA)

Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.3a
Baseline Scenario ILCRs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 3 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 6 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Chromium, Hexavalent	4.0E-08	NV	NA	1.2E-06	1.3E-06	4.7E-08	NV	NA	1.4E-06	1.5E-06	3.2E-08	NV	NA	9.6E-07	9.9E-07	2.2E-08	NV	NA	6.6E-07	6.8E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	2.0E-08	NV	NC	NC	2.0E-08	1.9E-08	NV	NC	NC	1.9E-08	1.9E-08	NV	NC	NC	1.9E-08	1.9E-08	NV	NC	NC	1.9E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls																				
Total PCBs	8.8E-12	6.8E-08	8.2E-08	1.7E-07	3.2E-07	3.6E-11	6.8E-08	3.3E-07	6.9E-07	1.1E-06	5.3E-11	6.8E-08	4.9E-07	1.0E-06	1.6E-06	3.3E-11	6.8E-08	3.0E-07	6.3E-07	1.0E-06
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	6.9E-10	1.5E-07	1.3E-06	1.3E-05	1.4E-05	5.1E-10	1.5E-07	9.2E-07	9.6E-06	1.1E-05	2.9E-10	1.5E-07	5.2E-07	5.4E-06	6.1E-06	2.7E-10	1.5E-07	4.8E-07	5.0E-06	5.6E-06
Cumulative ILCR	6E-08	2E-07	1E-06	1E-05	2E-05	7E-08	2E-07	1E-06	1E-05	1E-05	5E-08	2E-07	1E-06	7E-06	9E-06	4E-08	2E-07	8E-07	6E-06	7E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.3b
Baseline Scenario ILCRs for COPCs in Home-Produced Food Using NoRR Depth-Weighted Soil EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs)							Age-Adjusted Adult Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk
Inorganics														
Chromium, Hexavalent	--	--	1.1E-05	6.9E-05	2.7E-05	9.8E-04	1.1E-03	--	--	1.3E-05	8.0E-05	3.2E-05	1.1E-03	1.3E-03
Chromium, total	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Cobalt	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Polychlorinated Biphenyls														
Total PCBs	2.4E-12	6.6E-12	1.2E-10	1.2E-10	--	--	2.5E-10	9.9E-12	2.7E-11	5.0E-10	4.8E-10	--	--	1.0E-09
Total Petroleum Hydrocarbons														
TPH as diesel	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Dioxins/Furans														
TEQ Human	1.0E-10	2.2E-10	4.0E-09	3.9E-09	--	--	8.2E-09	7.6E-11	1.6E-10	3.0E-09	2.8E-09	--	--	6.0E-09
Cumulative ILCR	1E-10	2E-10	1E-05	7E-05	3E-05	1E-03	1E-03	9E-11	2E-10	1E-05	8E-05	3E-05	1E-03	1E-03

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.3c
Baseline Scenario ILCRs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs)
EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	NC	NC	NC	NC	NC	NC	--
Polychlorinated Biphenyls							
Total PCBs	1.9E-08	5.0E-08	9.4E-07	9.0E-07	--	--	1.9E-06
Total Petroleum Hydrocarbons							
TPH as diesel	NC	NC	NC	NC	NC	NC	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	2.2E-08	4.7E-08	8.7E-07	8.4E-07	--	--	1.8E-06
Cumulative ILCR	4E-08	1E-07	2E-06	2E-06	--	--	4E-06

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.4a
Baseline Scenario HIs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs) ^a					Child Resident (0 to 3 feet bgs) ^a					Child Resident (0 to 6 feet bgs) ^a					Child Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Chromium, Hexavalent	2.6E-06	NV	NA	1.6E-03	1.6E-03	3.1E-06	NV	NA	1.8E-03	1.9E-03	2.1E-06	NV	NA	1.2E-03	1.3E-03	1.4E-06	NV	NA	8.7E-04	8.7E-04
Chromium, total	4.2E-09	NV	8.9E-06	3.1E-04	3.2E-04	3.9E-09	NV	8.1E-06	2.8E-04	2.9E-04	3.4E-09	NV	7.1E-06	2.5E-04	2.5E-04	2.9E-09	NV	6.1E-06	2.1E-04	2.2E-04
Cobalt	9.8E-04	NV	1.0E-02	3.6E-01	3.7E-01	9.6E-04	NV	1.0E-02	3.5E-01	3.6E-01	9.6E-04	NV	1.0E-02	3.5E-01	3.6E-01	9.7E-04	NV	1.0E-02	3.5E-01	3.6E-01
Copper	6.7E-08	NV	1.4E-04	4.9E-03	5.0E-03	6.3E-08	NV	1.3E-04	4.5E-03	4.7E-03	5.7E-08	NV	1.2E-04	4.2E-03	4.3E-03	5.2E-08	NV	1.1E-04	3.8E-03	3.9E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	9.1E-10	NV	1.9E-06	6.6E-05	6.8E-05
Zinc	3.4E-08	NV	7.1E-05	2.5E-03	2.5E-03	3.1E-08	NV	6.5E-05	2.2E-03	2.3E-03	2.8E-08	NV	5.8E-05	2.0E-03	2.1E-03	2.5E-08	NV	5.4E-05	1.8E-03	1.9E-03
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	1.0E-10	NV	3.2E-06	7.2E-06	1.0E-05	5.8E-11	NV	1.8E-06	4.2E-06	6.0E-06	3.8E-11	NV	1.2E-06	2.8E-06	4.0E-06	2.9E-11	NV	9.2E-07	2.1E-06	3.0E-06
Fluoranthene	1.1E-10	NV	3.4E-06	7.7E-06	1.1E-05	8.8E-11	NV	2.8E-06	6.4E-06	9.2E-06	7.7E-11	NV	2.4E-06	5.6E-06	8.0E-06	7.3E-11	NV	2.3E-06	5.3E-06	7.6E-06
Phenanthrene	6.1E-12	NV	1.9E-07	4.4E-07	6.3E-07	5.3E-12	NV	1.7E-07	3.8E-07	5.5E-07	4.8E-12	NV	1.5E-07	3.5E-07	5.0E-07	4.7E-12	NV	1.5E-07	3.4E-07	4.9E-07
Pyrene	1.2E-10	3.6E-08	3.9E-06	8.9E-06	1.3E-05	1.0E-10	3.6E-08	3.2E-06	7.4E-06	1.1E-05	8.7E-11	3.6E-08	2.7E-06	6.3E-06	9.1E-06	8.2E-11	3.6E-08	2.6E-06	5.9E-06	8.5E-06
Polychlorinated Biphenyls																				
Total PCBs	5.2E-07	4.0E-03	1.6E-02	3.8E-02	5.8E-02	2.1E-06	4.0E-03	6.7E-02	1.5E-01	2.3E-01	3.1E-06	4.0E-03	9.8E-02	2.3E-01	3.3E-01	1.9E-06	4.0E-03	6.1E-02	1.4E-01	2.0E-01
Total Petroleum Hydrocarbons																				
TPH as diesel	1.6E-07	3.4E-02	5.4E-03	1.8E-02	5.8E-02	1.2E-07	3.4E-02	4.2E-03	1.5E-02	5.3E-02	8.5E-08	3.4E-02	2.9E-03	1.0E-02	4.7E-02	6.2E-08	3.4E-02	2.1E-03	7.3E-03	4.3E-02
TPH as motor oil	3.2E-08	NV	6.8E-04	2.3E-03	3.0E-03	2.9E-08	NV	6.0E-04	2.1E-03	2.7E-03	2.3E-08	NV	4.8E-04	1.7E-03	2.2E-03	1.8E-08	NV	3.7E-04	1.3E-03	1.7E-03
Dioxins/Furans																				
TEQ Human	1.2E-06	2.6E-04	1.1E-01	1.3E+00	1.4E+00	9.0E-07	2.6E-04	8.1E-02	9.4E-01	1.0E+00	5.1E-07	2.6E-04	4.6E-02	5.3E-01	5.8E-01	4.7E-07	2.6E-04	4.2E-02	4.9E-01	5.3E-01
Total Hazard Index	1E-03	4E-02	1E-01	2E+00	2E+00	1E-03	4E-02	2E-01	1E+00	2E+00	1E-03	4E-02	2E-01	1E+00	1E+00	1E-03	4E-02	1E-01	1E+00	1E+00

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.4b
Baseline Scenario HIs for COPCs in NoRR Soil Using Depth-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs) ^a					Adult Resident (0 to 3 feet bgs) ^a					Adult Resident (0 to 6 feet bgs) ^a					Adult Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Chromium, Hexavalent	2.6E-06	NV	NA	1.5E-04	1.5E-04	3.1E-06	NV	NA	1.7E-04	1.8E-04	2.1E-06	NV	NA	1.2E-04	1.2E-04	1.4E-06	NV	NA	8.1E-05	8.3E-05
Chromium, total	4.2E-09	NV	1.2E-06	2.9E-05	3.0E-05	3.9E-09	NV	1.1E-06	2.6E-05	2.7E-05	3.4E-09	NV	9.7E-07	2.3E-05	2.4E-05	2.9E-09	NV	8.3E-07	2.0E-05	2.0E-05
Cobalt	9.8E-04	NV	1.4E-03	3.3E-02	3.6E-02	9.6E-04	NV	1.4E-03	3.3E-02	3.5E-02	9.6E-04	NV	1.4E-03	3.3E-02	3.5E-02	9.7E-04	NV	1.4E-03	3.3E-02	3.5E-02
Copper	6.7E-08	NV	1.9E-05	4.6E-04	4.8E-04	6.3E-08	NV	1.8E-05	4.3E-04	4.4E-04	5.7E-08	NV	1.6E-05	3.9E-04	4.1E-04	5.2E-08	NV	1.5E-05	3.6E-04	3.7E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	9.1E-10	NV	2.6E-07	6.2E-06	6.4E-06
Zinc	3.4E-08	NV	9.7E-06	2.3E-04	2.4E-04	3.1E-08	NV	8.9E-06	2.1E-04	2.2E-04	2.8E-08	NV	7.9E-06	1.9E-04	2.0E-04	2.5E-08	NV	7.3E-06	1.7E-04	1.8E-04
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	1.0E-10	NV	4.3E-07	6.8E-07	1.1E-06	5.8E-11	NV	2.5E-07	3.9E-07	6.4E-07	3.8E-11	NV	1.6E-07	2.6E-07	4.2E-07	2.9E-11	NV	1.3E-07	2.0E-07	3.2E-07
Fluoranthene	1.1E-10	NV	4.6E-07	7.2E-07	1.2E-06	8.8E-11	NV	3.8E-07	6.0E-07	9.8E-07	7.7E-11	NV	3.3E-07	5.2E-07	8.5E-07	7.3E-11	NV	3.1E-07	4.9E-07	8.1E-07
Phenanthrene	6.1E-12	NV	2.6E-08	4.1E-08	6.7E-08	5.3E-12	NV	2.3E-08	3.6E-08	5.9E-08	4.8E-12	NV	2.1E-08	3.3E-08	5.4E-08	4.7E-12	NV	2.0E-08	3.2E-08	5.2E-08
Pyrene	1.2E-10	3.6E-08	5.3E-07	8.4E-07	1.4E-06	1.0E-10	3.6E-08	4.4E-07	6.9E-07	1.2E-06	8.7E-11	3.6E-08	3.7E-07	5.9E-07	1.0E-06	8.2E-11	3.6E-08	3.5E-07	5.6E-07	9.4E-07
Polychlorinated Biphenyls																				
Total PCBs	5.2E-07	4.0E-03	2.2E-03	3.5E-03	9.8E-03	2.1E-06	4.0E-03	9.1E-03	1.4E-02	2.8E-02	3.1E-06	4.0E-03	1.3E-02	2.1E-02	3.9E-02	1.9E-06	4.0E-03	8.3E-03	1.3E-02	2.5E-02
Total Petroleum Hydrocarbons																				
TPH as diesel	1.6E-07	3.4E-02	7.3E-04	1.7E-03	3.6E-02	1.2E-07	3.4E-02	5.8E-04	1.4E-03	3.6E-02	8.5E-08	3.4E-02	4.0E-04	9.4E-04	3.5E-02	6.2E-08	3.4E-02	2.9E-04	6.8E-04	3.5E-02
TPH as motor oil	3.2E-08	NV	9.2E-05	2.2E-04	3.1E-04	2.9E-08	NV	8.2E-05	1.9E-04	2.8E-04	2.3E-08	NV	6.6E-05	1.6E-04	2.2E-04	1.8E-08	NV	5.1E-05	1.2E-04	1.7E-04
Dioxins/Furans																				
TEQ Human	1.2E-06	2.6E-04	1.5E-02	1.2E-01	1.3E-01	9.0E-07	2.6E-04	1.1E-02	8.8E-02	9.9E-02	5.1E-07	2.6E-04	6.3E-03	5.0E-02	5.6E-02	4.7E-07	2.6E-04	5.8E-03	4.6E-02	5.2E-02
Total Hazard Index	1E-03	4E-02	2E-02	2E-01	2E-01	1E-03	4E-02	2E-02	1E-01	2E-01	1E-03	4E-02	2E-02	1E-01	2E-01	1E-03	4E-02	2E-02	9E-02	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.4c
Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Depth-Weighted Soil EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs)							Child Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics														
Chromium, Hexavalent	--	--	1.4E-02	7.4E-02	2.9E-02	1.0E+00	1.1E+00	--	--	1.6E-02	8.7E-02	3.4E-02	1.2E+00	1.3E+00
Chromium, total	--	--	2.1E-07	1.5E-07	--	--	3.6E-07	--	--	1.9E-07	1.4E-07	--	--	3.3E-07
Cobalt	--	--	2.4E-04	1.7E-04	--	--	4.2E-04	--	--	2.4E-04	1.7E-04	--	--	4.1E-04
Copper	--	--	3.4E-06	2.4E-06	--	--	5.8E-06	--	--	3.1E-06	2.2E-06	--	--	5.3E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	--	--	1.7E-06	1.2E-06	--	--	2.9E-06	--	--	1.5E-06	1.1E-06	--	--	2.6E-06
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	3.4E-14	5.7E-14	5.0E-09	3.6E-09	--	--	8.5E-09	1.9E-14	3.3E-14	2.9E-09	2.1E-09	--	--	4.9E-09
Fluoranthene	3.6E-14	6.1E-14	5.3E-09	3.8E-09	--	--	9.1E-09	3.0E-14	5.0E-14	4.4E-09	3.1E-09	--	--	7.5E-09
Phenanthrene	2.0E-15	3.4E-15	3.0E-10	2.2E-10	--	--	5.2E-10	1.8E-15	3.0E-15	2.6E-10	1.9E-10	--	--	4.5E-10
Pyrene	4.1E-14	7.0E-14	6.1E-09	4.4E-09	--	--	1.0E-08	3.4E-14	5.8E-14	5.1E-09	3.6E-09	--	--	8.7E-09
Polychlorinated Biphenyls														
Total PCBs	4.1E-07	9.9E-07	2.6E-05	1.9E-05	--	--	4.6E-05	1.7E-06	4.0E-06	1.1E-04	7.6E-05	--	--	1.9E-04
Total Petroleum Hydrocarbons														
TPH as diesel	--	--	1.3E-05	9.1E-06	--	--	2.2E-05	--	--	1.0E-05	7.2E-06	--	--	1.7E-05
TPH as motor oil	--	--	1.6E-06	1.1E-06	--	--	2.7E-06	--	--	1.4E-06	1.0E-06	--	--	2.4E-06
Dioxins/Furans														
TEQ Human	7.6E-06	1.4E-05	3.8E-04	2.7E-04	--	--	6.7E-04	5.6E-06	1.1E-05	2.8E-04	2.0E-04	--	--	4.9E-04
Total Hazard Index	8E-06	2E-05	1E-02	7E-02	3E-02	1E+00	1E+00	7E-06	1E-05	2E-02	9E-02	3E-02	1E+00	1E+00

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.4d

Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs)

EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Child Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	1.2E-11	2.0E-11	1.8E-06	1.3E-06	--	--	3.1E-06
Polychlorinated Biphenyls							
Total PCBs	3.1E-03	7.6E-03	2.0E-01	1.4E-01	--	--	3.5E-01
Total Petroleum Hydrocarbons							
TPH as diesel	--	--	2.8E+00	2.0E+00	--	--	4.7E+00
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	1.6E-03	3.1E-03	8.1E-02	5.8E-02	--	--	1.4E-01
Total Hazard Index	5E-03	1E-02	3E+00	2E+00	--	--	5E+00

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.4e
Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Depth-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs)							Adult Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics														
Chromium, Hexavalent	--	--	3.1E-03	2.8E-02	1.0E-02	3.5E-01	3.9E-01	--	--	3.7E-03	3.3E-02	1.2E-02	4.1E-01	4.6E-01
Chromium, total	--	--	4.8E-08	5.8E-08	--	--	1.1E-07	--	--	4.4E-08	5.3E-08	--	--	9.6E-08
Cobalt	--	--	5.6E-05	6.7E-05	--	--	1.2E-04	--	--	5.5E-05	6.6E-05	--	--	1.2E-04
Copper	--	--	7.7E-07	9.2E-07	--	--	1.7E-06	--	--	7.1E-07	8.5E-07	--	--	1.6E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	--	--	3.9E-07	4.6E-07	--	--	8.5E-07	--	--	3.5E-07	4.2E-07	--	--	7.7E-07
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	1.1E-14	1.7E-14	1.1E-09	1.4E-09	--	--	2.5E-09	6.2E-15	9.9E-15	6.6E-10	7.9E-10	--	--	1.4E-09
Fluoranthene	1.1E-14	1.8E-14	1.2E-09	1.5E-09	--	--	2.7E-09	9.5E-15	1.5E-14	1.0E-09	1.2E-09	--	--	2.2E-09
Phenanthrene	6.5E-16	1.0E-15	6.9E-11	8.3E-11	--	--	1.5E-10	5.7E-16	9.1E-16	6.0E-11	7.2E-11	--	--	1.3E-10
Pyrene	1.3E-14	2.1E-14	1.4E-09	1.7E-09	--	--	3.1E-09	1.1E-14	1.7E-14	1.2E-09	1.4E-09	--	--	2.5E-09
Polychlorinated Biphenyls														
Total PCBs	1.3E-07	3.0E-07	5.9E-06	7.1E-06	--	--	1.3E-05	5.4E-07	1.2E-06	2.4E-05	2.9E-05	--	--	5.5E-05
Total Petroleum Hydrocarbons														
TPH as diesel	--	--	2.9E-06	3.5E-06	--	--	6.4E-06	--	--	2.3E-06	2.7E-06	--	--	5.0E-06
TPH as motor oil	--	--	3.7E-07	4.4E-07	--	--	8.0E-07	--	--	3.3E-07	3.9E-07	--	--	7.2E-07
Dioxins/Furans														
TEQ Human	2.4E-06	4.3E-06	8.6E-05	1.0E-04	--	--	2.0E-04	1.8E-06	3.2E-06	6.3E-05	7.6E-05	--	--	1.4E-04
Total Hazard Index	3E-06	5E-06	3E-03	3E-02	1E-02	4E-01	4E-01	2E-06	4E-06	4E-03	3E-02	1E-02	4E-01	5E-01

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B1.4f

Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs)

EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Adult Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	3.9E-12	6.2E-12	4.1E-07	4.9E-07	--	--	9.0E-07
Polychlorinated Biphenyls							
Total PCBs	1.0E-03	2.3E-03	4.6E-02	5.5E-02	--	--	1.0E-01
Total Petroleum Hydrocarbons							
TPH as diesel	--	--	6.3E-01	7.5E-01	--	--	1.4E+00
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	5.3E-04	9.3E-04	1.8E-02	2.2E-02	--	--	4.2E-02
Total Hazard Index	2E-03	3E-03	7E-01	8E-01	--	--	2E+00

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B1.5a

Baseline Scenario Risk Evaluation for Lead in NoRR Surface Soil (0 to 0.5 feet bgs) Using Depth-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	10.6
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

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OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.075	0.137	0.16	0.20	0.22
BLOOD Pb, PICA CHILD	0.150	0.27	0.32	0.39	0.45

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	6.1E-04	1%		6.1E-04	0.4%
Soil Ingestion	7.0E-3	7.5E-02	99%	1.4E-2	1.5E-01	100%
Inhalation	2.0E-6	2.1E-05	0.03%		2.1E-05	0.01%

Table NORR-B1.5b

Baseline Scenario Risk Evaluation for Lead in NoRR Shallow Soil (0 to 3 feet bgs) Using Depth-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	9.1
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.065	0.118	0.14	0.17	0.19
BLOOD Pb, PICA CHILD	0.129	0.24	0.28	0.34	0.39

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	5.3E-04	1%		5.3E-04	0.4%
Soil Ingestion	7.0E-3	6.4E-02	99%	1.4E-2	1.3E-01	100%
Inhalation	2.0E-6	1.8E-05	0.03%		1.8E-05	0.01%

Table NORR-B1.5c

Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface I Soil (0 to 6 feet bgs) Using Depth-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	7.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.052	0.095	0.11	0.14	0.16
BLOOD Pb, PICA CHILD	0.103	0.19	0.22	0.27	0.31

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	4.2E-04	1%		4.2E-04	0.4%
Soil Ingestion	7.0E-3	5.1E-02	99%	1.4E-2	1.0E-01	100%
Inhalation	2.0E-6	1.4E-05	0.03%		1.4E-05	0.01%

Table NORR-B1.5d

Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface II Soil (0 to 10 feet bgs) Using Depth-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	5.3
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.038	0.069	0.08	0.10	0.11
BLOOD Pb, PICA CHILD	0.075	0.14	0.16	0.20	0.23

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	3.1E-04	1%		3.1E-04	0.4%
Soil Ingestion	7.0E-3	3.8E-02	99%	1.4E-2	7.5E-02	100%
Inhalation	2.0E-6	1.0E-05	0.03%		1.0E-05	0.01%

Table NORR-B1.5e
Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs)
Depth-Weighted EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Parameter	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Units	Reference
Total Lead Concentration in Animal Product/Homegrown Produce (C_i)	1.5E-04	1.4E-05	7.4E-02	8.5E-02	3.2E-02	4.2E-02	mg/kg	See Tables 6a through 7c
DOSE TO FUTURE CHILD RESIDENT								
Consumption(0<2yr)	2.9E+00	6.1E+00	1.2E+01	3.8E+00	5.9E+00	5.7E+00	g product/ kg BW-day	Point estimates for average consumption (OEHHA 2015, Table 5.15) (a)
Consumption(2-6yr)	2.2E+00	3.9E+00	7.4E+00	2.5E+00	4.7E+00	3.9E+00		
Fraction of Food Intake that is Home-Produced	1.51E-01	2.14E-01	2.35E-01	2.35E-01	2.35E-01	2.35E-01	unitless	Point estimates for households that farm (OEHHA 2015, Table 5.17)
DOSE _{fa} (0<2yr)	6.4E-08	1.8E-08	2.0E-04	7.3E-05	4.2E-05	5.4E-05	mg/kg-day	Calculated value (b)
DOSE _{fa} (2-6yr)	4.8E-08	1.1E-08	1.2E-04	4.8E-05	3.4E-05	3.7E-05	mg/kg-day	Calculated value (b)
Time-Weighted Average Dose	5.3E-08	1.3E-08	1.5E-04	5.6E-05	3.7E-05	4.3E-05	mg/kg-day	Calculated value
Daily Intake	8.0E-07	2.0E-07	2.2E-03	8.4E-04	5.5E-04	6.4E-04	mg/day	Calculated value (c)
BLOOD LEAD LEVEL								
Total Daily Intake	0.0043						mg/day	Calculated value
Ingestion Constant	0.16						µg/dl per µg/day	DTSC 2009
Average Blood Lead Level (PbB)	0.68						µg/dl	Calculated value
Blood Lead Level, Geometric Standard Deviation	1.6						µg/dl	DTSC 2009
Blood Lead Level, 90th Percentile	1.2						µg/dl	Calculated value

Notes:

- (a) Average, rather than high-end, consumption rates are used as inputs for lead risk assessment. Reasonable maximum inputs are not recommended for use with the lead model because the model considers the distribution of blood lead, which reflects variation in exposure parameters (DTSC 2011).
- (b) Dose is calculated as follows: $C_i \times L \times \text{Consumption} \times \text{Conversion Factor}$ (1×10^{-3} g/kg to mg/kg for C_i term) \times EF/365 days per year, where EF is 350 exposure days per year.
- (c) Daily intake is calculated as follows: Time-weighted average dose (mg/kg-day) \times 15 kg body weight. Body weight value corresponds to Cal/EPA default value for child receptors (DTSC 2014).

Abbreviations:

BW = body weight.
g = grams
m³ = cubic meters
mg/kg = milligrams per kilogram.
µg/dl = micrograms per deciliter.
µg/kg = micrograms per kilogram.

Table NORR-B1.5e
Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs)
Depth-Weighted EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

References:

Department of Toxic Substances Control (DTSC). 2011. *Leadsread 8*. Available at: <http://www.dtsc.ca.gov/AssessingRisk/leadsread8.cfm>.
DTSC. 2014. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California*
Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program. 2015. *Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk*
United States Environmental Protection Agency (USEPA). 2002. *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and*
Emergency Response. Washington, D.C., December.

Table NORR-B1.5f

Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs)

Depth-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Parameter	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Units	Reference
Total Lead Concentration in Animal Product/Homegrown Produce	1.3E-04	1.2E-05	6.4E-02	7.3E-02	2.7E-02	3.6E-02	mg/kg	See Tables 6a through 7c
DOSE TO FUTURE CHILD RESIDENT								
Consumption(0<2yr)	2.9E+00	6.1E+00	1.2E+01	3.8E+00	5.9E+00	5.7E+00	g product/ kg BW-day	Point estimates for average consumption (OEHHA 2015, Table 5.15) (a)
Consumption(2-6yr)	2.2E+00	3.9E+00	7.4E+00	2.5E+00	4.7E+00	3.9E+00		
Fraction of Food Intake that is Home-Produced	1.51E-01	2.14E-01	2.35E-01	2.35E-01	2.35E-01	2.35E-01	unitless	Point estimates for households that farm (OEHHA 2015, Table 5.17)
DOSE _{fa} (0<2yr)	5.5E-08	1.5E-08	1.7E-04	6.2E-05	3.6E-05	4.7E-05	mg/kg-day	Calculated value (b)
DOSE _{fa} (2-6yr)	4.2E-08	9.6E-09	1.1E-04	4.1E-05	2.9E-05	3.2E-05	mg/kg-day	Calculated value (b)
Time-Weighted Average Dose	4.6E-08	1.1E-08	1.3E-04	4.8E-05	3.1E-05	3.7E-05	mg/kg-day	Calculated value
Daily Intake	6.9E-07	1.7E-07	1.9E-03	7.2E-04	4.7E-04	5.5E-04	mg/day	Calculated value (c)
BLOOD LEAD LEVEL								
Total Daily Intake	0.0037						mg/day	Calculated value
Ingestion Constant	0.16						µg/dl per µg/day	DTSC 2011
Average Blood Lead Level (PbB)	0.58						µg/dl	Calculated value
Blood Lead Level, Geometric Standard Deviation	1.6						µg/dl	DTSC 2011
Blood Lead Level, 90th Percentile	1.1						µg/dl	Calculated value

Notes:

(a) Average, rather than high-end, consumption rates are used as inputs for lead risk assessment. Reasonable maximum inputs are not recommended for use with the lead model because the model considers the distribution of blood lead, which reflects variation in exposure parameters (DTSC 2011).

(b) Dose is calculated as follows: $C_i \times L \times \text{Consumption} \times \text{Conversion Factor}$ (1×10^{-3} g/kg to mg/kg for C_i term) \times EF/365 days per year, where EF is 350 exposure days per year.

(c) Daily intake is calculated as follows: Time-weighted average dose (mg/kg-day) \times 15 kg body weight. Body weight value corresponds to Cal/EPA default value for child receptors (DTSC 2014).

Abbreviations:

BW = body weight.

g = grams

m³ = cubic meters

mg/kg = milligrams per kilogram.

µg/dl = micrograms per deciliter.

µg/kg = micrograms per kilogram.

Table NORR-B1.5f

Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs)

Depth-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

References:

Department of Toxic Substances Control (DTSC). 2011. *Leadsread 8*. Available at: <http://www.dtsc.ca.gov/AssessingRisk/leadsread8.cfm>.

DTSC. 2014. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California*
Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program. 2015. *Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February.

Attachment NORR-B2

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at NoRR Using Area-Weighted EPCs

Tables

NORR-B2.1a	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.1b	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-B2.1c	Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-B2.1d	Baseline Scenario Dose Calculations for Carcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-B2.2a	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Child
NORR-B2.2b	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B2.2c	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B2.2d	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B2.2e	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B2.2f	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Shallow Soil EPCs: Hypothetical Future Resident Adult
NORR-B2.2g	Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult
NORR-B2.3a	Baseline Scenario ILCRs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.3b	Baseline Scenario ILCRs for COPCs in Home-Produced Food Using NoRR Area-Weighted Soil EPCs: Hypothetical Future Resident
NORR-B2.3c	Baseline Scenario ILCRs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-B2.4a	Baseline Scenario HIs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Child
NORR-B2.4b	Baseline Scenario HIs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B2.4c	Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Area-Weighted Soil EPCs: Hypothetical Future Resident Child
NORR-B2.4d	Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child
NORR-B2.4e	Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Area-Weighted EPCs: Hypothetical Future Resident Adult
NORR-B2.4f	Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult
NORR-B2.5a	Baseline Scenario Risk Evaluation for Lead in NoRR Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.5b	Baseline Scenario Risk Evaluation for Lead in NoRR Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.5c	Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface I Soil (0 to 6 feet bgs) Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.5d	Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface II Soil (0 to 10 feet bgs) Using Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.5e	Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs) Area-Weighted EPCs: Hypothetical Future Resident
NORR-B2.5f	Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs) Area-Weighted EPCs: Hypothetical Future Resident

Table NORR-B2.1a
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 3 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 6 feet bgs) ^a				Age-Adjusted Adult Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.7E-10	NV	NA	2.4E-06	2.2E-10	NV	NA	2.0E-06	1.8E-10	NV	NA	1.6E-06	1.5E-10	NV	NA	1.3E-06
Chromium, total	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Cobalt	2.1E-09	NV	NC	NC	2.1E-09	NV	NC	NC	2.1E-09	NV	NC	NC	2.2E-09	NV	NC	NC
Copper	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	NC	NV	NC	NC
Zinc	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Fluoranthene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Phenanthrene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Pyrene	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Polychlorinated Biphenyls																
Total PCBs	1.5E-11	1.2E-07	4.1E-08	8.5E-08	6.3E-11	1.2E-07	1.7E-07	3.5E-07	9.3E-11	1.2E-07	2.5E-07	5.1E-07	5.7E-11	1.2E-07	1.5E-07	3.2E-07
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
TPH as motor oil	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC	NC	NV	NC	NC
Dioxins/Furans																
TEQ Human	1.3E-14	3.1E-12	6.6E-12	6.9E-11	9.3E-15	3.1E-12	4.9E-12	5.1E-11	6.3E-15	3.1E-12	3.3E-12	3.5E-11	5.5E-15	3.1E-12	2.9E-12	3.0E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.1b
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	--	--	5.0E-05	2.7E-04	1.0E-04	3.8E-03	--	--	9.8E-06	8.0E-05	3.4E-05	1.1E-03	--	--	9.8E-06	8.0E-05	3.4E-05	1.1E-03
Chromium, total	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Cobalt	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Copper	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NC	NC	NC	NC	--	--	3.4E-16	6.4E-16	NC	NC	--	--	NC	NC	NC	NC	--	--
Fluoranthene	NC	NC	NC	NC	--	--	2.1E-15	4.0E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Phenanthrene	NC	NC	NC	NC	--	--	1.8E-15	3.4E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Pyrene	NC	NC	NC	NC	--	--	2.1E-15	4.0E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Polychlorinated Biphenyls																		
Total PCBs	9.8E-12	2.6E-11	6.4E-10	4.5E-10	--	--	2.7E-12	7.4E-12	1.2E-10	1.3E-10	--	--	2.7E-12	7.4E-12	1.2E-10	1.3E-10	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
TPH as motor oil	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Dioxins/Furans																		
TEQ Human	4.4E-15	9.2E-15	2.2E-13	1.6E-13	--	--	1.2E-15	2.6E-15	4.3E-14	4.7E-14	--	--	1.2E-15	2.6E-15	4.3E-14	4.7E-14	--	--

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.1c
Baseline Scenario Dose Calculations for Carcinogenic Effects for COPCs in Home-Produced Food Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	--	--	4.2E-05	2.2E-04	8.4E-05	3.2E-03	--	--	8.1E-06	6.6E-05	2.8E-05	9.5E-04	--	--	8.1E-06	6.6E-05	2.8E-05	9.5E-04
Chromium, total	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Cobalt	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Copper	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NC	NC	NC	NC	--	--	2.6E-15	4.9E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Fluoranthene	NC	NC	NC	NC	--	--	2.1E-15	4.0E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Phenanthrene	NC	NC	NC	NC	--	--	1.8E-15	3.4E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Pyrene	NC	NC	NC	NC	--	--	1.9E-15	3.5E-15	NC	NC	--	--	NC	NC	NC	NC	--	--
Polychlorinated Biphenyls																		
Total PCBs	4.0E-11	1.1E-10	2.6E-09	1.8E-09	--	--	1.1E-11	3.0E-11	5.1E-10	5.5E-10	--	--	1.1E-11	3.0E-11	5.1E-10	5.5E-10	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
TPH as motor oil	--	--	NC	NC	--	--	--	--	NC	NC	--	--	--	--	NC	NC	--	--
Dioxins/Furans																		
TEQ Human	3.3E-15	6.8E-15	1.6E-13	1.2E-13	--	--	9.0E-16	1.9E-15	3.2E-14	3.4E-14	--	--	9.0E-16	1.9E-15	3.2E-14	3.4E-14	--	--

Abbreviations:
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.1d
Baseline Scenario Dose Calculations for Carcinogenic Effects for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 2 years)						Age-Adjusted Adult Resident (2 to 16 years)						Age-Adjusted Adult Resident (16 to 26 years)					
	Home-Produced Food						Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics																		
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons																		
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	2.9E-12	5.4E-12	4.4E-07	3.1E-07	--	--	8.0E-13	1.5E-12	8.6E-08	9.2E-08	--	--	8.0E-13	1.5E-12	8.6E-08	9.2E-08	--	--
Polychlorinated Biphenyls																		
Total PCBs	7.6E-08	2.0E-07	4.9E-06	3.5E-06	--	--	2.1E-08	5.7E-08	9.6E-07	1.0E-06	--	--	2.1E-08	5.7E-08	9.6E-07	1.0E-06	--	--
Total Petroleum Hydrocarbons																		
TPH as diesel	--	--	6.8E-02	4.8E-02	--	--	--	--	1.3E-02	1.4E-02	--	--	--	--	1.3E-02	1.4E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans																		
TEQ Human	1.1E-12	2.3E-12	5.5E-11	3.9E-11	--	--	3.0E-13	6.3E-13	1.1E-11	1.1E-11	--	--	3.0E-13	6.3E-13	1.1E-11	1.1E-11	--	--

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg-day = milligrams per kilogram per day.
na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.2a
Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs) ^a				Child Resident (0 to 3 feet bgs) ^a				Child Resident (0 to 6 feet bgs) ^a				Child Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.6E-10	NV	NA	4.7E-06	2.2E-10	NV	NA	3.9E-06	1.7E-10	NV	NA	3.2E-06	1.4E-10	NV	NA	2.6E-06
Chromium, total	2.3E-08	NV	1.2E-05	4.2E-04	2.1E-08	NV	1.1E-05	3.8E-04	1.9E-08	NV	1.0E-05	3.4E-04	1.6E-08	NV	8.7E-06	3.0E-04
Cobalt	5.7E-09	NV	3.0E-06	1.0E-04	5.7E-09	NV	3.0E-06	1.0E-04	5.7E-09	NV	3.0E-06	1.0E-04	5.9E-09	NV	3.1E-06	1.1E-04
Copper	1.0E-08	NV	5.3E-06	1.8E-04	9.4E-09	NV	5.0E-06	1.7E-04	8.7E-09	NV	4.6E-06	1.6E-04	8.0E-09	NV	4.2E-06	1.4E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	1.8E-07	NV	9.3E-05	3.2E-03
Zinc	3.8E-08	NV	2.0E-05	6.8E-04	3.5E-08	NV	1.8E-05	6.3E-04	3.1E-08	NV	1.6E-05	5.7E-04	2.9E-08	NV	1.5E-05	5.3E-04
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.2E-11	NV	9.5E-08	2.2E-07	9.2E-11	NV	7.3E-07	1.7E-06	9.2E-11	NV	7.2E-07	1.7E-06	9.1E-11	NV	7.2E-07	1.6E-06
Fluoranthene	7.6E-11	NV	6.0E-07	1.4E-06	7.5E-11	NV	5.9E-07	1.4E-06	6.7E-11	NV	5.3E-07	1.2E-06	7.4E-11	NV	5.8E-07	1.3E-06
Phenanthrene	6.3E-11	NV	5.0E-07	1.1E-06	6.3E-11	NV	5.0E-07	1.1E-06	6.3E-11	NV	5.0E-07	1.1E-06	6.3E-11	NV	5.0E-07	1.1E-06
Pyrene	7.5E-11	2.9E-08	5.9E-07	1.4E-06	6.7E-11	2.9E-08	5.3E-07	1.2E-06	6.5E-11	2.9E-08	5.1E-07	1.2E-06	6.5E-11	2.9E-08	5.1E-07	1.2E-06
Polychlorinated Biphenyls																
Total PCBs	4.2E-11	3.2E-07	3.3E-07	7.5E-07	1.7E-10	3.2E-07	1.3E-06	3.1E-06	2.5E-10	3.2E-07	2.0E-06	4.5E-06	1.5E-10	3.2E-07	1.2E-06	2.8E-06
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-08	4.4E-03	1.1E-04	3.7E-04	1.6E-08	4.4E-03	8.5E-05	2.9E-04	1.1E-08	4.4E-03	5.8E-05	2.0E-04	8.0E-09	4.4E-03	4.2E-05	1.5E-04
TPH as motor oil	2.2E-08	NV	1.1E-04	4.0E-04	1.9E-08	NV	1.0E-04	3.5E-04	1.6E-08	NV	8.2E-05	2.8E-04	1.2E-08	NV	6.3E-05	2.2E-04
Dioxins/Furans																
TEQ Human	3.4E-14	8.3E-12	5.3E-11	6.1E-10	2.5E-14	8.3E-12	3.9E-11	4.5E-10	1.7E-14	8.3E-12	2.7E-11	3.1E-10	1.5E-14	8.3E-12	2.3E-11	2.7E-10

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.2b
Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs) ^a				Adult Resident (0 to 3 feet bgs) ^a				Adult Resident (0 to 6 feet bgs) ^a				Adult Resident (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Chromium, Hexavalent	2.6E-10	NV	NA	4.4E-07	2.2E-10	NV	NA	3.7E-07	1.7E-10	NV	NA	3.0E-07	1.4E-10	NV	NA	2.4E-07
Chromium, total	2.3E-08	NV	1.6E-06	3.9E-05	2.1E-08	NV	1.5E-06	3.6E-05	1.9E-08	NV	1.4E-06	3.2E-05	1.6E-08	NV	1.2E-06	2.8E-05
Cobalt	5.7E-09	NV	4.1E-07	9.7E-06	5.7E-09	NV	4.1E-07	9.7E-06	5.7E-09	NV	4.1E-07	9.8E-06	5.9E-09	NV	4.2E-07	1.0E-05
Copper	1.0E-08	NV	7.2E-07	1.7E-05	9.4E-09	NV	6.8E-07	1.6E-05	8.7E-09	NV	6.2E-07	1.5E-05	8.0E-09	NV	5.7E-07	1.4E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	NS	NV	NS	NS	NS	NV	NS	NS	1.8E-07	NV	1.3E-05	3.0E-04
Zinc	3.8E-08	NV	2.7E-06	6.4E-05	3.5E-08	NV	2.5E-06	5.9E-05	3.1E-08	NV	2.2E-06	5.3E-05	2.9E-08	NV	2.1E-06	4.9E-05
Polycyclic Aromatic Hydrocarbons																
Benzo (ghi) perylene	1.2E-11	NV	1.3E-08	2.0E-08	9.2E-11	NV	9.9E-08	1.6E-07	9.2E-11	NV	9.9E-08	1.6E-07	9.1E-11	NV	9.8E-08	1.5E-07
Fluoranthene	7.6E-11	NV	8.2E-08	1.3E-07	7.5E-11	NV	8.0E-08	1.3E-07	6.7E-11	NV	7.3E-08	1.1E-07	7.4E-11	NV	8.0E-08	1.3E-07
Phenanthrene	6.3E-11	NV	6.8E-08	1.1E-07	6.3E-11	NV	6.8E-08	1.1E-07	6.3E-11	NV	6.8E-08	1.1E-07	6.3E-11	NV	6.8E-08	1.1E-07
Pyrene	7.5E-11	2.9E-08	8.0E-08	1.3E-07	6.7E-11	2.9E-08	7.2E-08	1.1E-07	6.5E-11	2.9E-08	7.0E-08	1.1E-07	6.5E-11	2.9E-08	7.0E-08	1.1E-07
Polychlorinated Biphenyls																
Total PCBs	4.2E-11	3.2E-07	4.5E-08	7.1E-08	1.7E-10	3.2E-07	1.8E-07	2.9E-07	2.5E-10	3.2E-07	2.7E-07	4.2E-07	1.5E-10	3.2E-07	1.7E-07	2.6E-07
Total Petroleum Hydrocarbons																
TPH as diesel	2.0E-08	4.4E-03	1.5E-05	3.5E-05	1.6E-08	4.4E-03	1.2E-05	2.7E-05	1.1E-08	4.4E-03	7.9E-06	1.9E-05	8.0E-09	4.4E-03	5.8E-06	1.4E-05
TPH as motor oil	2.2E-08	NV	1.6E-05	3.7E-05	1.9E-08	NV	1.4E-05	3.3E-05	1.6E-08	NV	1.1E-05	2.7E-05	1.2E-08	NV	8.7E-06	2.0E-05
Dioxins/Furans																
TEQ Human	3.4E-14	8.3E-12	7.3E-12	5.7E-11	2.5E-14	8.3E-12	5.4E-12	4.2E-11	1.7E-14	8.3E-12	3.6E-12	2.9E-11	1.5E-14	8.3E-12	3.2E-12	2.5E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.2c
Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	5.0E-05	2.7E-04	1.0E-04	3.8E-03	--	--	3.6E-05	2.0E-04	7.7E-05	2.7E-03
Chromium, total	--	--	3.5E-07	2.5E-07	--	--	--	--	2.5E-07	1.8E-07	--	--
Cobalt	--	--	8.8E-08	6.2E-08	--	--	--	--	6.3E-08	4.5E-08	--	--
Copper	--	--	1.5E-07	1.1E-07	--	--	--	--	1.1E-07	8.0E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	5.8E-07	4.1E-07	--	--	--	--	4.1E-07	3.0E-07	--	--
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	1.2E-15	2.3E-15	1.8E-10	1.3E-10	--	--	9.0E-16	1.4E-15	1.3E-10	9.5E-11	--	--
Fluoranthene	7.7E-15	1.4E-14	1.2E-09	8.3E-10	--	--	5.7E-15	9.1E-15	8.4E-10	6.0E-10	--	--
Phenanthrene	6.4E-15	1.2E-14	9.7E-10	6.9E-10	--	--	4.8E-15	7.5E-15	7.0E-10	5.0E-10	--	--
Pyrene	7.6E-15	1.4E-14	1.1E-09	8.1E-10	--	--	5.6E-15	8.9E-15	8.2E-10	5.9E-10	--	--
Polychlorinated Biphenyls												
Total PCBs	9.8E-12	2.6E-11	6.4E-10	4.5E-10	--	--	7.3E-12	1.6E-11	4.6E-10	3.3E-10	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	3.1E-07	2.2E-07	--	--	--	--	2.2E-07	1.6E-07	--	--
TPH as motor oil	--	--	3.4E-07	2.4E-07	--	--	--	--	2.4E-07	1.7E-07	--	--
Dioxins/Furans												
TEQ Human	4.4E-15	9.2E-15	2.2E-13	1.6E-13	--	--	3.3E-15	5.7E-15	1.6E-13	1.1E-13	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.2d

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	4.2E-05	2.2E-04	8.4E-05	3.2E-03	--	--	3.0E-05	1.6E-04	6.4E-05	2.2E-03
Chromium, total	--	--	3.3E-07	2.3E-07	--	--	--	--	2.3E-07	1.7E-07	--	--
Cobalt	--	--	8.7E-08	6.2E-08	--	--	--	--	6.3E-08	4.5E-08	--	--
Copper	--	--	1.4E-07	1.0E-07	--	--	--	--	1.0E-07	7.5E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	5.3E-07	3.8E-07	--	--	--	--	3.8E-07	2.8E-07	--	--
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	9.4E-15	1.8E-14	1.4E-09	1.0E-09	--	--	7.0E-15	1.1E-14	1.0E-09	7.3E-10	--	--
Fluoranthene	7.6E-15	1.4E-14	1.1E-09	8.1E-10	--	--	5.6E-15	8.9E-15	8.2E-10	5.9E-10	--	--
Phenanthrene	6.4E-15	1.2E-14	9.7E-10	6.8E-10	--	--	4.8E-15	7.5E-15	7.0E-10	5.0E-10	--	--
Pyrene	6.8E-15	1.3E-14	1.0E-09	7.2E-10	--	--	5.0E-15	7.9E-15	7.3E-10	5.3E-10	--	--
Polychlorinated Biphenyls												
Total PCBs	4.0E-11	1.1E-10	2.6E-09	1.8E-09	--	--	3.0E-11	6.7E-11	1.9E-09	1.3E-09	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	2.5E-07	1.7E-07	--	--	--	--	1.8E-07	1.3E-07	--	--
TPH as motor oil	--	--	3.0E-07	2.1E-07	--	--	--	--	2.1E-07	1.5E-07	--	--
Dioxins/Furans												
TEQ Human	3.3E-15	6.8E-15	1.6E-13	1.2E-13	--	--	2.4E-15	4.3E-15	1.2E-13	8.5E-14	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

CDI = Chronic Daily Intake.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

5/21/2018

Table NORR-B2.2e

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food Using
NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 2 years)						Child Resident (2 to 6 years)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbon												
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	2.9E-12	5.4E-12	4.4E-07	3.1E-07	--	--	2.2E-12	3.4E-12	3.2E-07	2.3E-07	--	--
Polychlorinated Biphenyls												
Total PCBs	7.6E-08	2.0E-07	4.9E-06	3.5E-06	--	--	5.6E-08	1.3E-07	3.5E-06	2.5E-06	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	6.8E-02	4.8E-02	--	--	--	--	4.9E-02	3.5E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans												
TEQ Human	1.1E-12	2.3E-12	5.5E-11	3.9E-11	--	--	8.1E-13	1.4E-12	3.9E-11	2.8E-11	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.2f

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for COPCs in Home-Produced Food Using
 NoRR Area-Weighted Shallow Soil EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs)						Adult Resident (0 to 3 feet bgs)					
	Home-Produced Food						Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics												
Chromium, Hexavalent	--	--	9.3E-06	8.5E-05	3.0E-05	1.0E-03	--	--	7.7E-06	7.0E-05	2.5E-05	8.7E-04
Chromium, total	--	--	6.5E-08	7.8E-08	--	--	--	--	6.0E-08	7.2E-08	--	--
Cobalt	--	--	1.6E-08	2.0E-08	--	--	--	--	1.6E-08	1.9E-08	--	--
Copper	--	--	2.9E-08	3.4E-08	--	--	--	--	2.7E-08	3.2E-08	--	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	--	--	1.1E-07	1.3E-07	--	--	--	--	9.9E-08	1.2E-07	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	3.2E-16	5.2E-16	3.4E-11	4.1E-11	--	--	2.5E-15	4.0E-15	2.6E-10	3.2E-10	--	--
Fluoranthene	2.1E-15	3.3E-15	2.2E-10	2.6E-10	--	--	2.0E-15	3.2E-15	2.1E-10	2.6E-10	--	--
Phenanthrene	1.7E-15	2.7E-15	1.8E-10	2.2E-10	--	--	1.7E-15	2.7E-15	1.8E-10	2.2E-10	--	--
Pyrene	2.0E-15	3.2E-15	2.1E-10	2.6E-10	--	--	1.8E-15	2.9E-15	1.9E-10	2.3E-10	--	--
Polychlorinated Biphenyls												
Total PCBs	2.6E-12	6.0E-12	1.2E-10	1.4E-10	--	--	1.1E-11	2.4E-11	4.8E-10	5.8E-10	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	--	--	5.8E-08	7.0E-08	--	--	--	--	4.6E-08	5.5E-08	--	--
TPH as motor oil	--	--	6.2E-08	7.5E-08	--	--	--	--	5.5E-08	6.6E-08	--	--
Dioxins/Furans												
TEQ Human	1.2E-15	2.1E-15	4.1E-14	4.9E-14	--	--	8.7E-16	1.5E-15	3.1E-14	3.7E-14	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.2g

Baseline Scenario Dose Calculations for Noncarcinogenic Effects for Volatile COPCs in Home-Produced Food
Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 10 feet bgs)					
	Home-Produced Food					
	Dose: Ingestion of Poultry (mg/kg-day)	Dose: Ingestion of Eggs (mg/kg-day)	Dose: Ingestion of Exposed Produce (mg/kg-day)	Dose: Ingestion of Leafy Produce (mg/kg-day)	Dose: Ingestion of Protected Produce (mg/kg-day)	Dose: Ingestion of Root Produce (mg/kg-day)
Inorganics						
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV
Lead	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV
Pyrene	7.7E-13	1.2E-12	8.1E-08	9.8E-08	--	--
Polychlorinated Biphenyls						
Total PCBs	2.0E-08	4.6E-08	9.1E-07	1.1E-06	--	--
Total Petroleum Hydrocarbons						
TPH as diesel	--	--	1.3E-02	1.5E-02	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV
Dioxins/Furans						
TEQ Human	2.9E-13	5.1E-13	1.0E-11	1.2E-11	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg-day = milligrams per kilogram per day.

na = Not applicable. Potential exposure to lead is evaluated using dose calculations for noncarcinogenic effects of COPCs for a hypothetical future resident child and the California Environmental Protection Agency (Cal/EPA)

Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.3a
Baseline Scenario ILCRs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 3 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 6 feet bgs) ^a					Age-Adjusted Adult Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Chromium, Hexavalent	4.0E-08	NV	NA	1.2E-06	1.2E-06	3.3E-08	NV	NA	1.0E-06	1.0E-06	2.7E-08	NV	NA	8.1E-07	8.4E-07	2.2E-08	NV	NA	6.5E-07	6.7E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cobalt	1.9E-08	NV	NC	NC	1.9E-08	1.9E-08	NV	NC	NC	1.9E-08	1.9E-08	NV	NC	NC	1.9E-08	2.0E-08	NV	NC	NC	2.0E-08
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NS	NC	NS	NS	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Polychlorinated Biphenyls																				
Total PCBs	8.8E-12	6.8E-08	8.2E-08	1.7E-07	3.2E-07	3.6E-11	6.8E-08	3.3E-07	6.9E-07	1.1E-06	5.3E-11	6.8E-08	4.9E-07	1.0E-06	1.6E-06	3.3E-11	6.8E-08	3.0E-07	6.3E-07	1.0E-06
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	4.8E-10	1.2E-07	8.6E-07	8.9E-06	9.9E-06	3.5E-10	1.2E-07	6.4E-07	6.6E-06	7.4E-06	2.4E-10	1.2E-07	4.3E-07	4.5E-06	5.0E-06	2.1E-10	1.2E-07	3.8E-07	3.9E-06	4.4E-06
Cumulative ILCR	6E-08	2E-07	9E-07	1E-05	1E-05	5E-08	2E-07	1E-06	8E-06	1E-05	5E-08	2E-07	9E-07	6E-06	7E-06	4E-08	2E-07	7E-07	5E-06	6E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.3b
Baseline Scenario ILCRs for COPCs in Home-Produced Food Using NoRR Area-Weighted Soil EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 0.5 feet bgs)							Age-Adjusted Adult Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk
Inorganics														
Chromium, Hexavalent	--	--	1.1E-05	6.8E-05	2.7E-05	9.7E-04	1.1E-03	--	--	9.0E-06	5.7E-05	2.2E-05	8.1E-04	8.9E-04
Chromium, total	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Cobalt	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Fluoranthene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Phenanthrene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Polychlorinated Biphenyls														
Total PCBs	2.4E-12	6.6E-12	1.2E-10	1.2E-10	--	--	2.5E-10	9.9E-12	2.7E-11	5.0E-10	4.8E-10	--	--	1.0E-09
Total Petroleum Hydrocarbons														
TPH as diesel	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	NC	NC	--	NC	NC	NC	NC	NC	NC	--
Dioxins/Furans														
TEQ Human	7.1E-11	1.5E-10	2.8E-09	2.7E-09	--	--	5.6E-09	5.2E-11	1.1E-10	2.0E-09	2.0E-09	--	--	4.2E-09
Cumulative ILCR	7E-11	2E-10	1E-05	7E-05	3E-05	1E-03	1E-03	6E-11	1E-10	9E-06	6E-05	2E-05	8E-04	9E-04

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NC = Not considered a carcinogen.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.3c
Baseline Scenario ILCRs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs)
EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Age-Adjusted Adult Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Cancer Risk
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	NC	NC	NC	NC	NC	NC	--
Polychlorinated Biphenyls							
Total PCBs	1.9E-08	5.0E-08	9.4E-07	9.0E-07	--	--	1.9E-06
Total Petroleum Hydrocarbons							
TPH as diesel	NC	NC	NC	NC	NC	NC	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	1.7E-08	3.7E-08	6.8E-07	6.5E-07	--	--	1.4E-06
Cumulative ILCR	4E-08	9E-08	2E-06	2E-06	--	--	3E-06

Abbreviations:

-- = not calculated.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NC = Not considered a carcinogen.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.4a
Baseline Scenario HIs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs) ^a					Child Resident (0 to 3 feet bgs) ^a					Child Resident (0 to 6 feet bgs) ^a					Child Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Chromium, Hexavalent	2.6E-06	NV	NA	1.6E-03	1.6E-03	2.2E-06	NV	NA	1.3E-03	1.3E-03	1.7E-06	NV	NA	1.1E-03	1.1E-03	1.4E-06	NV	NA	8.5E-04	8.5E-04
Chromium, total	3.8E-09	NV	8.0E-06	2.8E-04	2.9E-04	3.5E-09	NV	7.4E-06	2.6E-04	2.6E-04	3.2E-09	NV	6.6E-06	2.3E-04	2.4E-04	2.7E-09	NV	5.8E-06	2.0E-04	2.1E-04
Cobalt	9.5E-04	NV	1.0E-02	3.5E-01	3.6E-01	9.5E-04	NV	1.0E-02	3.4E-01	3.5E-01	9.6E-04	NV	1.0E-02	3.5E-01	3.6E-01	9.8E-04	NV	1.0E-02	3.5E-01	3.7E-01
Copper	6.3E-08	NV	1.3E-04	4.6E-03	4.7E-03	5.9E-08	NV	1.2E-04	4.3E-03	4.4E-03	5.4E-08	NV	1.1E-04	3.9E-03	4.0E-03	5.0E-08	NV	1.0E-04	3.6E-03	3.7E-03
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	9.1E-10	NV	1.9E-06	6.6E-05	6.8E-05
Zinc	3.1E-08	NV	6.6E-05	2.3E-03	2.3E-03	2.9E-08	NV	6.1E-05	2.1E-03	2.2E-03	2.6E-08	NV	5.5E-05	1.9E-03	1.9E-03	2.4E-08	NV	5.1E-05	1.8E-03	1.8E-03
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	1.0E-10	NV	3.2E-06	7.2E-06	1.0E-05	7.7E-10	NV	2.4E-05	5.6E-05	8.0E-05	7.6E-10	NV	2.4E-05	5.5E-05	8.0E-05	7.6E-10	NV	2.4E-05	5.5E-05	7.9E-05
Fluoranthene	4.8E-10	NV	1.5E-05	3.5E-05	5.0E-05	4.7E-10	NV	1.5E-05	3.4E-05	4.9E-05	4.2E-10	NV	1.3E-05	3.1E-05	4.4E-05	4.6E-10	NV	1.5E-05	3.4E-05	4.8E-05
Phenanthrene	5.3E-11	NV	1.7E-06	3.8E-06	5.5E-06	5.3E-11	NV	1.7E-06	3.8E-06	5.5E-06	5.2E-11	NV	1.7E-06	3.8E-06	5.4E-06	5.3E-11	NV	1.7E-06	3.8E-06	5.5E-06
Pyrene	6.2E-10	2.4E-07	2.0E-05	4.5E-05	6.5E-05	5.6E-10	2.4E-07	1.8E-05	4.0E-05	5.8E-05	5.4E-10	2.4E-07	1.7E-05	3.9E-05	5.7E-05	5.4E-10	2.4E-07	1.7E-05	3.9E-05	5.7E-05
Polychlorinated Biphenyls																				
Total PCBs	5.2E-07	4.0E-03	1.6E-02	3.8E-02	5.8E-02	2.1E-06	4.0E-03	6.7E-02	1.5E-01	2.3E-01	3.1E-06	4.0E-03	9.8E-02	2.3E-01	3.3E-01	1.9E-06	4.0E-03	6.1E-02	1.4E-01	2.0E-01
Total Petroleum Hydrocarbons																				
TPH as diesel	1.6E-07	3.4E-02	5.4E-03	1.8E-02	5.8E-02	1.2E-07	3.4E-02	4.2E-03	1.5E-02	5.3E-02	8.5E-08	3.4E-02	2.9E-03	1.0E-02	4.7E-02	6.2E-08	3.4E-02	2.1E-03	7.3E-03	4.3E-02
TPH as motor oil	3.2E-08	NV	6.8E-04	2.3E-03	3.0E-03	2.9E-08	NV	6.0E-04	2.1E-03	2.7E-03	2.3E-08	NV	4.8E-04	1.7E-03	2.2E-03	1.8E-08	NV	3.7E-04	1.3E-03	1.7E-03
Dioxins/Furans																				
TEQ Human	8.4E-07	2.1E-04	7.6E-02	8.7E-01	9.5E-01	6.2E-07	2.1E-04	5.6E-02	6.5E-01	7.0E-01	4.2E-07	2.1E-04	3.8E-02	4.4E-01	4.8E-01	3.7E-07	2.1E-04	3.3E-02	3.8E-01	4.2E-01
Total Hazard Index	1E-03	4E-02	1E-01	1E+00	1E+00	1E-03	4E-02	1E-01	1E+00	1E+00	1E-03	4E-02	2E-01	1E+00	1E+00	1E-03	4E-02	1E-01	9E-01	1E+00

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.4b
Baseline Scenario HIs for COPCs in NoRR Soil Using Area-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs) ^a					Adult Resident (0 to 3 feet bgs) ^a					Adult Resident (0 to 6 feet bgs) ^a					Adult Resident (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Chromium, Hexavalent	2.6E-06	NV	NA	1.5E-04	1.5E-04	2.2E-06	NV	NA	1.2E-04	1.2E-04	1.7E-06	NV	NA	9.9E-05	1.0E-04	1.4E-06	NV	NA	8.0E-05	8.1E-05
Chromium, total	3.8E-09	NV	1.1E-06	2.6E-05	2.7E-05	3.5E-09	NV	1.0E-06	2.4E-05	2.5E-05	3.2E-09	NV	9.1E-07	2.1E-05	2.2E-05	2.7E-09	NV	7.9E-07	1.9E-05	1.9E-05
Cobalt	9.5E-04	NV	1.4E-03	3.2E-02	3.5E-02	9.5E-04	NV	1.4E-03	3.2E-02	3.5E-02	9.6E-04	NV	1.4E-03	3.3E-02	3.5E-02	9.8E-04	NV	1.4E-03	3.3E-02	3.6E-02
Copper	6.3E-08	NV	1.8E-05	4.3E-04	4.5E-04	5.9E-08	NV	1.7E-05	4.0E-04	4.2E-04	5.4E-08	NV	1.6E-05	3.7E-04	3.8E-04	5.0E-08	NV	1.4E-05	3.4E-04	3.5E-04
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NV	NS	NS	--	NS	NV	NS	NS	--	NS	NV	NS	NS	--	9.1E-10	NV	2.6E-07	6.2E-06	6.4E-06
Zinc	3.1E-08	NV	9.0E-06	2.1E-04	2.2E-04	2.9E-08	NV	8.3E-06	2.0E-04	2.0E-04	2.6E-08	NV	7.5E-06	1.8E-04	1.8E-04	2.4E-08	NV	7.0E-06	1.6E-04	1.7E-04
Polycyclic Aromatic Hydrocarbons																				
Benzo (ghi) perylene	1.0E-10	NV	4.3E-07	6.8E-07	1.1E-06	7.7E-10	NV	3.3E-06	5.2E-06	8.5E-06	7.6E-10	NV	3.3E-06	5.2E-06	8.5E-06	7.6E-10	NV	3.3E-06	5.2E-06	8.4E-06
Fluoranthene	4.8E-10	NV	2.0E-06	3.2E-06	5.3E-06	4.7E-10	NV	2.0E-06	3.2E-06	5.2E-06	4.2E-10	NV	1.8E-06	2.9E-06	4.7E-06	4.6E-10	NV	2.0E-06	3.1E-06	5.1E-06
Phenanthrene	5.3E-11	NV	2.3E-07	3.6E-07	5.9E-07	5.3E-11	NV	2.3E-07	3.6E-07	5.8E-07	5.2E-11	NV	2.3E-07	3.6E-07	5.8E-07	5.3E-11	NV	2.3E-07	3.6E-07	5.8E-07
Pyrene	6.2E-10	2.4E-07	2.7E-06	4.2E-06	7.2E-06	5.6E-10	2.4E-07	2.4E-06	3.8E-06	6.4E-06	5.4E-10	2.4E-07	2.3E-06	3.7E-06	6.3E-06	5.4E-10	2.4E-07	2.3E-06	3.7E-06	6.3E-06
Polychlorinated Biphenyls																				
Total PCBs	5.2E-07	4.0E-03	2.2E-03	3.5E-03	9.8E-03	2.1E-06	4.0E-03	9.1E-03	1.4E-02	2.8E-02	3.1E-06	4.0E-03	1.3E-02	2.1E-02	3.9E-02	1.9E-06	4.0E-03	8.3E-03	1.3E-02	2.5E-02
Total Petroleum Hydrocarbons																				
TPH as diesel	1.6E-07	3.4E-02	7.3E-04	1.7E-03	3.6E-02	1.2E-07	3.4E-02	5.8E-04	1.4E-03	3.6E-02	8.5E-08	3.4E-02	4.0E-04	9.4E-04	3.5E-02	6.2E-08	3.4E-02	2.9E-04	6.8E-04	3.5E-02
TPH as motor oil	3.2E-08	NV	9.2E-05	2.2E-04	3.1E-04	2.9E-08	NV	8.2E-05	1.9E-04	2.8E-04	2.3E-08	NV	6.6E-05	1.6E-04	2.2E-04	1.8E-08	NV	5.1E-05	1.2E-04	1.7E-04
Dioxins/Furans																				
TEQ Human	8.4E-07	2.1E-04	1.0E-02	8.2E-02	9.2E-02	6.2E-07	2.1E-04	7.7E-03	6.1E-02	6.9E-02	4.2E-07	2.1E-04	5.2E-03	4.1E-02	4.7E-02	3.7E-07	2.1E-04	4.5E-03	3.6E-02	4.1E-02
Total Hazard Index	1E-03	4E-02	1E-02	1E-01	2E-01	1E-03	4E-02	2E-02	1E-01	2E-01	1E-03	4E-02	2E-02	1E-01	2E-01	1E-03	4E-02	1E-02	8E-02	1E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NA = Not applicable. Hexavalent chromium is not absorbed via dermal contact.
NS = Not sampled.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.4c
Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Area-Weighted Soil EPCs: Hypothetical Future Resident Child

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Child Resident (0 to 0.5 feet bgs)							Child Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics														
Chromium, Hexavalent	--	--	1.4E-02	7.4E-02	2.8E-02	1.0E+00	1.1E+00	--	--	1.1E-02	6.1E-02	2.4E-02	8.5E-01	9.4E-01
Chromium, total	--	--	1.9E-07	1.4E-07	--	--	3.3E-07	--	--	1.8E-07	1.3E-07	--	--	3.0E-07
Cobalt	--	--	2.4E-04	1.7E-04	--	--	4.1E-04	--	--	2.4E-04	1.7E-04	--	--	4.0E-04
Copper	--	--	3.1E-06	2.2E-06	--	--	5.4E-06	--	--	2.9E-06	2.1E-06	--	--	5.0E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	--	--	1.6E-06	1.1E-06	--	--	2.7E-06	--	--	1.4E-06	1.0E-06	--	--	2.5E-06
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	3.4E-14	5.7E-14	5.0E-09	3.6E-09	--	--	8.5E-09	2.6E-13	4.4E-13	3.8E-08	2.7E-08	--	--	6.6E-08
Fluoranthene	1.6E-13	2.7E-13	2.4E-08	1.7E-08	--	--	4.1E-08	1.6E-13	2.7E-13	2.3E-08	1.7E-08	--	--	4.0E-08
Phenanthrene	1.8E-14	3.0E-14	2.6E-09	1.9E-09	--	--	4.5E-09	1.8E-14	3.0E-14	2.6E-09	1.9E-09	--	--	4.5E-09
Pyrene	2.1E-13	3.5E-13	3.1E-08	2.2E-08	--	--	5.3E-08	1.9E-13	3.2E-13	2.8E-08	2.0E-08	--	--	4.7E-08
Polychlorinated Biphenyls														
Total PCBs	4.1E-07	9.9E-07	2.6E-05	1.9E-05	--	--	4.6E-05	1.7E-06	4.0E-06	1.1E-04	7.6E-05	--	--	1.9E-04
Total Petroleum Hydrocarbons														
TPH as diesel	--	--	1.3E-05	9.1E-06	--	--	2.2E-05	--	--	1.0E-05	7.2E-06	--	--	1.7E-05
TPH as motor oil	--	--	1.6E-06	1.1E-06	--	--	2.7E-06	--	--	1.4E-06	1.0E-06	--	--	2.4E-06
Dioxins/Furans														
TEQ Human	5.2E-06	9.8E-06	2.6E-04	1.8E-04	--	--	4.6E-04	3.9E-06	7.3E-06	1.9E-04	1.4E-04	--	--	3.4E-04
Total Hazard Index	6E-06	1E-05	1E-02	7E-02	3E-02	1E+00	1E+00	6E-06	1E-05	1E-02	6E-02	2E-02	8E-01	9E-01

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.4d

**Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs:
Hypothetical Future Resident Child**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

COPC	Child Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	8.0E-11	1.4E-10	1.2E-05	8.5E-06	--	--	2.0E-05
Polychlorinated Biphenyls							
Total PCBs	3.1E-03	7.6E-03	2.0E-01	1.4E-01	--	--	3.5E-01
Total Petroleum Hydrocarbons							
TPH as diesel	--	--	2.8E+00	2.0E+00	--	--	4.7E+00
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	1.3E-03	2.4E-03	6.3E-02	4.5E-02	--	--	1.1E-01
Total Hazard Index	4E-03	1E-02	3E+00	2E+00	--	--	5E+00

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

5/21/2018

Table NORR-B2.4e
Baseline Scenario HIs for COPCs in Home-Produced Food Using NoRR Area-Weighted EPCs: Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 0.5 feet bgs)							Adult Resident (0 to 3 feet bgs)						
	Home-Produced Food							Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics														
Chromium, Hexavalent	--	--	3.1E-03	2.8E-02	1.0E-02	3.5E-01	3.9E-01	--	--	2.6E-03	2.3E-02	8.4E-03	2.9E-01	3.2E-01
Chromium, total	--	--	4.3E-08	5.2E-08	--	--	9.6E-08	--	--	4.0E-08	4.8E-08	--	--	8.9E-08
Cobalt	--	--	5.4E-05	6.5E-05	--	--	1.2E-04	--	--	5.4E-05	6.5E-05	--	--	1.2E-04
Copper	--	--	7.2E-07	8.6E-07	--	--	1.6E-06	--	--	6.7E-07	8.1E-07	--	--	1.5E-06
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Orthophosphate	NS	NS	NS	NS	NS	NS	--	NS	NS	NS	NS	NS	NS	--
Zinc	--	--	3.6E-07	4.3E-07	--	--	7.9E-07	--	--	3.3E-07	3.9E-07	--	--	7.2E-07
Polycyclic Aromatic Hydrocarbons														
Benzo (ghi) perylene	1.1E-14	1.7E-14	1.1E-09	1.4E-09	--	--	2.5E-09	8.3E-14	1.3E-13	8.8E-09	1.1E-08	--	--	1.9E-08
Fluoranthene	5.1E-14	8.2E-14	5.4E-09	6.5E-09	--	--	1.2E-08	5.0E-14	8.0E-14	5.3E-09	6.4E-09	--	--	1.2E-08
Phenanthrene	5.7E-15	9.1E-15	6.0E-10	7.2E-10	--	--	1.3E-09	5.7E-15	9.1E-15	6.0E-10	7.2E-10	--	--	1.3E-09
Pyrene	6.7E-14	1.1E-13	7.1E-09	8.5E-09	--	--	1.6E-08	6.0E-14	9.5E-14	6.3E-09	7.6E-09	--	--	1.4E-08
Polychlorinated Biphenyls														
Total PCBs	1.3E-07	3.0E-07	5.9E-06	7.1E-06	--	--	1.3E-05	5.4E-07	1.2E-06	2.4E-05	2.9E-05	--	--	5.5E-05
Total Petroleum Hydrocarbons														
TPH as diesel	--	--	2.9E-06	3.5E-06	--	--	6.4E-06	--	--	2.3E-06	2.7E-06	--	--	5.0E-06
TPH as motor oil	--	--	3.7E-07	4.4E-07	--	--	8.0E-07	--	--	3.3E-07	3.9E-07	--	--	7.2E-07
Dioxins/Furans														
TEQ Human	1.7E-06	3.0E-06	5.9E-05	7.1E-05	--	--	1.3E-04	1.2E-06	2.2E-06	4.4E-05	5.2E-05	--	--	9.9E-05
Total Hazard Index	2E-06	3E-06	3E-03	3E-02	1E-02	3E-01	4E-01	2E-06	3E-06	3E-03	2E-02	8E-03	3E-01	3E-01

Abbreviations:
-- = not calculated. Not applicable for this food product.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.
NS = Not sampled.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table NORR-B2.4f

Baseline Scenario HIs for Volatile COPCs in Home-Produced Food Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs:
Hypothetical Future Resident Adult

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Adult Resident (0 to 10 feet bgs)						
	Home-Produced Food						
	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Total Hazard Index
Inorganics							
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	--
Chromium, total	NV	NV	NV	NV	NV	NV	--
Cobalt	NV	NV	NV	NV	NV	NV	--
Copper	NV	NV	NV	NV	NV	NV	--
Lead	na	na	na	na	na	na	na
Orthophosphate	NV	NV	NV	NV	NV	NV	--
Zinc	NV	NV	NV	NV	NV	NV	--
Polycyclic Aromatic Hydrocarbons							
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	--
Fluoranthene	NV	NV	NV	NV	NV	NV	--
Phenanthrene	NV	NV	NV	NV	NV	NV	--
Pyrene	2.6E-11	4.1E-11	2.7E-06	3.3E-06	--	--	6.0E-06
Polychlorinated Biphenyls							
Total PCBs	1.0E-03	2.3E-03	4.6E-02	5.5E-02	--	--	1.0E-01
Total Petroleum Hydrocarbons							
TPH as diesel	--	--	6.3E-01	7.5E-01	--	--	1.4E+00
TPH as motor oil	NV	NV	NV	NV	NV	NV	--
Dioxins/Furans							
TEQ Human	4.1E-04	7.3E-04	1.4E-02	1.7E-02	--	--	3.3E-02
Total Hazard Index	1E-03	3E-03	7E-01	8E-01	--	--	2E+00

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HI = Hazard Index

na = Not applicable. Potential exposure to lead is evaluated using California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control's (DTSC) LeadSpread model. Please see text for discussion.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-B2.5a

Baseline Scenario Risk Evaluation for Lead in NoRR Surface Soil (0 to 0.5 feet bgs) Using Area-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

[Click here for ABBREVIATED INSTRUCTIONS FOR LEADSPREAD 8](#)

INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	8.7
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.061	0.112	0.13	0.16	0.18
BLOOD Pb, PICA CHILD	0.122	0.22	0.26	0.32	0.37

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	5.0E-04	1%		5.0E-04	0.4%
Soil Ingestion	7.0E-3	6.1E-02	99%	1.4E-2	1.2E-01	100%
Inhalation	2.0E-6	1.7E-05	0.03%		1.7E-05	0.01%

Table NORR-B2.5b

Baseline Scenario Risk Evaluation for Lead in NoRR Shallow Soil (0 to 3 feet bgs) Using Area-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	7.5
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

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OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.054	0.098	0.12	0.14	0.16
BLOOD Pb, PICA CHILD	0.107	0.19	0.23	0.28	0.32

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	4.4E-04	1%		4.4E-04	0.4%
Soil Ingestion	7.0E-3	5.3E-02	99%	1.4E-2	1.1E-01	100%
Inhalation	2.0E-6	1.5E-05	0.03%		1.5E-05	0.01%

Table NORR-B2.5c

Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface I Soil (0 to 6 feet bgs) Using Area-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	6.1
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

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OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.044	0.080	0.09	0.11	0.13
BLOOD Pb, PICA CHILD	0.087	0.16	0.19	0.23	0.26

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	3.6E-04	1%		3.6E-04	0.4%
Soil Ingestion	7.0E-3	4.3E-02	99%	1.4E-2	8.6E-02	100%
Inhalation	2.0E-6	1.2E-05	0.03%		1.2E-05	0.01%

Table NORR-B2.5d

Baseline Scenario Risk Evaluation for Lead in NoRR Subsurface II Soil (0 to 10 feet bgs) Using Area-Weighted EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

LEAD RISK ASSESSMENT SPREADSHEET 8
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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INPUT	
MEDIUM	LEVEL
Lead in Soil/Dust (ug/g)	4.7
Respirable Dust (ug/m ³)	1.5

EXPOSURE PARAMETERS		
	units	children
Days per week	days/wk	7
Geometric Standard Deviation		1.6
Blood lead level of concern (ug/dl)		1
Skin area, residential	cm ²	2900
Soil adherence	ug/cm ²	200
Dermal uptake constant	(ug/dl)/(ug/day)	0.0001
Soil ingestion	mg/day	100
Soil ingestion, pica	mg/day	200
Ingestion constant	(ug/dl)/(ug/day)	0.16
Bioavailability	unitless	0.44
Breathing rate	m ³ /day	6.8
Inhalation constant	(ug/dl)/(ug/day)	0.192

[Click here for REFERENCES](#)

OUTPUT					
Percentile Estimate of Blood Pb (ug/dl)					
	50th	90th	95th	98th	99th
BLOOD Pb, CHILD	0.033	0.061	0.07	0.09	0.10
BLOOD Pb, PICA CHILD	0.066	0.12	0.14	0.17	0.20

PATHWAYS						
CHILDREN	typical			with pica		
	Pathway contribution			Pathway contribution		
	PEF	ug/dl	percent	PEF	ug/dl	percent
Soil Contact	5.8E-5	2.7E-04	1%		2.7E-04	0.4%
Soil Ingestion	7.0E-3	3.3E-02	99%	1.4E-2	6.6E-02	100%
Inhalation	2.0E-6	9.2E-06	0.03%		9.2E-06	0.01%

Table NORR-B2.5e
Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs)
Area-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Parameter	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Units	Reference
Total Lead Concentration in Animal Product/Homegrown Produce (C_i)	1.2E-04	1.1E-05	6.1E-02	6.9E-02	2.6E-02	3.5E-02	mg/kg	See Tables 6a through 7c
DOSE TO FUTURE CHILD RESIDENT								
Consumption(0<2yr)	2.9E+00	6.1E+00	1.2E+01	3.8E+00	5.9E+00	5.7E+00	g product/ kg BW-day	Point estimates for average consumption (OEHHA 2015, Table 5.15) (a)
Consumption(2-6yr)	2.2E+00	3.9E+00	7.4E+00	2.5E+00	4.7E+00	3.9E+00		
Fraction of Food Intake that is Home-Produced	1.51E-01	2.14E-01	2.35E-01	2.35E-01	2.35E-01	2.35E-01	unitless	Point estimates for households that farm (OEHHA 2015, Table 5.17)
$DOSE_{fa}(0<2yr)$	5.2E-08	1.4E-08	1.6E-04	5.9E-05	3.5E-05	4.4E-05	mg/kg-day	Calculated value (b)
$DOSE_{fa}(2-6yr)$	3.9E-08	9.2E-09	1.0E-04	3.9E-05	2.8E-05	3.0E-05	mg/kg-day	Calculated value (b)
Time-Weighted Average Dose	4.4E-08	1.1E-08	1.2E-04	4.6E-05	3.0E-05	3.5E-05	mg/kg-day	Calculated value
Daily Intake	6.5E-07	1.6E-07	1.8E-03	6.9E-04	4.5E-04	5.3E-04	mg/day	Calculated value (c)
BLOOD LEAD LEVEL								
Total Daily Intake	0.0035						mg/day	Calculated value
Ingestion Constant	0.16						$\mu\text{g/dl}$ per $\mu\text{g/day}$	DTSC 2009
Average Blood Lead Level (PbB)	0.56						$\mu\text{g/dl}$	Calculated value
Blood Lead Level, Geometric Standard Deviation	1.6						$\mu\text{g/dl}$	DTSC 2009
Blood Lead Level, 90th Percentile	1.0						$\mu\text{g/dl}$	Calculated value

Notes:

- (a) Average, rather than high-end, consumption rates are used as inputs for lead risk assessment. Reasonable maximum inputs are not recommended for use with the lead model because the model considers the distribution of blood lead, which reflects variation in exposure parameters (DTSC 2011).
- (b) Dose is calculated as follows: $C_i \times L \times \text{Consumption} \times \text{Conversion Factor}$ (1×10^{-3} g/kg to mg/kg for C_i term) $\times EF/365$ days per year, where EF is 350 exposure days per year.
- (c) Daily intake is calculated as follows: Time-weighted average dose (mg/kg-day) $\times 15$ kg body weight. Body weight value corresponds to Cal/EPA default value for child receptors (DTSC 2014).

Abbreviations:

BW = body weight.
g = grams
 m^3 = cubic meters
mg/kg = milligrams per kilogram.
 $\mu\text{g/dl}$ = micrograms per deciliter.
 $\mu\text{g/kg}$ = micrograms per kilogram.

Table NORR-B2.5e
Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Surface Soil (0 to 0.5 feet bgs)
Area-Weighted EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

References:

Department of Toxic Substances Control (DTSC). 2011. *Leadsread 8*. Available at: <http://www.dtsc.ca.gov/AssessingRisk/leadsread8.cfm>.
DTSC. 2014. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California*
Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program. 2015. *Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk*
United States Environmental Protection Agency (USEPA). 2002. *Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. Office of Solid Waste and*
Emergency Response. Washington, D.C., December.

Table NORR-B2.5f
Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs)
Area-Weighted EPCs: Hypothetical Future Resident
Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Parameter	Poultry	Eggs	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Units	Reference
Total Lead Concentration in Animal Product/Homegrown Produce	1.1E-04	1.0E-05	5.3E-02	6.0E-02	2.3E-02	3.0E-02	mg/kg	See Tables 6a through 7c
DOSE TO FUTURE CHILD RESIDENT								
Consumption(0<2yr)	2.9E+00	6.1E+00	1.2E+01	3.8E+00	5.9E+00	5.7E+00	g product/ kg BW-day	Point estimates for average consumption (OEHHA 2015, Table 5.15) (a)
Consumption(2-6yr)	2.2E+00	3.9E+00	7.4E+00	2.5E+00	4.7E+00	3.9E+00		
Fraction of Food Intake that is Home-Produced	1.51E-01	2.14E-01	2.35E-01	2.35E-01	2.35E-01	2.35E-01	unitless	Point estimates for households that farm (OEHHA 2015, Table 5.17)
DOSE _{fa} (0<2yr)	4.5E-08	1.2E-08	1.4E-04	5.2E-05	3.0E-05	3.9E-05	mg/kg-day	Calculated value (b)
DOSE _{fa} (2-6yr)	3.4E-08	8.0E-09	8.8E-05	3.4E-05	2.4E-05	2.7E-05	mg/kg-day	Calculated value (b)
Time-Weighted Average Dose	3.8E-08	9.5E-09	1.1E-04	4.0E-05	2.6E-05	3.1E-05	mg/kg-day	Calculated value
Daily Intake	5.7E-07	1.4E-07	1.6E-03	6.0E-04	3.9E-04	4.6E-04	mg/day	Calculated value (c)
BLOOD LEAD LEVEL								
Total Daily Intake	0.0030						mg/day	Calculated value
Ingestion Constant	0.16						µg/dl per µg/day	DTSC 2011
Average Blood Lead Level (PbB)	0.48						µg/dl	Calculated value
Blood Lead Level, Geometric Standard Deviation	1.6						µg/dl	DTSC 2011
Blood Lead Level, 90th Percentile	0.9						µg/dl	Calculated value

Notes:

(a) Average, rather than high-end, consumption rates are used as inputs for lead risk assessment. Reasonable maximum inputs are not recommended for use with the lead model because the model considers the distribution of blood lead, which reflects variation in exposure parameters (DTSC 2011).

(b) Dose is calculated as follows: $C_i \times L \times \text{Consumption} \times \text{Conversion Factor}$ (1×10^{-3} g/kg to mg/kg for C_i term) \times EF/365 days per year, where EF is 350 exposure days per year.

(c) Daily intake is calculated as follows: Time-weighted average dose (mg/kg-day) \times 15 kg body weight. Body weight value corresponds to Cal/EPA default value for child receptors (DTSC 2014).

Abbreviations:

BW = body weight.

g = grams

m³ = cubic meters

mg/kg = milligrams per kilogram.

µg/dl = micrograms per deciliter.

µg/kg = micrograms per kilogram.

Table NORR-B2.5f

Baseline Scenario Risk Evaluation for Lead in Home-Produced Food Using NoRR Shallow Soil (0 to 3 feet bgs)

Area-Weighted EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

References:

Department of Toxic Substances Control (DTSC). 2011. *Leadsread 8*. Available at: <http://www.dtsc.ca.gov/AssessingRisk/leadsread8.cfm>.

DTSC. 2014. *DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California*
Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program. 2015. *Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments*. February.

ATTACHMENT C

Methodology for the Evaluation of Home-Produced Food at North of the Railroad



Pacific Gas and Electric Company

APPENDIX NORR ATTACHMENT C – METHODOLOGY USED FOR EVALUATION OF RESIDENTIAL EXPOSURE TO HOME-PRODUCED FOOD

Topock Compressor Station
Needles, California

1 INTRODUCTION

As stated in the RAWP (Arcadis 2008) and the RAWP Addendum 2 (Arcadis 2015), residential uses of Department of Interior (DOI) land managed by Bureau of Land Management (BLM) located within the north of the railroad (NORR) potential exposure area are included in the human health risk assessment (HHRA), even though future unrestricted use is unlikely (DOI 2014b). As requested, the future unrestricted land use scenario was evaluated as the hypothetical future resident as a rural resident who obtains a significant portion of his/her diet from onsite produced food including vegetables, fruits, and poultry. Chemicals in soil could partition into these foods, as described in the RAWP (Arcadis 2008). In agreement with DOI for evaluation of the BLM managed land, the uptake into home-produced food was evaluated using the uptake model from the Office of Environmental Health Hazard Assessment (OEHHA) Toxic Hot Spots Program (OEHHA 2015). This attachment summarizes the HHRA methodologies specific to the evaluation of the hypothetical future resident exposed to constituents of potential concern (COPCs) through ingestion of home-produced food. The HHRA summary of results and conclusions for hypothetical future resident ingestion of home-produced food for the NORR potential exposure area are presented in Appendix NORR and associated dose, risk, and hazard calculation tables are presented in Attachments NORR-B1 and NORR-B2 for depth- and area-weighted exposure point concentrations (EPCs), respectively.

2 METHODOLOGY

An analysis of the ingestion of plant and animal products as a pathway for potential exposure to contaminated soil was conducted based on the California Environmental Protection Agency (CalEPA) OEHHA in the Air Toxics Hot Spots Guidelines (OEHHA 2015). Section 5 of the Hot Spots Guidance provides equations for calculating the exposure of humans to COPCs through ingestion of plants and animals impacted by COPCs. First, uptake of COPCs by plants and animals is estimated using equations and COPC-specific values presented in Table NORR-C.1a through Table NORR-C.3. Second, the ingestion of these plant and animal products is calculated to estimate human exposure to COPCs using equations and food ingestion rates to calculate dose as presented in Table NORR-C.4 and Table NORR-C.5, respectively.

2.1 Exposure Concentrations

COPC concentrations in home-produced food were estimated using equations presented in Tables NORR-C.1a through NORR-C.2b. COPC-specific parameters used to calculate COPC concentrations in home-produced food are presented in Table NORR-C.3.

Plant COPC concentrations are based on the following:

- Root uptake from soil;
- Deposition of wind-blown dust onto plant parts; and
- Deposition of volatile chemicals in outdoor air onto plant parts.

Estimated COPC concentrations in plants calculated using depth-weighted soil EPCs for surface and shallow soil and volatile COPCs in subsurface II soil are summarized in Tables NORR-C.6a through NORR-C.6c.

Estimated COPC concentrations in plants calculated using area-weighted soil EPCs for surface and shallow soil and volatile COPCs in subsurface II soil are summarized in Tables NORR-C.12a through NORR-C.12c.

Animal COPC concentrations are based the following:

- Uptake from ingestion of soil;
- Uptake from inhalation of wind-blown dust;
- Uptake from inhalation of volatile chemicals in outdoor air; and
- Uptake from ingestion of plants impacted by soil.

Estimated COPC concentrations in animal products calculated using depth-weighted soil EPCs for surface and shallow soil and volatile COPCs in subsurface II soil are summarized in Tables NORR-C.7a through NORR-C.7c.

APPENDIX NORR

HHRA FOR NORTH OF RAILROAD EXPOSURE AREA

Estimated COPC concentrations in animal products calculated using area-weighted soil EPCs for surface and shallow soil and volatile COPCs in subsurface II soil are summarized in Tables NORR-C.13a through NORR-C.13c.

2.2 Estimation of Dose

Dose for carcinogenic and non-carcinogenic effects for COPCs in home-produced food were calculated using the equation presented in Table NORR-C.4. Age-specific food ingestion rates used to calculate dose are presented in Table NORR-C.5.

The calculated dose from home-produced food values using depth-weighted soil EPCs for the exposure scenarios evaluated in the HHRA are presented in Tables NORR-B1.1c through NORR-B1.1d (carcinogenic effects) and Tables NORR-B1.2c through NORR-B1.2g (noncarcinogenic effects) in Attachment NORR-B1.

The calculated dose from home-produced food values using area-weighted soil EPCs for the exposure scenarios evaluated in the HHRA are presented in Tables NORR-B2.1c through NORR-B2.1d (carcinogenic effects) and NORR-B2.2c through NORR-B2.2g (noncarcinogenic effects) in Attachment NORR-B2.

2.3 Estimation of Cancer Risk and Non-Cancer Hazard

As described in Section 4.6 of Appendix NORR and Section 5.5.1 of the main report, estimated incremental lifetime cancer risks (ILCRs) and/or non-cancer hazard quotients (HQs) were calculated for each COPC and potentially complete exposure pathway.

For hypothetical future resident ingestion of home-produced food, the equations below describe the established relationship between estimated dose, toxicity, and risk for carcinogenic health effects. For exposures occurring via ingestion of plant or animal food products, the relationship for carcinogenic effects is given by the following equation (OEHHA 2015):

$$ILCR_{(0 \text{ to } 26 \text{ years})} = CSF \times \frac{1}{AT_c} \times \left(\begin{array}{l} [DOSE_{fa(0-2 \text{ years})} \times ADAF \times ED_{(0-2 \text{ years})}] + \\ [DOSE_{fa(2-16 \text{ years})} \times ADAF \times ED_{(2-16 \text{ years})}] + \\ [DOSE_{fa(16-26 \text{ years})} \times ADAF \times ED_{(16-26 \text{ years})}] \end{array} \right)$$

Where:

ILCR	=	Incremental lifetime cancer risk; the incremental probability of an individual developing cancer as a result of exposure to a particular cumulative concentration of a potential carcinogen (unitless);
CSF	=	Cancer Slope Factor; the toxicity value which indicates the upper limit on ILCR per unit of dose of chemical (mg chemical/kg body weight-day) ⁻¹ .
ADAF	=	Age-dependent adjustment factor for carcinogens that are also considered mutagens as indicated in Section 5.4.1 of the main report. Hexavalent chromium is the only carcinogenic COPC evaluated as a

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HHRA FOR NORTH OF RAILROAD EXPOSURE AREA

mutagen for the NORR potential exposure area. Age-dependent adjustment factors are as follows: 10 for the 0 to 2 year age group; 3 for the 2 to 16 age group and 1 for the 16 to 26 year age group. For non-mutagenic carcinogens, age dependent adjustment factors are assumed to be 1 for all age groups (i.e., there is no adjustment for toxicity by age).

$DOSE_{fa}$	=	Exposure dose through ingestion of animal product (mg chemical/kg body weight-day);
ED	=	Exposure duration for specified age group (years); and
AT_c	=	Averaging time for ILCR (70 years)

The equations below describe the established relationship between estimated intake, toxicity, and non-cancer hazard. For exposures occurring via ingestion of plant or animal food products, the relationship for noncarcinogenic effects is given by the following equation (OEHHA 2015):

$$HQ_{(child)} = \frac{1}{RfD} \times \frac{1}{AT_{nc}} \times (DOSE_{fa(0-2years)} \times ED_{(0-2years)} + DOSE_{fa(2-6years)} \times ED_{(2-6years)})$$

$$HQ_{(Adult)} = \frac{1}{RfD} \times \frac{1}{AT_{nc}} \times (DOSE_{fa(>16years)} \times ED_{(26years)})$$

Where:

Hazard Quotient	=	Hazard Quotient (HQ); an expression of the potential for a chemical to cause noncarcinogenic effects, which relates the allowable amount of a chemical (RfD) to the estimated Site-specific intake (unitless);
$DOSE_{fa}$	=	Exposure dose through ingestion of animal product (mg chemical/kg body weight-day);
ED	=	Exposure duration for specified age group (years); and
AT_{nc}	=	Averaging time for HQ (total ED for all age groups in years)
RfD	=	Reference dose; the toxicity value indicating the threshold amount of chemical contacted below which no adverse health effects are expected (mg chemical/kg body weight-day).

2.4 Lead Risk Assessment

For exposure to lead in soil, the risk characterization for the hypothetical future residential scenarios uses the latest version of the California Department of Toxic Substances Control's (DTSC) LeadSpread (DTSC 2011b, 2011c), Version 8, to evaluate blood lead levels in child receptors that would result from with regular contact with lead in soil assuming potential exposure via ingestion of home-produced food. Lead concentrations in home-produced food were estimated as for other COPCs as described in Section 2.1 above. Equations and input parameters for lead risk assessment for ingestion of home-produced food are presented in Attachment B tables as noted below.

APPENDIX NORR HHRA FOR NORTH OF RAILROAD EXPOSURE AREA

The dose calculations and corresponding blood lead levels for exposure to lead through ingestion of home-produced food using depth-weighted soil EPCs are presented in Tables NORR-B1.5e and NORR-B1.5f in Attachment NORR-B1

The dose calculations and corresponding blood lead levels for exposure to lead through ingestion of home-produced food using area-weighted soil EPCs are presented in Tables NORR-B2.5e and NORR-B2.5f in Attachment NORR-B2.

3 REFERENCES

- Arcadis. 2008. Human Health and Ecological Risk Assessment Work Plan (RAWP), Topock Compressor Station, Needles, California. August.
- Arcadis. 2015. Final Human Health and Ecological Risk Assessment Work Plan Addendum 2. Topock Compressor Station, Needles, California. June.
- Department of Interior (DOI). 2014. Technical Memorandum. Recreational Visitor Exposure Scenario, Federal Land. Topock Compressor Site, California. April.
- Office of Environmental Health Hazard Assessment (OEHHA). 2012. Air Toxics Hot Spots Risk Assessment Guidelines Technical Support Document for Exposure Assessment and Stochastic Analysis. Scientific Review Panel Draft. California Environmental Protection Agency.
- OEHHA. 2015. Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Risk Assessments. February

Attachment NORR-C

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at NoRR: Homegrown Produce and Animal Products

Tables

NORR-C.1a	Equations used to Calculate Concentrations of COPCs in Homegrown Produce
NORR-C.1b	Equations used to Calculate Concentrations of Volatile COPCs in Homegrown Produce
NORR-C.2a	Equations used to Calculate Concentrations of COPCs in Animal Products
NORR-C.2b	Equations used to Calculate Concentrations of Volatile COPCs in Animal Products
NORR-C.3	COPC-Specific Default Values for Home-Produced Food Exposure Pathways
NORR-C.4	Equation used to Calculate Dose from Ingestion of Home-Produced Food: Hypothetical Future Resident
NORR-C.5	Food Ingestion Rates for Home-Produced Food
NORR-C.6a	Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.6b	Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.6c	Baseline Scenario Calculations for Concentrations of Volatile COPCs in Homegrown Produce Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.7a	Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.7b	Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.7c	Baseline Scenario Calculations for Concentrations of Volatile COPCs in Animal Products Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.8a	Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.8b	Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.8c	Baseline Scenario Calculations for Concentrations of Volatile COPCs in Homegrown Produce Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.9a	Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.9b	Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident
NORR-C.9c	Baseline Scenario Calculations for Concentrations of Volatile COPCs in Animal Products Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident

Table NORR-C.1a

Equations used to Calculate Concentrations of COPCs in Homegrown Produce

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Concentration of COPC in Produce

$$C_p = C_{dep} + C_{trans}$$

$$C_{dep} = \frac{Dep \times IF}{k \times Y} \times (1 - e^{-kT})$$

$$Dep = C_{air} \times Dep\text{-}rate \times 86,400 \text{ s/day}$$

$$C_{air} = \frac{C_s}{PEF}$$

$$C_{trans} = UF \times C_s$$

Where:

C_{air} = Concentration of chemical in air. Calculated as the outdoor airborne particulate concentration (Tables 4.2a through 4.2b) [mg/m³].

C_{dep} = Concentration of COPC in plant/produce due to direct deposition; equal to zero for protected and root crops [mg/kg]

C_p = Concentration of COPC in plant/produce [mg/kg]

C_s = Concentration of COPC in surface or shallow soil [mg/kg]

C_{trans} = Concentration of COPC in plant/produce due to translocation [mg/kg]

Dep = Deposition rate on affected vegetation per day [mg/m²-day]

Dep-rate = Default value for deposition on affected vegetation from uncontrolled sources [0.05 m/s]

IF = Interception Fraction [0.2 for leafy crops, 0.1 for exposed crops, unitless]

k = Weathering Constant [0.1, days⁻¹]

PEF = Soil-to-Air Particulate Emission Factor [m³/kg]

T = Growth period [45 days for leafy crops, 90 days for exposed crops]

UF = COPC-specific root uptake factor [unitless]

Y = Yield [2 kg/m²]

Table NORR-C.1b**Equations used to Calculate Concentrations of Volatile COPCs in Homegrown Produce****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California**Concentration of COPC in Produce from Deposition of Volatile COPCs
in Outdoor Air

$$C_{p,vol} = C_{dep}$$

$$C_{dep} = \frac{Dep \times IF}{k \times Y} \times (1 - e^{-kT})$$

$$Dep = C_{air} \times Dep\text{-rate} \times 86,400 \text{ s/day}$$

$$C_{air} = \frac{C_{s,all}}{VF}$$

Where:

C_{air} = Concentration of COPC in air. Calculated as the outdoor vapor concentration (Tables 4.2a through 4.2d) [mg/m³].

C_{dep} = Concentration of COPC in plant/produce due to direct deposition; equal to zero for protected and root crops [mg/kg]

$C_{s, all}$ = Concentration of COPC in subsurface II soil [mg/kg]

$C_{p,vol}$ = Concentration of COPC in plant/produce due to deposition of volatile COPCs in outdoor onto plant tissues [mg/kg]

Dep = Deposition rate on affected vegetation per day [mg/m²-day]

Dep-rate = Default value for deposition on affected vegetation from uncontrolled sources [0.05 m/s]

IF = Interception Fraction [0.2 for leafy crops, 0.1 for exposed crops, unitless]

k = Weathering Constant [0.1, days⁻¹]

T = Growth period [45 days for leafy crops, 90 days for exposed crops]

VF = Soil-to-Air Volatilization Factor [m³/kg]

Y = Yield [2 kg/m²]

Table NORR-C.2a
Equations used to Calculate Concentrations of COPCs in Animal Products

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

<p><u>Concentration of COPC in Animal Food Product</u></p> $C_{fa} = D_{total} \times T_{co}$
<p>Total dose to food animal (D_{total})</p> $D_{total} = D_{past} + D_{feed} + D_{soil} + D_{inh}$
<p><i>Dose Through Ingestion of Feed (D_{feed})</i></p> $D_{feed} = C_{feed} \times (1-FG) \times L \times FI$ <p>Where:</p> $C_{feed} = C_{p(avg)}$ <p><i>Dose to Animal Through Ingestion of Pasture (D_{past})</i></p> <p><i>Default for poultry assumes no pasture grazing.</i></p>
<p><i>Dose to Animal Through Ingestion of Soil (D_{soil})</i></p> <p><i>Default for poultry assumes soil ingestion is equal to zero.</i></p>
<p><i>Dose to Animal Through Inhalation (D_{inh})</i></p> $D_{inh} = BR \times C_{air}$

Table NORR-C.2a

Equations used to Calculate Concentrations of COPCs in Animal Products

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Where:

BR = Breathing rate of food animal [$0.4 \text{ m}^3/\text{day}$ for all poultry]

C_{air} = Concentration of COPC in air. Calculated as the outdoor air particulate concentration (Tables 4.2a and 4.2b) [mg/m^3].

C_{fa} = Concentration of COPC in food animal [mg/kg]

C_{p} = Concentration of COPC in plant/produce [mg/kg]

$C_{\text{p(avg)}}$ = Concentration of COPC in plant/produce, averaged across all plant types (i.e., exposed, leafy, protected, and root) [mg/kg]

D_{inh} = Total dose to food animal through inhalation [kg/day]

D_{feed} = Total dose to food animal through feed ingestion [kg/day]

D_{past} = Total dose to food animal through pasture grazing [kg/day]

D_{soil} = Total dose to food animal through ingestion of soil [kg/day]

D_{total} = Total Dose of COPC to food animal [kg/day]

FG = Fraction of animal diet provided by grazing [0% for all poultry]

FI = Animal daily food intake [0.13 for meat poultry, 0.12 for egg-laying poultry, kg/day]

L = Fraction of feed that is grown on-Site [5% for all poultry]

T_{co} = COPC-specific food animal transfer coefficient [d/kg ; see Tables 5a through 5c for COPC-specific values]

Table NORR-C.2b

Equations used to Calculate Concentrations of Volatile COPCs in Animal Products

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

<p><u>Concentration of COPC in Animal Food Product</u></p> $C_{fa} = D_{total} \times T_{co}$
<p>Total dose to food animal (D_{total})</p> $D_{total} = D_{past} + D_{feed} + D_{soil} + D_{inh}$
<p><i>Dose Through Ingestion of Feed (D_{feed})</i></p> $D_{feed} = C_{feed} \times (1-FG) \times L \times FI$ <p>Where:</p> $C_{feed, vol} = C_{p, vol(avg)}$ <p><i>Dose to Animal Through Ingestion of Pasture (D_{past})</i></p> <p><i>Default for poultry assumes no pasture grazing.</i></p>
<p><i>Dose to Animal Through Ingestion of Soil (D_{soil})</i></p> <p><i>Default for poultry assumes soil ingestion is equal to zero.</i></p>
<p><i>Dose to Animal Through Inhalation (D_{inh})</i></p> $D_{inh} = BR \times C_{air}$

Table NORR-C.2b**Equations used to Calculate Concentrations of Volatile COPCs in Animal Products****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California**

Where:

BR = Breathing rate of food animal [m^3/day]

C_{air} = Concentration of COPC in air. Calculated as the outdoor air vapor concentration (Tables 4.2a through 4.2d) [mg/m^3].

C_{fa} = Concentration of COPC in food animal [mg/kg]

C_{feed} = Concentration of COPC in animal feed [mg/kg]

$C_{\text{p,vol(avg)}}$ = Concentration of COPC in plant/produce due to deposition of volatile COPCs in outdoor onto plant tissues, averaged across all plant types (i.e., exposed, leafy, protected, and root) [mg/kg]

D_{inh} = Total dose to food animal through inhalation [kg/day]

D_{feed} = Total dose to food animal through feed ingestion [kg/day]

D_{past} = Total dose to food animal through pasture grazing [kg/day]

D_{soil} = Total dose to food animal through ingestion of soil [kg/day]

D_{total} = Total Dose of COPC to food animal [kg/day]

FG = Fraction of animal diet provided by grazing [unitless]

FI = Animal daily food intake [kg/day]

IF = Interception fraction [0.7, unitless]

k = Weathering Constant [0.1, days^{-1}]

L = Fraction of feed that is grown on-Site [5% for poultry]

PEF = Soil-to-Air Particulate Emission Factor [m^3/kg]

T_{co} = COPC-specific food animal transfer coefficient [unitless]

VF = Soil-to-Air Volatilization Factor [m^3/kg]

Y = Yield [$2 \text{ kg}/\text{m}^2$]

TABLE NORR-C.3
COPC-Specific Default Values for Home-Produced Food Exposure Pathways

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPC-Specific Values ^a					
	Root Uptake Factor (UF)				Transfer Coefficient (T _{co})	
	Exposed Produce	Leafy Produce	Protected Produce	Root Produce	Meat Poultry (d/kg)	Egg-Laying Poultry (d/kg)
Inorganics						
Chromium, Hexavalent	2.0E-02	3.0E-01	7.0E-02	3.0E+00	--	--
Chromium, total	--	--	--	--	--	--
Cobalt	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Lead	7.0E-03	8.0E-03	3.0E-03	4.0E-03	4.0E-01	4.0E-02
Orthophosphate	NS	NS	NS	NS	NS	NS
Zinc	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	--	--	--	--	3.0E-03	3.0E-03
Fluoranthene	--	--	--	--	3.0E-03	3.0E-03
Phenanthrene	--	--	--	--	3.0E-03	3.0E-03
Pyrene	--	--	--	--	3.0E-03	3.0E-03
Polychlorinated Biphenyls						
Total PCBs	--	--	--	--	7.0E+00	1.0E+01
Total Petroleum Hydrocarbons						
TPH as diesel	--	--	--	--	--	--
TPH as motor oil	--	--	--	--	--	--
Dioxins/Furans						
TEQ Human	--	--	--	--	9.0E+00	1.0E+01

Notes:

^a COPC-specific values are default values recommended by California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA 2015).

Abbreviations:

bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
NS = Not sampled at depths evaluated for homegrown produce/animal product exposure pathways.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Risk Assessments*. February.

Table NORR-C.4

Equation used to Calculate Dose from Ingestion of Home-Produced Food: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Dose to Receptor via the Food Pathway

$$DOSE_{f(agegroup)} = C_f \times IR_{age\ group} \times L \times \frac{EF}{365} \times CF$$

Where:

C_f = Concentration of COPC in Food Product [mg/kg] (Equations used to calculate C_f are presented in Tables C.2a through C.3b)

CF = Conversion Factor [mg/kg to mg/g]

$DOSE_{fa(age-group)}$ = Age-specific dose via the food ingestion pathway [mg/kg-day]

EF = Exposure Frequency [days/year]

IR = Food-Specific Ingestion Rate, age-specific [g food/kg-body weight per day](Food/age-specific ingestion rates are presented in Table C.4).

L = Fraction of food type that is home-produced [0.151 for poultry, 0.214 for eggs, and 0.235 for produce, unitless]

Table NORR-C.5

Food Ingestion Rates for Home-Produced Food

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Food Category	Hypothetical Future Resident Scenario					
	Age-Adjusted Adult			Child		Adult
	Age 0<2 (g/kg-day)	Age 2-16 (g/kg-day)	Age 16-26 (g/kg-day)	Age 0<2 (g/kg-day)	Age 2-6 (g/kg-day)	Age > 16 (g/kg-day)
Produce						
Exposed Produce	30.2	5.9	5.9	30.2	21.7	5.6
Leafy	10.8	3.2	3.2	10.8	7.9	3.4
Protected	17.5	5.8	5.8	17.5	13.3	5.2
Root	15.3	4.6	4.6	15.3	10.8	4.2
Animal Product						
Poultry Meat	10.5	2.9	2.9	10.5	7.8	2.8
Eggs	15.0	4.2	4.2	15.0	9.4	3.4

Notes:

Ingestion rates are default high-end point estimate values recommended by California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA 2015, Table 5.15).

Abbreviations:

g/kg-day = grams of food product per kilogram of body weight per day.

References:

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Risk Assessments*. February.

Table NORR-C.6a

Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPC Concentration in Produce											
	COPC Concentration in Produce due to Deposition (C _{dep})				COPC Concentration in Produce due to Root Uptake (C _{trans})				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics												
Chromium, Hexavalent	5.9E-07	1.2E-06	--	--	7.4E-03	1.1E-01	2.6E-02	1.1E+00	7.4E-03	1.1E-01	2.6E-02	1.1E+00
Chromium, total	5.7E-05	1.1E-04	--	--	--	--	--	--	5.7E-05	1.1E-04	--	--
Cobalt	1.3E-05	2.6E-05	--	--	--	--	--	--	1.3E-05	2.6E-05	--	--
Copper	2.4E-05	4.8E-05	--	--	--	--	--	--	2.4E-05	4.8E-05	--	--
Lead	1.7E-05	3.3E-05	--	--	7.4E-02	8.5E-02	3.2E-02	4.2E-02	7.4E-02	8.5E-02	3.2E-02	4.2E-02
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	9.2E-05	1.8E-04	--	--	--	--	--	--	9.2E-05	1.8E-04	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	2.7E-08	5.3E-08	--	--	--	--	--	--	2.7E-08	5.3E-08	--	--
Fluoranthene	3.8E-08	7.6E-08	--	--	--	--	--	--	3.8E-08	7.6E-08	--	--
Phenanthrene	1.6E-08	3.2E-08	--	--	--	--	--	--	1.6E-08	3.2E-08	--	--
Pyrene	3.3E-08	6.6E-08	--	--	--	--	--	--	3.3E-08	6.6E-08	--	--
Polychlorinated Biphenyls												
Total PCBs	9.4E-08	1.9E-07	--	--	--	--	--	--	9.4E-08	1.9E-07	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	4.6E-05	9.1E-05	--	--	--	--	--	--	4.6E-05	9.1E-05	--	--
TPH as motor oil	4.9E-05	9.7E-05	--	--	--	--	--	--	4.9E-05	9.7E-05	--	--
Dioxins/Furans												
TEQ Human	1.1E-10	2.2E-10	--	--	--	--	--	--	1.1E-10	2.2E-10	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.6b

Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPC Concentration in Produce											
	COPC Concentration in Produce due to Deposition (Cdep)				COPC Concentration in Produce due to Root Uptake (Ctrans)				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics												
Chromium, Hexavalent	6.9E-07	1.4E-06	--	--	8.7E-03	1.3E-01	3.0E-02	1.3E+00	8.7E-03	1.3E-01	3.0E-02	1.3E+00
Chromium, total	5.2E-05	1.0E-04	--	--	--	--	--	--	5.2E-05	1.0E-04	--	--
Cobalt	1.3E-05	2.6E-05	--	--	--	--	--	--	1.3E-05	2.6E-05	--	--
Copper	2.3E-05	4.5E-05	--	--	--	--	--	--	2.3E-05	4.5E-05	--	--
Lead	1.4E-05	2.9E-05	--	--	6.4E-02	7.3E-02	2.7E-02	3.6E-02	6.4E-02	7.3E-02	2.7E-02	3.6E-02
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	8.4E-05	1.7E-04	--	--	--	--	--	--	8.4E-05	1.7E-04	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	1.6E-08	3.1E-08	--	--	--	--	--	--	1.6E-08	3.1E-08	--	--
Fluoranthene	3.2E-08	6.3E-08	--	--	--	--	--	--	3.2E-08	6.3E-08	--	--
Phenanthrene	1.4E-08	2.8E-08	--	--	--	--	--	--	1.4E-08	2.8E-08	--	--
Pyrene	2.7E-08	5.4E-08	--	--	--	--	--	--	2.7E-08	5.4E-08	--	--
Polychlorinated Biphenyls												
Total PCBs	3.8E-07	7.6E-07	--	--	--	--	--	--	3.8E-07	7.6E-07	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	3.6E-05	7.2E-05	--	--	--	--	--	--	3.6E-05	7.2E-05	--	--
TPH as motor oil	4.4E-05	8.7E-05	--	--	--	--	--	--	4.4E-05	8.7E-05	--	--
Dioxins/Furans												
TEQ Human	8.1E-11	1.6E-10	--	--	--	--	--	--	8.1E-11	1.6E-10	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.6c

Baseline Scenario Calculations for Concentrations of Volatile COPCs in Homegrown Produce Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Produce							
	COPC Concentration in Produce due to Deposition (Cdep)				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics								
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	9.7E-06	1.9E-05	--	--	9.7E-06	1.9E-05	--	--
Polychlorinated Biphenyls								
Total PCBs	7.2E-04	1.4E-03	--	--	7.2E-04	1.4E-03	--	--
Total Petroleum Hydrocarbons								
TPH as diesel	1.0E+01	2.0E+01	--	--	1.0E+01	2.0E+01	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans								
TEQ Human	2.4E-08	4.7E-08	--	--	2.4E-08	4.7E-08	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.7a

Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Depth-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	2.0E-03	1.9E-03	1.1E-10	1.1E-10	--	--
Chromium, total	5.5E-07	5.1E-07	1.1E-08	1.1E-08	--	--
Cobalt	1.3E-07	1.2E-07	2.5E-09	2.5E-09	--	--
Copper	2.4E-07	2.2E-07	4.5E-09	4.5E-09	--	--
Lead	3.8E-04	3.5E-04	3.1E-09	3.1E-09	1.5E-04	1.4E-05
Orthophosphate	NS	NS	NS	NS	NS	NS
Zinc	8.9E-07	8.2E-07	1.7E-08	1.7E-08	--	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.6E-10	2.4E-10	5.0E-12	5.0E-12	8.0E-13	7.4E-13
Fluoranthene	3.7E-10	3.4E-10	7.1E-12	7.1E-12	1.1E-12	1.0E-12
Phenanthrene	1.6E-10	1.5E-10	3.0E-12	3.0E-12	4.8E-13	4.5E-13
Pyrene	3.2E-10	3.0E-10	6.1E-12	6.1E-12	9.8E-13	9.1E-13
Polychlorinated Biphenyls						
Total PCBs	9.1E-10	8.4E-10	1.7E-11	1.7E-11	6.5E-09	8.5E-09
Total Petroleum Hydrocarbons						
TPH as diesel	4.4E-07	4.1E-07	8.5E-09	8.5E-09	--	--
TPH as motor oil	4.8E-07	4.4E-07	9.1E-09	9.1E-09	--	--
Dioxins/Furans						
TEQ Human	1.1E-12	9.9E-13	2.0E-14	2.0E-14	9.8E-12	1.0E-11

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.7b

Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Depth-Weighted Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	2.4E-03	2.2E-03	1.3E-10	1.3E-10	--	--
Chromium, total	5.0E-07	4.7E-07	9.6E-09	9.6E-09	--	--
Cobalt	1.3E-07	1.2E-07	2.4E-09	2.4E-09	--	--
Copper	2.2E-07	2.0E-07	4.2E-09	4.2E-09	--	--
Lead	3.3E-04	3.0E-04	2.7E-09	2.7E-09	1.3E-04	1.2E-05
Orthophosphate	NS	NS	NS	NS	NS	NS
Zinc	8.1E-07	7.5E-07	1.5E-08	1.5E-08	--	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	1.5E-10	1.4E-10	2.9E-12	2.9E-12	4.6E-13	4.3E-13
Fluoranthene	3.1E-10	2.8E-10	5.9E-12	5.9E-12	9.4E-13	8.7E-13
Phenanthrene	1.4E-10	1.3E-10	2.6E-12	2.6E-12	4.2E-13	3.9E-13
Pyrene	2.7E-10	2.5E-10	5.1E-12	5.1E-12	8.1E-13	7.5E-13
Polychlorinated Biphenyls						
Total PCBs	3.7E-09	3.4E-09	7.1E-11	7.1E-11	2.6E-08	3.5E-08
Total Petroleum Hydrocarbons						
TPH as diesel	3.5E-07	3.2E-07	6.7E-09	6.7E-09	--	--
TPH as motor oil	4.2E-07	3.9E-07	8.1E-09	8.1E-09	--	--
Dioxins/Furans						
TEQ Human	7.9E-13	7.3E-13	1.5E-14	1.5E-14	7.2E-12	7.4E-12

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.7c

Baseline Scenario Calculations for Concentrations of Volatile COPCs in Animal Products Using NoRR Depth-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV
Pyrene	9.4E-08	8.7E-08	1.8E-09	1.8E-09	2.9E-10	2.7E-10
Polychlorinated Biphenyls						
Total PCBs	7.0E-06	6.5E-06	1.3E-07	1.3E-07	5.0E-05	6.6E-05
Total Petroleum Hydrocarbons						
TPH as diesel	9.6E-02	8.9E-02	1.8E-03	1.8E-03	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV
Dioxins/Furans						
TEQ Human	2.3E-10	2.1E-10	4.4E-12	4.4E-12	2.1E-09	2.2E-09

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.8a

Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPC Concentration in Produce											
	COPC Concentration in Produce due to Deposition (C _{dep})				COPC Concentration in Produce due to Root Uptake (C _{trans})				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics												
Chromium, Hexavalent	5.8E-07	1.2E-06	--	--	7.4E-03	1.1E-01	2.6E-02	1.1E+00	7.4E-03	1.1E-01	2.6E-02	1.1E+00
Chromium, total	5.2E-05	1.0E-04	--	--	--	--	--	--	5.2E-05	1.0E-04	--	--
Cobalt	1.3E-05	2.6E-05	--	--	--	--	--	--	1.3E-05	2.6E-05	--	--
Copper	2.3E-05	4.5E-05	--	--	--	--	--	--	2.3E-05	4.5E-05	--	--
Lead	1.4E-05	2.7E-05	--	--	6.1E-02	6.9E-02	2.6E-02	3.5E-02	6.1E-02	6.9E-02	2.6E-02	3.5E-02
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	8.5E-05	1.7E-04	--	--	--	--	--	--	8.5E-05	1.7E-04	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	2.7E-08	5.3E-08	--	--	--	--	--	--	2.7E-08	5.3E-08	--	--
Fluoranthene	1.7E-07	3.4E-07	--	--	--	--	--	--	1.7E-07	3.4E-07	--	--
Phenanthrene	1.4E-07	2.8E-07	--	--	--	--	--	--	1.4E-07	2.8E-07	--	--
Pyrene	1.7E-07	3.3E-07	--	--	--	--	--	--	1.7E-07	3.3E-07	--	--
Polychlorinated Biphenyls												
Total PCBs	9.4E-08	1.9E-07	--	--	--	--	--	--	9.4E-08	1.9E-07	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	4.6E-05	9.1E-05	--	--	--	--	--	--	4.6E-05	9.1E-05	--	--
TPH as motor oil	4.9E-05	9.7E-05	--	--	--	--	--	--	4.9E-05	9.7E-05	--	--
Dioxins/Furans												
TEQ Human	7.6E-11	1.5E-10	--	--	--	--	--	--	7.6E-11	1.5E-10	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.8b

Baseline Scenario Calculations for Concentrations of COPCs in Homegrown Produce Using NoRR Area-Weighted Shallow Soil (0 to 3 feet bgs) EPCs:
Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	COPC Concentration in Produce											
	COPC Concentration in Produce due to Deposition (Cdep)				COPC Concentration in Produce due to Root Uptake (Ctrans)				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics												
Chromium, Hexavalent	4.9E-07	9.6E-07	--	--	6.1E-03	9.2E-02	2.1E-02	9.2E-01	6.1E-03	9.2E-02	2.1E-02	9.2E-01
Chromium, total	4.8E-05	9.5E-05	--	--	--	--	--	--	4.8E-05	9.5E-05	--	--
Cobalt	1.3E-05	2.5E-05	--	--	--	--	--	--	1.3E-05	2.5E-05	--	--
Copper	2.1E-05	4.2E-05	--	--	--	--	--	--	2.1E-05	4.2E-05	--	--
Lead	1.2E-05	2.4E-05	--	--	5.3E-02	6.0E-02	2.3E-02	3.0E-02	5.3E-02	6.0E-02	2.3E-02	3.0E-02
Orthophosphate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	7.8E-05	1.5E-04	--	--	--	--	--	--	7.8E-05	1.5E-04	--	--
Polycyclic Aromatic Hydrocarbons												
Benzo (ghi) perylene	2.1E-07	4.1E-07	--	--	--	--	--	--	2.1E-07	4.1E-07	--	--
Fluoranthene	1.7E-07	3.3E-07	--	--	--	--	--	--	1.7E-07	3.3E-07	--	--
Phenanthrene	1.4E-07	2.8E-07	--	--	--	--	--	--	1.4E-07	2.8E-07	--	--
Pyrene	1.5E-07	3.0E-07	--	--	--	--	--	--	1.5E-07	3.0E-07	--	--
Polychlorinated Biphenyls												
Total PCBs	3.8E-07	7.6E-07	--	--	--	--	--	--	3.8E-07	7.6E-07	--	--
Total Petroleum Hydrocarbons												
TPH as diesel	3.6E-05	7.2E-05	--	--	--	--	--	--	3.6E-05	7.2E-05	--	--
TPH as motor oil	4.4E-05	8.7E-05	--	--	--	--	--	--	4.4E-05	8.7E-05	--	--
Dioxins/Furans												
TEQ Human	5.6E-11	1.1E-10	--	--	--	--	--	--	5.6E-11	1.1E-10	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.8c

Baseline Scenario Calculations for Concentrations of Volatile COPCs in Homegrown Produce Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Produce							
	COPC Concentration in Produce due to Deposition (Cdep)				Total COPC Concentration in Produce			
	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)	Exposed Produce (mg/kg)	Leafy Produce (mg/kg)	Protected Produce (mg/kg)	Root Produce (mg/kg)
Inorganics								
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons								
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV
Pyrene	6.5E-05	1.3E-04	--	--	6.5E-05	1.3E-04	--	--
Polychlorinated Biphenyls								
Total PCBs	7.2E-04	1.4E-03	--	--	7.2E-04	1.4E-03	--	--
Total Petroleum Hydrocarbons								
TPH as diesel	1.0E+01	2.0E+01	--	--	1.0E+01	2.0E+01	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV	NV	NV
Dioxins/Furans								
TEQ Human	1.9E-08	3.7E-08	--	--	1.9E-08	3.7E-08	--	--

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.9a

Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Area-Weighted Surface Soil (0 to 0.5 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	2.0E-03	1.9E-03	1.1E-10	1.1E-10	--	--
Chromium, total	5.0E-07	4.6E-07	9.6E-09	9.6E-09	--	--
Cobalt	1.2E-07	1.2E-07	2.4E-09	2.4E-09	--	--
Copper	2.2E-07	2.0E-07	4.2E-09	4.2E-09	--	--
Lead	3.1E-04	2.9E-04	2.5E-09	2.5E-09	1.2E-04	1.1E-05
Orthophosphate	NS	NS	NS	NS	NS	NS
Zinc	8.2E-07	7.6E-07	1.6E-08	1.6E-08	--	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.6E-10	2.4E-10	5.0E-12	5.0E-12	8.0E-13	7.4E-13
Fluoranthene	1.7E-09	1.5E-09	3.2E-11	3.2E-11	5.1E-12	4.7E-12
Phenanthrene	1.4E-09	1.3E-09	2.6E-11	2.6E-11	4.2E-12	3.9E-12
Pyrene	1.6E-09	1.5E-09	3.1E-11	3.1E-11	5.0E-12	4.6E-12
Polychlorinated Biphenyls						
Total PCBs	9.1E-10	8.4E-10	1.7E-11	1.7E-11	6.5E-09	8.5E-09
Total Petroleum Hydrocarbons						
TPH as diesel	4.4E-07	4.1E-07	8.5E-09	8.5E-09	--	--
TPH as motor oil	4.8E-07	4.4E-07	9.1E-09	9.1E-09	--	--
Dioxins/Furans						
TEQ Human	7.3E-13	6.8E-13	1.4E-14	1.4E-14	6.7E-12	6.9E-12

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

5/21/2018

Table NORR-C.9b

Baseline Scenario Calculations for Concentrations of COPCs in Animal Products Using NoRR Area-Weighted
Shallow Soil (0 to 3 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	1.7E-03	1.6E-03	9.0E-11	9.0E-11	--	--
Chromium, total	4.6E-07	4.3E-07	8.9E-09	8.9E-09	--	--
Cobalt	1.2E-07	1.1E-07	2.4E-09	2.4E-09	--	--
Copper	2.1E-07	1.9E-07	3.9E-09	3.9E-09	--	--
Lead	2.7E-04	2.5E-04	2.2E-09	2.2E-09	1.1E-04	1.0E-05
Orthophosphate	NS	NS	NS	NS	NS	NS
Zinc	7.6E-07	7.0E-07	1.4E-08	1.4E-08	--	--
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	2.0E-09	1.9E-09	3.9E-11	3.9E-11	6.2E-12	5.7E-12
Fluoranthene	1.6E-09	1.5E-09	3.1E-11	3.1E-11	5.0E-12	4.6E-12
Phenanthrene	1.4E-09	1.3E-09	2.6E-11	2.6E-11	4.2E-12	3.9E-12
Pyrene	1.5E-09	1.3E-09	2.8E-11	2.8E-11	4.4E-12	4.1E-12
Polychlorinated Biphenyls						
Total PCBs	3.7E-09	3.4E-09	7.1E-11	7.1E-11	2.6E-08	3.5E-08
Total Petroleum Hydrocarbons						
TPH as diesel	3.5E-07	3.2E-07	6.7E-09	6.7E-09	--	--
TPH as motor oil	4.2E-07	3.9E-07	8.1E-09	8.1E-09	--	--
Dioxins/Furans						
TEQ Human	5.4E-13	5.0E-13	1.0E-14	1.0E-14	5.0E-12	5.1E-12

Abbreviations:

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NS = Not sampled.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table NORR-C.9c

Baseline Scenario Calculations for Concentrations of Volatile COPCs in Animal Products Using NoRR Area-Weighted Subsurface II Soil (0 to 10 feet bgs) EPCs: Hypothetical Future Resident

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPC Concentration in Animal Food Product					
	Dose to Poultry Through Ingestion of Feed (D_{feed})		Dose to Poultry Through Inhalation (D_{inh})		Total COPC Concentration in Food	
	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Meat Poultry (mg/kg-day)	Egg-Laying Poultry (mg/kg-day)	Poultry (mg/kg)	Eggs (mg/kg)
Inorganics						
Chromium, Hexavalent	NV	NV	NV	NV	NV	NV
Chromium, total	NV	NV	NV	NV	NV	NV
Cobalt	NV	NV	NV	NV	NV	NV
Copper	NV	NV	NV	NV	NV	NV
Lead	NV	NV	NV	NV	NV	NV
Orthophosphate	NV	NV	NV	NV	NV	NV
Zinc	NV	NV	NV	NV	NV	NV
Polycyclic Aromatic Hydrocarbons						
Benzo (ghi) perylene	NV	NV	NV	NV	NV	NV
Fluoranthene	NV	NV	NV	NV	NV	NV
Phenanthrene	NV	NV	NV	NV	NV	NV
Pyrene	6.2E-07	5.8E-07	1.2E-08	1.2E-08	1.9E-09	1.8E-09
Polychlorinated Biphenyls						
Total PCBs	7.0E-06	6.5E-06	1.3E-07	1.3E-07	5.0E-05	6.6E-05
Total Petroleum Hydrocarbons						
TPH as diesel	9.6E-02	8.9E-02	1.8E-03	1.8E-03	--	--
TPH as motor oil	NV	NV	NV	NV	NV	NV
Dioxins/Furans						
TEQ Human	1.8E-10	1.7E-10	3.5E-12	3.5E-12	1.7E-09	1.7E-09

Abbreviations:

-- = not calculated. Not applicable for this food product.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/kg-day = milligrams per kilogram per day.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

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Appendix ICS

Soil HHERA for Inside the Compressor Station Exposure Area



Pacific Gas and Electric Company

APPENDIX ICS SOIL HHERA FOR THE INSIDE COMPRESSOR STATION EXPOSURE AREA

Topock Compressor Station
Needles, California

October 2019

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It is composed of two overlapping triangular shapes, creating a complex, angular form. A thin white line runs diagonally across the shape, and a thin white horizontal line runs across the page, intersecting the shape.

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ICS-4.3d Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers: COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

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- ICS-1.1 Soil Sampling Locations Inside Topock Compressor Station Exposure Area

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ACRONYMS AND ABBREVIATIONS

4,4-DDE	4,4-dichlorodiphenyldichloroethylene
4,4-DDT	4,4-dichlorodiphenyltrichloroethane
ALM	Adult Lead Model
AOC	area of concern
Arcadis	Arcadis U.S., Inc.B(a)PEQ benzo(a)pyrene equivalent
bgs	below ground surface
CDI	chronic daily intake
CH2M	CH2M HILL, Inc.
COPC	constituent of potential concern
CrVI	hexavalent chromium
CSM	conceptual site model
DTSC	Department of Toxic Substances Control (California)
EC	exposure concentration
EPC	exposure point concentration
ERA	ecological risk assessment
ft	foot/feet
HHERA	human health and ecological risk assessment
HHRA	human health risk assessment
HI	hazard index
ICS	inside the compressor station
ILCR	incremental lifetime cancer risk
main report	Soil Human Health and Ecological Risk Assessment
µg/dL	microgram(s) per deciliter
mg/kg	milligrams per kilogram
NA	not applicable
ng/kg	nanogram per kilogram
OEHHA	Office of Environmental Health Hazard Assessment (California)
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl

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SOIL HHRA FOR THE INSIDE COMPRESSOR STATION EXPOSURE AREA

PG&E	Pacific Gas and Electric Company
RAWP	Human Health and Ecological Risk Assessment Work Plan
SVOC	semi-volatile organic compound
SWMU	solid waste management unit
TCS	Topock Compressor Station
TEQ	toxicity equivalent
TPH	total petroleum hydrocarbon
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
wt	weighted

1 INTRODUCTION

This appendix presents the human health risk assessment (HHRA) for the soil potential exposure area located inside the Topock Compressor Station (TCS) in Needles, California. This exposure area inside the compressor station is referred to as the ICS potential exposure area. An ecological risk assessment (ERA) was not conducted for the ICS potential exposure area because ecological habitat is not present inside the fenceline of the TCS. The ICS potential exposure area, shown on Figure ICS-1.1, is approximately 15 acres in total and is located inside the compressor station fenceline. Sample locations for ICS are identified in Table ICS-1.1 of this appendix (as well as on Figure 3-2 of the Soil Human Health and Ecological Risk Assessment Report [“main report”]). Available soil data for the ICS potential exposure area were used to conduct a quantitative forward HHRA as presented herein. A summary of the HHRA results is presented in Section 5 of the main report.

Descriptions of the physical location and characteristics of the ICS potential exposure area and the HHRA methodologies are provided in the main report and the final Human Health and Ecological Risk Assessment Work Plan (RAWP) documents (Arcadis U.S., Inc. [Arcadis] 2008, 2009, 2015) and are not repeated in this appendix. Detailed discussions of the historical uses and sampling and analysis are presented in the main report.

This appendix summarizes site use, data evaluation, potential receptors, potential exposure pathways, and results of the HHRA risk characterization for soil in the ICS potential exposure area. Tables and figures specific to the ICS HHRA are presented in this appendix.

1.1 Summary of Site Use

The TCS is fenced and occupies approximately 15 acres of a 65-acre parcel of Pacific Gas and Electric Company (PG&E) owned land. The investigation areas inside the TCS included in the risk assessment are presented on Figure 2-1b of the main report. The specific investigation areas inside the TCS addressed in the HHRA include:

SWMU 5 (Sludge Drying Bed)	AOC 20 (Industrial Floor Drains)
SWMU 6 (Chromate Reduction Tank)	AOC 21 (Round Depression Near Sludge Drying Bed)
SWMU 8 (Process Pump Tank)	AOC 22 (Unidentified Three-Sided Structure)
SWMU 9 (Transfer Pump)	AOC 23 (Former Water Conditioning Building)
SWMU 11 (Former Sulfuric Acid Tanks)	AOC 24 (Stained Area and Former API Oil/Water Separator)
AOC 5 (Cooling Tower A)	AOC 25 (Compressor and Generator Engine Basements)
AOC 6 (Cooling Tower B)	AOC 26 (Former Scrubber Oil Sump)
AOC 7 (Hazardous Materials Storage Area)	AOC 32 (Oil Storage Tanks and Waste Oil Sump)
AOC 8 (Paint Shed)	
AOC 13 (Unpaved Area Within the TCS)	
AOC 15 (Auxiliary Jacket Cooling Water Pumps)	

APPENDIX ICS
SOIL HHERA FOR THE INSIDE COMPRESSOR STATION EXPOSURE AREA

AOC 16 (Former Sandblast Shelter)	AOC 33 (Potential Former Burn Area Near AOC 17)
AOC 17 (Onsite Septic System)	Unit 4.3 (Oily Water Holding Tank)
AOC 18 (Combine Wastewater Transference Pipelines)	Unit 4.4 (Oil/Water Separator)
AOC 19 (Former Cooling Liquid Mixing Area and Former Hotwell)	Unit 4.5 (Portable Waste Oil Holding Tank)
	Portions of AOC 4 Inside the TCS Fenceline
	Perimeter Area

The primary sources of contamination inside the TCS are likely to be historical incidental spills during operations (CH2M HILL Inc. [CH2M] 2006, 2013). The quantity of spills released, if any, is unknown but is believed to be relatively small. Any spills or incidental leaks would have quickly been addressed due to the inherent hazards associated with chemical spills. It is unknown whether a large release occurred that could have reached the storm drain system and been discharged outside the fenceline. Large portions of the ICS exposure area are paved or covered by buildings or gravel. Until approximately 1964, cooling-water blowdown containing hazardous constituents was directly discharged to Bat Cave Wash. The primary source media inside the TCS is surface soil.

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2 DATA EVALUATION AND COPC SELECTION

This section summarizes the data considered for the ICS HHRA and presents the constituents of potential concern (COPCs) for human health selected for the ICS potential exposure area.

Soil sampling locations at the ICS potential exposure area are presented on Figure ICS-1.1 and in Table ICS-1.1. Note that several locations along the perimeter of the TCS fenceline were included in the ICS potential exposure area, as data for these locations were collected to support site characterization of areas of concern (AOCs) within the TCS. The data from these sampling locations (AOC16-5, PA-01, PA-07, and PA-13 through PA-17) were evaluated for the ICS potential exposure area, for the potential exposure area outside the compressor station (Appendix OCS), and for individual AOC potential exposure areas along the fenceline (Appendices AOC1, AOC11, and AOC27). Soil from these locations could potentially migrate via surface water runoff to areas outside the fenceline of the TCS. The data were evaluated based on methodology described in the RAWP documents (Arcadis 2008, 2009, 2015). Details of the soil sampling and data quality evaluation will be presented in the forthcoming Remedial Facility Investigation/Remedial Investigation Volume 3 Report currently being prepared by Jacobs. The ICS HHRA evaluated all constituents detected in the soil as presented in the soil investigation data packages provided to the U.S. Department of the Interior (PG&E 2018). Only soil data for 0 to 10 feet (ft) below ground surface (bgs) were included in the ICS HHRA. Because potential soil contact does not extend below 10 ft bgs for the baseline scenario, deeper soil data (i.e., greater than 10 ft bgs) were excluded from the risk evaluation, as noted in Table ICS-1.1.

Following the steps outlined in Section 3 of the main report, soil data considered usable for the risk assessment were identified and used in the quantitative HHRA. For the ICS potential exposure area, all available soil data are presented in Attachment ICS-A1. For the ICS potential exposure area, soil data are available from 863 samples, of which soil data from 787 samples from 0 to 10 ft bgs were considered for use in the HHRA. Because potential soil contact does not extend below 10 ft bgs, data from 76 samples from deeper soil (i.e., greater than 10 ft bgs) were excluded from the HHRA, as noted in Table ICS-1.1.

Within the ICS potential exposure area risk assessment dataset, analytical results for some polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) in 27 samples received an “R” data qualifier; therefore, these results were rejected from use in the HHRA. The ICS potential exposure area samples with at least one rejected analytical result include the following sample IDs:

AOC15-1-18000	AOC4-30-3157	AOC6-7-14014
AOC15-1-18001	AOC4-32-3164	AOC6-8-14015
AOC19-10-22000	AOC5-4-13010	SWMU11-3-32004
AOC19-10-22001	AOC5-4-13011	SWMU11-3-32005
AOC19-11-22018	AOC5-5-13012	SWMU5-2-29002
AOC19-5-22003	AOC5-5-13013	SWMU5-2-29003
AOC19-6-22006	AOC6-2-14003	AOC19-7-22008
AOC6-5-14011	AOC6-2-14004	AOC19-7-22010
AOC19-8-22011	AOC6-7-14013	AOC6-5-14010

Data processed for the HHRA (e.g., calculation of total concentrations for benzo(a)pyrene equivalent [B(a)PEQ], PCBs, and dioxin/furan toxicity equivalents [TEQ]) are described in Section 3 of the main report.

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The process for identifying COPCs included in the HHRA is detailed in Section 3.4 of the main report. COPCs were selected for the ICS potential exposure area using soil data encompassing all relevant exposure depths for the HHRA (i.e., 0 to 10 ft bgs for ICS) as presented in Attachment ICS-A1. Metals, B(a)PEQ, and dioxin TEQ were above background levels in the ICS potential exposure area soil (0 to 10 ft bgs) and therefore are included as COPCs evaluated in the HHRA. Carcinogenic PAHs (i.e., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenzo[a,h]anthracene, chrysene, and indeno[1,2,3-cd]pyrene) associated with B(a)PEQ are also selected as COPCs in the HHRA for the evaluation of the noncancer endpoint for each individual PAH. All other detected organic constituents in the ICS potential exposure area soil are included as COPCs in the HHRA. COPCs selected for the ICS HHRA are summarized in Tables ICS-2.1a through ICS-2.1d for the four soil exposure depths included in the baseline evaluations and are discussed further in Section 4.2.

For soil gas, COPCs included all volatile organic compounds (VOCs) detected in soil gas, as presented in Attachment ICS-A2 and summarized in Section 4.2 and Table ICS-2.2.

3 EXPOSURE POINT CONCENTRATIONS

Depth-weighted and area-weighted exposure point concentrations (EPCs) for COPCs in soil at the ICS potential exposure area were calculated as described in Section 4.2 of the main report. For the ICS potential exposure area, one scenario was evaluated: Baseline (no scouring).

Four exposure depths were evaluated:

1. Surface soil (0 to 0.5 ft bgs)
2. Shallow soil (0 to 3 ft bgs)
3. Subsurface I soil (0 to 6 ft bgs)
4. Subsurface II soil (0 to 10 ft bgs).

For the ICS potential exposure area, the depth-weighted data used in the calculation of depth-weighted EPCs are presented in Attachment ICS-A2. The summary statistics for these soil depth-weighted datasets and depth-weighted EPCs were calculated consistent with the RAWP documents (Arcadis 2008, 2009, 2015). Per the RAWP, area-weighted EPCs for the HHRA are evaluated only if depth-weighted EPCs suggest that cumulative cancer risks and/or noncancer hazards may be significant for any given HHRA exposure scenario (i.e., cumulative cancer risks exceed a 10^{-6} cancer risk level, and/or the noncancer hazard index [HI] exceeds 1). For the ICS potential exposure area, area-weighted EPCs were deemed necessary for the HHRA and, therefore, were calculated. The area-weighted data used in the calculation of area-weighted EPCs are presented in Attachment ICS-A3.

If the soil dataset had fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations, the EPC defaulted to the maximum depth-weighted concentration in that dataset.

Table ICS-3.1 includes soil summary statistics for constituents measured at the ICS potential exposure area¹ and detected at least once, and depth- and area-weighted EPCs for COPCs calculated using depth-weighted data from the four exposure depths listed above. Table ICS-3.1 also presents the basis of the calculated depth- and area-weighted EPCs, including whether the EPC is based on the maximum detected concentration.

For VOCs detected in at least one soil gas sample, the detected concentration at each sampled depth of each soil gas sampling location was used as the EPC. For sampling locations where a VOC was not detected (but detected elsewhere), one-half the detection limit was used as the EPC. Summary statistics for VOCs detected in soil gas are presented in Table ICS-2.2; the EPCs for VOCs detected in soil gas used in the estimate of risks and hazards are presented in Table ICS-B1.5 of Attachment ICS-B1.

¹ The list of constituents shown in Table ICS-3.1 is based on analytes that were detected at least once at the site (including all exposure areas inside or outside the TCS) and measured at the ICS potential exposure area.

4 HUMAN HEALTH RISK ASSESSMENT

This section summarizes the HHRA approach, presents the COPC, EPC, risk, and hazard summary tables; and discusses the results of the risk characterization and uncertainties in the risk assessment for the ICS potential exposure area. Details of the overall HHRA approach are presented in Section 5 of the main report. Dose, exposure concentration (EC), risk, and hazard calculation tables for potential human health receptors are presented in Attachments ICS-B1 and ICS-B2 for depth- and area-weighted EPCs, respectively.

4.1 Human Health Conceptual Site Model

Following the steps outlined in Section 5.5 of the main report, risks were estimated for potentially complete and significant exposure pathways identified in the human health conceptual site model (CSM) for receptors potentially exposed to COPCs in soil present at the ICS potential exposure area. These included:

- **Commercial Workers** – Incidental ingestion of soil, dermal contact with soil, inhalation of particulates and VOC vapors in ambient outdoor air from soil, and inhalation of VOC vapors in indoor air from soil gas.
- **Short- and Long-Term Maintenance Workers** – Incidental ingestion of soil, dermal contact with soil, and inhalation of particulates and VOC vapors in ambient outdoor air from soil.

Potential exposure pathways considered incomplete or insignificant were not quantitatively evaluated and are discussed in Section 5.3.1 of the main report.

4.2 Constituents of Potential Concern

COPCs for the ICS potential exposure area were selected in accordance with the RAWP (Arcadis 2008) and as described in Section 2 of this appendix and Section 3.4 of the main report. COPCs for the four exposure depths evaluated are summarized in Table ICS-4.1. For soil gas, COPCs included all VOCs detected in soil gas data and are presented in Table ICS-2.2.

COPCs in soil included metals (antimony, hexavalent chromium, total chromium, copper, lead, mercury, molybdenum, silver, thallium, and zinc), inorganic compounds (cyanide), VOCs (acetone, chloroform, methyl acetate, methylene chloride, toluene, and xylenes, total), semi-volatile organic compounds (SVOCs; bis [2-ethylhexyl] phthalate), PAHs, pesticides (4,4-dichlorodiphenyldichloroethylene [4,4-DDE], 4,4-dichlorodiphenyltrichloroethane [4,4-DDT], alpha-chlordane, and gamma-chlordane), PCBs, total petroleum hydrocarbon (TPH) as diesel, TPH as motor oil, and dioxin TEQ in surface, shallow, subsurface I, and/or subsurface II soil.

COPCs in soil gas included 1,1-dichloroethene, 1,3-dichlorobenzene, acetone, benzene, carbon disulfide, carbon tetrachloride, chloromethane, chloroform, ethylbenzene, m,p-xylenes, methyl ethyl ketone, methylene chloride, o-xylene, tetrachloroethene, toluene, and trichloroethene.

4.3 Exposure Point Concentration Summary

For the potentially complete and significant exposure pathways identified in the CSM, EPCs were calculated as described in Section 4.2 of the main report and presented in Section 3 of this appendix. Depth-weighted

data used in the calculation of depth- and area-weighted EPCs are presented in Attachment ICS-A. Depth-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust used to estimate risk in the HHRA are summarized in Tables ICS-4.2a through ICS-4.2d for the four exposure depths evaluated. Area-weighted EPCs for COPCs in soil and estimated outdoor air concentrations associated with dust used to estimate risk in the HHRA are summarized in Tables ICS-4.3a through ICS-4.3d for the four exposure depths evaluated.

As described in detail in Section 5.3.3 of the main report, the following exposure depths and corresponding EPC datasets were used to evaluate potential exposure to COPCs in soil for potential human receptors:

- **Commercial Workers** – surface and shallow soil
- **Short- and Long-Term Maintenance Workers** – surface, shallow, subsurface I and subsurface II soil.

EPCs for COPCs in soil gas and associated estimated indoor air concentrations used to estimate risk in the HHRA are summarized in Table ICS-B1.5 of Attachment ICS-B1.

4.4 Estimation of Dose

The EC and chronic daily intake (CDI) for carcinogenic and noncarcinogenic effects were calculated, as described in Section 5.5.1 of the main report, for COPCs in soil for potentially complete exposure pathways. The calculated EC and CDI values using depth-weighted EPCs are presented in Tables ICS-B1.1a and ICS-B1.1b (carcinogenic effects) and Tables ICS-B1.2a and ICS-B1.2b (noncarcinogenic effects) in Attachment ICS-B1 for the short- and long-term maintenance workers evaluated. The calculated EC and CDI values using area-weighted EPCs are presented in Table ICS-B2.1 (carcinogenic effects) and ICS-B2.2 (noncarcinogenic effects) in Attachment ICS-B2 for the long-term maintenance workers evaluated. EC and CDI values were not calculated for the commercial worker because a screening approach was used to estimate risks and hazards for this receptor, as described in Section 5.5.2 of the main report.

Exposure parameters used in the dose calculations are presented in Table 5-1 of the main report.

4.5 Toxicity Assessment

The toxicity assessment characterizes the relationship between the magnitude of exposure to a constituent and the potential for adverse health effects. More specifically, the toxicity assessment identifies agency-promulgated or derived toxicity values that can be used to estimate the likelihood of adverse health effects occurring in humans at different exposure levels. The approach for the toxicity assessment was provided in Section 4.5 of the RAWP (Arcadis 2008) and in Section 4.2 of the RAWP Addendum 2 (Arcadis 2015). Consistent with regulatory risk assessment policy, adverse health effects resulting from potential chemical exposures are evaluated in two categories: carcinogenic effects and noncarcinogenic effects. The hierarchy of sources for the toxicity criteria to be used for the HHRA generally corresponds to the California Department of Toxic Substances Control (DTSC) guidance (2015). Toxicity values for carcinogenic and noncarcinogenic effects for COPCs selected and used for the HHRA are described in Section 5.4 of the main report and were used to estimate potential cancer risks and noncancer hazards.

4.6 Human Health Risk Characterization

For human receptors potentially exposed to soil present in the ICS potential exposure area, the estimated incremental lifetime cancer risks (ILCRs) and/or noncancer hazard quotients were calculated for each COPC and potentially complete exposure pathway. Cumulative ILCRs (i.e., sum of chemical-specific ILCRs for each exposure depth for a scenario) were calculated and compared to the DTSC point of departure for risk management decision of 1×10^{-6} . Risk management decisions may raise this criterion depending on site-specific conditions. As indicated in the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300), cancer risks between one in a million and one hundred in a million probability of occurrence (1×10^{-6} and 1×10^{-4}) fall within a risk management range. This is generally referred to as the acceptable risk range. Within this estimated cancer risk range, there is flexibility for risk managers in deciding what action, if any, is necessary and appropriate for the protection of human health. Cumulative noncancer hazards (i.e., HIs) are calculated and compared to an HI of 1 (DTSC 2015). Chemical exposures that yield HIs of less than or equal to 1 are not expected to result in adverse noncancer health effects (United States Environmental Protection Agency [USEPA] 1989).

4.6.1 Risk Characterization for Exposure to Soil (Baseline Scenario and Depth-Weighted EPCs)

Table ICS-4.4 summarizes cumulative ILCRs and HIs estimated for exposure to soil for each potential human receptor at the ICS potential exposure area, calculated using depth-weighted EPCs. Table ICS-4.6 summarizes the maximum ILCRs and HIs estimated for exposure to soil gas for the commercial worker. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5.1 of the main report. The detailed cancer risk estimates (Tables ICS-B1.3a through ICS-B1.3c) and noncancer hazard calculations (Tables ICS-B1.4a through ICS-B1.4c) for potential exposure to COPCs in soil are presented in Attachment ICS-B1. The detailed cancer risk estimates and noncancer hazard calculations for potential exposure to COPCs in soil gas (Table ICS-B1.5) are also presented in Attachment ICS-B1.

For the ICS potential exposure area, risk and hazard estimates are summarized in the tables and discussed below. Assuming lifetime soil contact is limited to the ICS potential exposure area, and that soil contact occurs randomly over all potential areas within the fenceline, the depth-weighted estimated cumulative ILCRs for the short-term maintenance worker at all exposure depths are below the *de minimis* level of 1×10^{-6} . Additional potential exposures found to be *de minimis* include HI estimates for potential soil contact for all receptors and exposure depths evaluated (Tables ICS-B1.4a through ICS-B1.4c) and potential soil gas exposure for the commercial worker (Table ICS-B1.5). Risk estimates for potential soil contact are above *de minimis* levels but within the acceptable risk management range for commercial and long-term maintenance workers.

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Commercial and Maintenance Workers

Baseline Depth-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		ICS Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Commercial Worker	Surface	1E-05	CrVI (1E-06) Total PCBs (9E-07) TEQ human (9E-06)	0.6	NA
	Shallow	9E-06	CrVI (8E-07) Total PCBs (8E-07) TEQ human (7E-06)	0.4	NA
	Soil Gas	7E-08 (Maximum)	NA	0.002 (Maximum)	NA
Short-Term Maintenance Worker	Surface	8E-07	NA	0.5	NA
	Shallow	7E-07	NA	0.4	NA
	Subsurface I	5E-07	NA	0.4	NA
	Subsurface II	4E-07	NA	0.4	NA
Long-Term Maintenance Worker	Surface	7E-06	CrVI (4E-06) Total PCBs (4E-07) TEQ human (2E-06)	0.1	NA
	Shallow	6E-06	CrVI (3E-06) Total PCBs (4E-07) TEQ human (2E-06)	0.1	NA
	Subsurface I	4E-06	CrVI (2E-06) Total PCBs (3E-07) TEQ human (1E-06)	0.09	NA
	Subsurface II	3E-06	CrVI (2E-06) Total PCBs (3E-07) TEQ human (1E-06)	0.09	NA

Notes:

CrVI = hexavalent chromium

NA = not applicable

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the depth-weighted estimated cumulative ILCRs for the commercial worker potentially exposed to COPCs in surface and shallow soil are above the point of departure for risk management decisions of 1×10^{-6} . However, these risk estimates are at or below 1×10^{-5} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this receptor, risk estimates above *de minimis* levels were primarily attributed to hexavalent chromium, total PCBs, and dioxin TEQ in soil (Table ICS-B1.3a). The estimated cumulative ILCRs for the commercial worker potentially exposed to COPCs in soil gas via the vapor intrusion pathway are well below the point of departure for risk management decisions of 1×10^{-6} (Table ICS-B4.6; maximum sample location-specific estimated cumulative ILCR is 7×10^{-8}).

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the depth-weighted estimated cumulative ILCRs for the

short-term maintenance worker potentially exposed to COPCs in surface, shallow, and subsurface I, and subsurface II soil are below 1×10^{-6} , the point of departure for risk management decisions (Table ICS-B1.3b).

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the depth-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially exposed to COPCs in surface, shallow, subsurface I, and subsurface II soil are above the point of departure for risk management decisions of 1×10^{-6} . However, these risks are below 1×10^{-5} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this receptor, risk estimates above *de minimis* levels were primarily attributed to total PCBs and dioxin TEQ via the dermal contact and soil ingestion pathways and to hexavalent chromium via the inhalation of soil particulates pathway (Table ICS-B1.3c).

Elevated concentrations of hexavalent chromium (170 milligrams per kilogram [mg/kg] at AOC15-OS2), total PCBs (13.8 mg/kg at AOC4-28), and dioxin TEQ (2,000 nanograms per kilogram [ng/kg] at AOC13-33 and AOC5-4) appear to be localized at several locations within the ICS potential exposure area (see Figure ICS-1.1). Accordingly, the depth-weighted EPCs and corresponding estimated ILCRs for hexavalent chromium, total PCBs, and dioxin TEQ may be biased high. To reduce the uncertainty associated with this potential bias, area-weighted cumulative ILCRs for the commercial and long-term maintenance workers were estimated, as discussed below in Section 4.6.2.

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the depth-weighted estimated cumulative HIs for the commercial and short- and long-term maintenance workers (Table ICS-B1.4a and Table ICS-B1.4c, respectively) potentially exposed to COPCs in surface, shallow, subsurface I, and/or subsurface II soil are below an HI of 1. The estimated cumulative HI for the commercial worker potentially exposed to COPCs in soil gas via the vapor intrusion pathway are below an HI of 1.

The depth-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the ICS potential exposure area are not expected to result in an increase in blood lead levels above the Office of Environmental Health Hazard Assessment (OEHHA) benchmark value of 1 microgram per deciliter ($\mu\text{g/dL}$) in the fetus of a commercial worker (i.e., when compared to the commercial risk-based screening concentration of 320 mg/kg presented in Table ICS-B1.4a) or the fetus of a short- or long-term maintenance worker (i.e., calculated blood-lead level using the Adult Lead Model [ALM] as presented in Table ICS-B1.6a and Table ICS-B1.6b, respectively).

4.6.2 Risk Characterization for Exposure to Soil (Baseline Scenario and Area-Weighted EPCs)

Table ICS-4.5 summarizes cumulative ILCRs and HIs estimated for potential exposure to soil in the ICS potential exposure area for the commercial and long-term maintenance workers, calculated using area-weighted EPCs. Area-weighted ILCRs and HIs were estimated for commercial and long-term maintenance workers since depth-weighted estimated cumulative ILCRs were above 1×10^{-6} for these two potential receptors. The dose, EC, ILCR, and HI equations are presented in detail in Section 5.5 of the main report. The detailed cancer risk estimates (Tables ICS-B2.3a and ICS-B2.3b) and noncancer hazard calculations (Tables ICS-B2.4a and ICS-B2.4b) are presented in Attachment ICS-B2. The estimated cumulative ILCRs and HIs for the commercial worker potentially exposed to COPCs in soil gas via the vapor intrusion pathway are well

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below the point of departure for risk management decisions of 1×10^{-6} and HI of 1 (Table ICS-B4.6). The results of the soil gas evaluation are discussed in Section 4.6.1 above and are not repeated in the summary of the soil area-weighted cumulative ILCRs and HIs provided below.

The area-weighted estimated cumulative ILCRs and HIs for each receptor selected for evaluation are summarized below. In general, depending on the depth interval, the area-weighted approach resulted in risk or hazard estimates ranging from 1.3 to 2.1 times lower than the depth-weighted estimates.

Commercial and Maintenance Workers

Baseline Area-Weighted Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		ICS Potential Exposure Area			
		Cumulative ILCR	ILCR Drivers	HI	HI Drivers
Commercial Worker	Surface	8E-06	CrVI (3E-07) Total PCBs (1E-06) TEQ human (7E-06)	0.5	NA
	Shallow	7E-06	CrVI (2E-07) Total PCBs (9E-07) TEQ human (6E-06)	0.4	NA
Long-Term Maintenance Worker	Surface	3E-06	CrVI (1E-06) Total PCBs (5E-07) TEQ human (2E-06)	0.1	NA
	Shallow	3E-06	CrVI (9E-07) Total PCBs (4E-07) TEQ human (2E-06)	0.09	NA
	Subsurface I	2E-06	CrVI (7E-07) Total PCBs (4E-07) TEQ human (1E-06)	0.08	NA
	Subsurface II	2E-06	CrVI (6E-07) Total PCBs (4E-07) TEQ human (1E-06)	0.08	NA

Notes:

ILCR and HI drivers are presented only for estimated cumulative ILCRs above 1×10^{-6} and estimated HIs above 1.

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the area-weighted estimated cumulative ILCRs for the commercial worker potentially contacting surface and shallow soil are above the point of departure for risk management decisions of 1×10^{-6} . However, these risks are below 1×10^{-5} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this receptor, risk estimates above the *de minimis* level were primarily attributed to hexavalent chromium, total PCBs, and dioxin TEQ in soil (Table ICS-B2.3a).

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the area-weighted estimated cumulative ILCRs for the long-term maintenance worker potentially contacting surface, shallow, subsurface I, and subsurface II soil are slightly above the point of departure for risk management decisions of 1×10^{-6} , but below 5×10^{-6} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . For this receptor, risk estimates above the *de minimis* level were primarily attributed to total PCBs and dioxin TEQ in soil via the dermal contact and soil

ingestion pathways and to hexavalent chromium in soil via the inhalation of particulates pathway (Table ICS-B2.3b).

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, the area-weighted estimated cumulative HIs for the commercial and long-term maintenance workers (Table ICS-B2.4a and Table ICS-B2.4b, respectively) potentially contacting surface, shallow, subsurface I, and/or subsurface II soil are less than 1.

The area-weighted EPCs for lead in surface, shallow, subsurface I, and subsurface II soil at the ICS potential exposure area are not expected to result in an increase in blood lead levels above the OEHHA benchmark value of 1 µg/dL in the fetus of a commercial worker (i.e., when compared to the commercial risk-based screening concentration of 320 mg/kg presented in Table ICS-B2.4a) or the fetus of a long-term maintenance worker (i.e., calculated blood-lead level using the ALM as presented in Table ICS-B2.5).

As stated previously, the area-weighted estimated cumulative ILCRs for the commercial and long-term maintenance workers, depending on the depth interval, are approximately 1.3 to 2.1 times lower than the depth-weighted estimated cumulative ILCRs. Therefore, assuming lifetime contact with soil in the ICS potential exposure area, estimated cumulative ILCRs are below 5×10^{-6} for the long-term maintenance workers and below 1×10^{-5} for the commercial worker, at all soil depths evaluated, when accounting for spatial bias in the EPCs. These values are well within the risk management range of 1×10^{-6} and 1×10^{-4} .

4.6.3 Uncertainties in the Risk Assessment

The risk assessment includes several uncertainties that warrant discussion. Many of the assumptions used in this risk assessment regarding the representativeness of the sampling data, human exposures, fate and transport modeling, and chemical toxicity are conservative, follow agency guidance, and reflect a 90th or 95th percentile value, rather than a typical or average value. The use of several conservative exposure assumptions and toxicity estimates can introduce considerable uncertainty into the risk assessment. By using conservative exposure assumptions or toxicity estimates, the assessment can develop a significant conservative bias that may result in the calculation of significantly higher cancer risks or noncancer hazards than are actually posed by the chemicals present in soil. These uncertainties are discussed in detail in Section 5.6 of the main report. Uncertainties applicable only to the risk assessment for the ICS potential exposure area are discussed below.

Uncertainties for the ICS potential exposure area include the use of the maximum depth-weighted soil concentration as the EPC. The maximum depth-weighted soil concentration was used for COPCs when the soil dataset contained fewer than four detected values (i.e., concentrations reported above the detection limit) or fewer than eight total observations as shown in Table ICS-3.1.

For the ICS potential exposure area, the maximum depth-weighted concentration was used as the EPC for the following COPCs:

- Surface soil: metals (antimony and thallium), VOCs (acetone, methyl acetate, toluene, and xylenes, total), one SVOC (bis [2-ethylhexyl] phthalate), one PAH (acenaphthylene), and pesticides (4,4-DDE, 4,4-DDT, alpha-chlordane, and gamma-chlordane)
- Shallow soil: VOCs (acetone, chloroform, methyl acetate, toluene, and xylenes, total), one SVOC (bis [2-ethylhexyl] phthalate), and pesticides (4,4-DDE, 4,4-DDT, alpha-chlordane, and gamma-chlordane)

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- Subsurface I soil: VOCs (chloroform, methyl acetate, methylene chloride, toluene, and xylenes, total), one SVOC (bis [2-ethylhexyl] phthalate), and pesticides (4,4-DDE, 4,4-DDT, alpha-chlordane, and gamma-chlordane)
- Subsurface II soil: VOCs (chloroform, methyl acetate, methylene chloride, toluene, and xylenes, total), one SVOC (bis [2-ethylhexyl] phthalate), and pesticides (4,4-DDE, 4,4-DDT, alpha-chlordane, and gamma-chlordane).

The use of the maximum depth-weighted soil concentration as the EPC for the COPCs listed above may not appropriately represent exposures and resulting risks/hazards. This approach for estimating EPCs does not materially impact the results of the HHRA because the ICS potential exposure area COPCs with low frequency of detection and/or fewer than eight observations are not risk drivers at the site.

Much of the ICS potential exposure area is covered by buildings, pavement, or gravel. Therefore, the assumption that workers are exposed to all soil in the ICS potential exposure area is overly conservative. Furthermore, work practices are currently in place that limit the amount of exposure to dusts and soil and provide an added level of protection to all workers, above and beyond what is necessary to ensure full protection of the health of all PG&E workers at the TCS. Therefore, the estimated ILCRs and HIs associated with potential exposure to COPCs in soil at the ICS potential exposure area for workers are likely overestimated.

5 ECOLOGICAL RISK ASSESSMENT

As stated in Section 1 and consistent with the RAWP documents (Arcadis 2008, 2009, 2015), an ERA was not conducted for the ICS potential exposure area. Ecological habitat is not present; therefore, potential exposure pathways for ecological receptors in the ICS potential exposure area are incomplete. An ERA is not warranted for this area.

6 SUMMARY AND CONCLUSIONS FOR THE HHRA

Assuming that lifetime soil contact is limited to the ICS potential exposure area, and that potential soil contact occurs randomly over all AOCs within the fenceline, potential cumulative cancer risks and noncancer hazards for human receptors were estimated, as presented in Section 4. For ecological receptors, potential risks were not estimated because no ecological habitat is present in the ICS potential exposure area. Uncertainties related to the HHRA at the site are discussed in detail in Section 5.6 of the main report, and uncertainties specific to the ICS potential exposure area are discussed herein. For the ICS potential exposure area, a HHRA was conducted in accordance with the RAWP documents (Arcadis 2008, 2009, 2015). One scenario (baseline, i.e., no scouring) was evaluated, and risks were estimated for various potential receptors using depth-weighted EPCs and area-weighted EPCs.

At the ICS potential exposure area, the COPCs identified for the HHRA include metals (antimony, hexavalent chromium, total chromium, copper, lead, mercury, molybdenum, silver, thallium, and zinc), inorganic compounds (cyanide), VOCs (acetone, chloroform, methyl acetate, methylene chloride, toluene, and xylenes, total), SVOCs (bis [2-ethylhexyl] phthalate), PAHs, pesticides (4,4-DDE, 4,4-DDT, alpha-chlordane, and gamma-chlordane), PCBs, TPH as diesel, TPH as motor oil, and dioxins and furans in soil and VOCs in soil gas. Results regarding estimated risk associated with potential exposure to these COPCs in soil and soil gas are summarized in this section. The conclusions reached after completing the HHRA for the ICS potential exposure area are presented below.

Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		ICS Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
Commercial Worker	Surface	1×10^{-5} (CrVI, Total PCBs, and dioxin TEQ)	8×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1
	Shallow	9×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	7×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1
	Soil Gas	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Short-Term Maintenance Worker	Surface	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Shallow	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface I	$\leq 1 \times 10^{-6}$	---	≤ 1	---
	Subsurface II	$\leq 1 \times 10^{-6}$	---	≤ 1	---
Long-Term Maintenance Worker	Surface	7×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	3×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1
	Shallow	6×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	3×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1

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Baseline Scenario Estimated Cumulative Incremental Lifetime Cancer Risk and Hazard Index					
Potential Receptor and Exposure Depth		ICS Potential Exposure Area			
		Cumulative ILCR		HI	
		Depth-Wt	Area-Wt	Depth-Wt	Area-Wt
	Subsurface I	4×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	2×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1
	Subsurface II	3×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	2×10^{-6} (CrVI, Total PCBs, and dioxin TEQ)	≤ 1	≤ 1

Note:

--- = Area-weighted (area-wt) estimate not calculated because depth-weighted (depth-wt) estimate for the receptor was below *de minimis* level.

Depth-Weighted

Potential exposures that are below or at *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including Commercial Worker, Short-Term Maintenance Worker, and Long-Term Maintenance Worker
- **HI ≤ 1 for soil gas** – Commercial Worker
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – Short-term Maintenance Worker
- **ILCR $\leq 1 \times 10^{-6}$ for soil gas** – Commercial Worker.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Long-Term Maintenance Worker (subsurface I and subsurface II)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Commercial Worker (surface and shallow) and Long-Term Maintenance Worker (surface and shallow)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

Assuming lifetime soil contact is limited to the ICS potential exposure area, the depth-weighted estimated risks above *de minimis* levels for the commercial and long-term maintenance workers were due to hexavalent chromium, total PCBs, and dioxin TEQ. Accordingly, potential risks and hazards for these potential receptors were estimated using area-weighted EPCs. Note that the elevated concentrations of hexavalent chromium

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(170 mg/kg at AOC15-OS2), total PCBs (13.8 mg/kg at AOC4-28), and dioxin TEQ (2,000 ng/kg at AOC13-33 and AOC5-4) appear to be limited to these locations within the ICS potential exposure area.

The area-weighted estimated ILCR and HI results for the commercial worker and long-term maintenance worker are provided below.

Area-Weighted

Potential exposures that are below or at *de minimis* levels include the following:

- **HI ≤ 1 for all soil depths** – All potential receptors evaluated including Commercial Worker and Long-Term Maintenance Worker
- **ILCR $\leq 1 \times 10^{-6}$ for all soil depths** – None.

Potential exposures that are above *de minimis* levels of HI > 1 and/or within the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **HI > 1 and ≤ 3** – None
- **HI > 3** – None
- **ILCR > 1×10^{-6} and $\leq 5 \times 10^{-6}$** – Long-Term Maintenance Worker (surface, shallow, subsurface I, and subsurface II)
- **ILCR > 5×10^{-6} and $\leq 1 \times 10^{-5}$** – Commercial Worker (surface and shallow)
- **ILCR > 1×10^{-5} and $\leq 1 \times 10^{-4}$** – None.

Potential exposures that are above the risk management range of 1×10^{-6} and 1×10^{-4} include the following:

- **ILCR > 1×10^{-4}** – None.

OVERALL SUMMARY

The estimated cumulative ILCRs associated with potential exposure to COPCs in soil at the ICS potential exposure area using depth- and area-weighted EPCs for the short-term maintenance worker are below the *de minimis* level of 1×10^{-6} . The estimated cumulative HIs for all potential receptors and all soil depths evaluated using depth- and area-weighted EPCs are below an HI of 1. The cumulative ILCRs for the commercial and long-term maintenance workers estimated using depth- and area-weighted EPCs are above the point of departure for risk management decisions of 1×10^{-6} but at or below 1×10^{-5} , which is well within the risk management range of 1×10^{-6} and 1×10^{-4} . In general, depending on the depth interval, the area-weighted approach resulted in risk or hazard estimates ranging from 1.3 to 2.1 times lower than the depth-weighted estimates. As shown in the preceding table, this difference reduces the risk category for the long-term maintenance worker (surface and shallow) but does not substantially change the overall outcome for the risk estimates for this exposure area. The hazards are not noticeably impacted because all estimated cumulative HIs are less than 1 with both depth- and area-weighted evaluations.

The estimated cumulative ILCRs and HIs for the commercial worker potentially exposed to COPCs in soil gas via the vapor intrusion pathways are well below the point of departure for risk management decisions of 1×10^{-6} and an HI of 1, respectively. Furthermore, the depth- and area-weighted EPCs for lead in all soil at the ICS potential exposure area are not expected to result in an increase in blood lead levels above the OEHHA

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benchmark value of 1 µg/dL for the fetus of a commercial worker, short-term maintenance worker, or long-term maintenance worker.

As indicated in Section 4.6.3, much of the ICS potential exposure area is covered by buildings, pavement, and gravel, and the assumption that workers are exposed to all soil in the ICS potential exposure area is overly conservative. Furthermore, work practices are currently in place that limit the amount of exposure to dusts and soil and provide an added level of protection to all workers, above and beyond what is necessary to ensure full protection of the health of all PG&E workers at the TCS. Therefore, the estimated ILCRs and HIs associated with potential exposure to COPCs in soil at the ICS potential exposure area for workers are overestimated and likely well below 1×10^{-5} and 1, respectively. PG&E follows all relevant and appropriate worker health and safety protocols and is in compliance with worker health and safety measures set forth by the Occupational Safety and Health Administration, as required by state and federal law. The results of the ICS HHRA are intended to provide additional information useful in identifying chemical hazards and appropriate controls, where necessary.

7 REFERENCES

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TABLES



Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
2 B-Tower	04/13/99	2 B-Tower	0	0	0	0-0.5	--
3 B-Tower	04/13/99	3 B-Tower	0	0	0	0-0.5	--
300a-01-001_110811	11/08/11	AOC13-OS3	0	0.5	0.5	0-0.5	--
300a-01-002_110811	11/08/11	AOC13-OS3	2	3	3	0-03	--
300a-01-002_111511	11/15/11	AOC13-OS3	2	3	3	0-03	--
300a-02-001_110811	11/08/11	AOC13-OS2	0	0.5	0.5	0-0.5	--
300a-02-002_110811	11/08/11	AOC13-OS2	2	3	3	0-03	--
300a-02-002_111511	11/15/11	AOC13-OS2	2	3	3	0-03	--
300a-02-003_110811	11/08/11	AOC13-OS2	5	6	6	0-06	--
300a-02-003_111511	11/15/11	AOC13-OS2	5	6	6	0-06	--
300a-02-102_110811	11/08/11	AOC13-OS2	2	3	3	0-03	--
300a-02-102_111511	11/15/11	AOC13-OS2	2	3	3	0-03	--
300a-03-001_110811	11/08/11	AOC13-OS4	0	0.5	0.5	0-0.5	--
300a-03-002_110811	11/08/11	AOC13-OS4	2	3	3	0-03	--
300a-03-002_111511	11/15/11	AOC13-OS4	2	3	3	0-03	--
300a-03-003_110811	11/08/11	AOC13-OS4	5	6	6	0-06	--
300a-03-003_111511	11/15/11	AOC13-OS4	5	6	6	0-06	--
300a-41-1-1060	04/06/11	PA-OS2	0	0.5	0.5	0-0.5	--
300a-41-1-1061	04/06/11	PA-OS2	2.5	3	3	0-03	--
300a-41-1-1062	04/06/11	PA-OS2	5.5	6	6	0-06	--
300a-41-1-1063	04/06/11	PA-OS2	9.5	10	10	0-10	--
300a-41-1-1064	04/06/11	PA-OS2	11.5	12	12	NE	Excluded from HHRA (> 10 ft bgs)
300a-41-1-2001	04/06/11	PA-OS2	0	0.5	0.5	0-0.5	--
300b-41-1100	04/06/11	AOC13-OS1	0	0.5	0.5	0-0.5	--
300b-41-1101	04/06/11	AOC13-OS1	2.5	3	3	0-03	--
300b-41-1102	04/06/11	AOC13-OS1	5.5	6	6	0-06	--
300b-41-1103	04/06/11	AOC13-OS1	9	9.5	9.5	0-10	--
AOC13-10-17003	12/14/15	AOC13-10	0	0.5	0.5	0-0.5	--
AOC13-10-17004	12/14/15	AOC13-10	2	3	3	0-03	--
AOC13-11-17005	01/05/16	AOC13-11	0	0.5	0.5	0-0.5	--
AOC13-11-17006	01/05/16	AOC13-11	0.5	1	1	0-03	--
AOC13-11-17007	01/05/16	AOC13-11	2	3	3	0-03	--
AOC13-1-17000	12/05/15	AOC13-1	0	1	0.5	0-0.5	--
AOC13-1-17001	12/05/15	AOC13-1	0	1	0.5	0-0.5	--
AOC13-1-17002	12/05/15	AOC13-1	2	3	3	0-03	--
AOC13-12-17008	12/05/15	AOC13-12	0	1	0.5	0-0.5	--
AOC13-12-17009	12/05/15	AOC13-12	0	1	0.5	0-0.5	--
AOC13-12-17010	12/05/15	AOC13-12	2	3	3	0-03	--
AOC13-13-17011	01/09/16	AOC13-13	0	0.5	0.5	0-0.5	--

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC13-13-17012	01/09/16	AOC13-13	2	3	3	0-03	--
AOC13-14-17013	12/14/15	AOC13-14	0	0.5	0.5	0-0.5	--
AOC13-14-17014	12/14/15	AOC13-14	2	3	3	0-03	--
AOC13-15-17015	12/14/15	AOC13-15	0	0.5	0.5	0-0.5	--
AOC13-15-17016	12/14/15	AOC13-15	2	3	3	0-03	--
AOC13-15-17017	12/14/15	AOC13-15	5	6	6	0-06	--
AOC13-16-17019	01/05/16	AOC13-16	0	1	0.5	0-0.5	--
AOC13-16-17020	01/05/16	AOC13-16	2	3	3	0-03	--
AOC13-17-17021	12/08/15	AOC13-17	0	0.5	0.5	0-0.5	--
AOC13-17-17022	12/08/15	AOC13-17	2	3	3	0-03	--
AOC13-18-17023	01/06/16	AOC13-18	0	0.5	0.5	0-0.5	--
AOC13-18-17024	01/06/16	AOC13-18	0.5	1	1	0-03	--
AOC13-18-17025	01/06/16	AOC13-18	2	3	3	0-03	--
AOC13-19-17026	01/08/16	AOC13-19	0	0.5	0.5	0-0.5	--
AOC13-19-17027	01/08/16	AOC13-19	2	3	3	0-03	--
AOC13-20-17030	01/08/16	AOC13-20	0	0.5	0.5	0-0.5	--
AOC13-20-17031	01/08/16	AOC13-20	2	3	3	0-03	--
AOC13-21-17032	01/08/16	AOC13-21	0	0.5	0.5	0-0.5	--
AOC13-21-17033	01/08/16	AOC13-21	0	0.5	0.5	0-0.5	--
AOC13-21-17034	01/08/16	AOC13-21	2	3	3	0-03	--
AOC13-2-17028	12/05/15	AOC13-2	0	1	0.5	0-0.5	--
AOC13-2-17029	12/05/15	AOC13-2	2	3	3	0-03	--
AOC13-22-17035	01/08/16	AOC13-22	0	0.5	0.5	0-0.5	--
AOC13-22-17036	01/08/16	AOC13-22	2	3	3	0-03	--
AOC13-23-17037	01/08/16	AOC13-23	0	0.5	0.5	0-0.5	--
AOC13-23-17038	01/08/16	AOC13-23	2	3	3	0-03	--
AOC13-24-17039	01/08/16	AOC13-24	0	0.5	0.5	0-0.5	--
AOC13-24-17040	01/08/16	AOC13-24	0	0.5	0.5	0-0.5	--
AOC13-24-17041	01/08/16	AOC13-24	2	3	3	0-03	--
AOC13-25-17042	01/09/16	AOC13-25	0	0.5	0.5	0-0.5	--
AOC13-25-17043	01/09/16	AOC13-25	2	3	3	0-03	--
AOC13-26-17044	01/09/16	AOC13-26	0	0.5	0.5	0-0.5	--
AOC13-26-17045	01/09/16	AOC13-26	2	3	3	0-03	--
AOC13-26-17046	01/09/16	AOC13-26	2	3	3	0-03	--
AOC13-27-17047	01/09/16	AOC13-27	0	0.5	0.5	0-0.5	--
AOC13-27-17048	01/09/16	AOC13-27	2	3	3	0-03	--
AOC13-28-17049	01/09/16	AOC13-28	0	0.5	0.5	0-0.5	--
AOC13-28-17050	01/09/16	AOC13-28	2	3	3	0-03	--
AOC13-29-17051	01/09/16	AOC13-29	0	0.5	0.5	0-0.5	--
AOC13-29-17052	01/09/16	AOC13-29	0	0.5	0.5	0-0.5	--

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Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC13-29-17053	01/09/16	AOC13-29	2	3	3	0-03	--
AOC13-30-17056	01/07/16	AOC13-30	0	0.5	0.5	0-0.5	--
AOC13-30-17057	01/07/16	AOC13-30	2	3	3	0-03	--
AOC13-31-17058	01/07/16	AOC13-31	0	0.5	0.5	0-0.5	--
AOC13-31-17059	01/07/16	AOC13-31	0	0.5	0.5	0-0.5	--
AOC13-31-17060	01/07/16	AOC13-31	2	3	3	0-03	--
AOC13-3-17054	12/14/15	AOC13-3	0	0.5	0.5	0-0.5	--
AOC13-3-17055	12/14/15	AOC13-3	2	3	3	0-03	--
AOC13-32-17061	12/04/15	AOC13-32	0	0.5	0.5	0-0.5	--
AOC13-32-17062	12/04/15	AOC13-32	2	3	3	0-03	--
AOC13-33-17077	02/15/17	AOC13-33	0	0.5	0.5	0-0.5	--
AOC13-33-17078	02/15/17	AOC13-33	0	0.5	0.5	0-0.5	--
AOC13-33-17079	02/15/17	AOC13-33	2	3	3	0-03	--
AOC13-34-17080	01/21/17	AOC13-34	0	0.5	0.5	0-0.5	--
AOC13-34-17081	01/21/17	AOC13-34	2	3	3	0-03	--
AOC13-34-17082	01/21/17	AOC13-34	5	6	6	0-06	--
AOC13-4-17063	12/14/15	AOC13-4	0	0.5	0.5	0-0.5	--
AOC13-4-17064	12/14/15	AOC13-4	0	0.5	0.5	0-0.5	--
AOC13-4-17065	12/14/15	AOC13-4	2	3	3	0-03	--
AOC13-5-17066	01/05/16	AOC13-5	0	0.5	0.5	0-0.5	--
AOC13-5-17067	01/05/16	AOC13-5	2	3	3	0-03	--
AOC13-6-17068	01/05/16	AOC13-6	0	0.5	0.5	0-0.5	--
AOC13-6-17069	01/05/16	AOC13-6	2	3	3	0-03	--
AOC13-7-17070	12/14/15	AOC13-7	0	0.5	0.5	0-0.5	--
AOC13-7-17071	12/14/15	AOC13-7	2	3	3	0-03	--
AOC13-8-17072	12/05/15	AOC13-8	0	1	0.5	0-0.5	--
AOC13-8-17073	12/05/15	AOC13-8	0	1	0.5	0-0.5	--
AOC13-8-17074	12/05/15	AOC13-8	2	3	3	0-03	--
AOC13-9-17075	01/09/16	AOC13-9	0	0.5	0.5	0-0.5	--
AOC13-9-17076	01/09/16	AOC13-9	2	3	3	0-03	--
AOC13-Grab1-2001	05/13/08	AOC13-GrabOS1	1	1	1	0-03	--
AOC13-Grab1-2002	05/13/08	AOC13-GrabOS1	3	3	3	0-03	--
AOC13-Grab1-2003	05/14/08	AOC13-GrabOS1	5.5	5.5	5.5	0-06	--
AOC13-Grab2-2004	05/13/08	AOC13-GrabOS2	1	1	1	0-03	--
AOC13-Grab2-2005	05/13/08	AOC13-GrabOS2	3	3	3	0-03	--
AOC13-Grab2-2006	05/13/08	AOC13-GrabOS2	4	4.5	4.5	0-06	--
AOC13-Grab3-2007	05/14/08	AOC13-GrabOS1	5.5	5.5	5.5	0-06	--
AOC13-OS11-D1	06/26/13	AOC13-OS11	0	0.5	0.5	0-0.5	--
AOC13-OS11-D2	06/26/13	AOC13-OS11	2	3	3	0-03	--
AOC13-OS11-D3	06/26/13	AOC13-OS11	5	6	6	0-06	--

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Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC13-OS12-D1	06/26/13	AOC13-OS12	0	0.5	0.5	0-0.5	--
AOC13-OS12-D2	06/26/13	AOC13-OS12	2	3	3	0-03	--
AOC13-OS13-D1	06/26/13	AOC13-OS13	0	0.5	0.5	0-0.5	--
AOC13-OS13-D2	06/26/13	AOC13-OS13	2	3	3	0-03	--
AOC13-OS14-D1	07/25/13	AOC13-OS14	0	0.5	0.5	0-0.5	--
AOC13-OS14-D2	07/25/13	AOC13-OS14	2	3	3	0-03	--
AOC13-OS14-D3	07/25/13	AOC13-OS14	5	6	6	0-06	--
AOC13-OS15-1001	04/25/17	AOC13-OS15	3	3.1	3.1	0-06	--
AOC13-OS16-1002	04/25/17	AOC13-OS16	2.8	2.9	2.9	0-03	--
AOC13-OS17-1003	04/26/17	AOC13-OS17	3.8	3.9	3.9	0-06	--
AOC13-OS18-1004	04/25/17	AOC13-OS18	3.8	3.9	3.9	0-06	--
AOC13-OS19-1005	04/26/17	AOC13-OS19	4.4	4.5	4.5	0-06	--
AOC13-OS98-D2	06/26/13	AOC13-OS12	2	3	3	0-03	--
AOC13-OS99-D2	07/25/13	AOC13-OS14	2	3	3	0-03	--
AOC13-Pit10-0001	07/26/11	AOC13-PITOS10	0	0.5	0.5	0-0.5	--
AOC13-Pit10-0002	07/26/11	AOC13-PITOS10	2	3	3	0-03	--
AOC13-Pit10-0003	07/26/11	AOC13-PITOS10	5	6	6	0-06	--
AOC13-Pit10-0004	07/26/11	AOC13-PITOS10	7	7.5	7.5	0-10	--
AOC13-Pit11-0001	07/26/11	AOC13-PITOS1	0	0.5	0.5	0-0.5	--
AOC13-Pit11-0002	07/26/11	AOC13-PITOS1	2	3	3	0-03	--
AOC13-Pit11-0004	07/26/11	AOC13-PITOS1	9	9.5	9.5	0-10	--
AOC13-Pit11-0001	07/26/11	AOC13-PITOS11	0	0.5	0.5	0-0.5	--
AOC13-Pit11-0002	07/26/11	AOC13-PITOS11	2	3	3	0-03	--
AOC13-Pit11-0003	07/26/11	AOC13-PITOS11	5	6	6	0-06	--
AOC13-Pit11-0004	07/26/11	AOC13-PITOS11	7.5	8	8	0-10	--
AOC13-Pit11-1001	07/26/11	AOC13-PITOS1	0	0.5	0.5	0-0.5	--
AOC13-Pit11-1002	07/26/11	AOC13-PITOS11	2	3	3	0-03	--
AOC13-PIT12-0001	09/27/11	AOC13-PITOS12	0	0.5	0.5	0-0.5	--
AOC13-PIT12-0002	09/27/11	AOC13-PITOS12	2	3	3	0-03	--
AOC13-PIT12-0003	09/27/11	AOC13-PITOS12	5	6	6	0-06	--
AOC13-PIT12-0004	09/27/11	AOC13-PITOS12	9	9.5	9.5	0-10	--
AOC13-PIT12-0005	09/27/11	AOC13-PITOS12	11	11.5	11.5	NE	Excluded from HHERA (> 10 ft bgs)
AOC13-Pit2-0001	07/26/11	AOC13-PITOS2	0	0.5	0.5	0-0.5	--
AOC13-Pit2-0002	07/26/11	AOC13-PITOS2	2	3	3	0-03	--
AOC13-Pit2-0003	07/26/11	AOC13-PITOS2	4	4.5	4.5	0-06	--
AOC13-Pit3-0001	07/26/11	AOC13-PITOS3	0	0.5	0.5	0-0.5	--
AOC13-Pit3-0002	07/26/11	AOC13-PITOS3	2	3	3	0-03	--
AOC13-Pit3-0003	07/26/11	AOC13-PITOS3	6	6.5	6.5	0-10	--
AOC13-Pit3-1002	07/26/11	AOC13-PITOS3	2	3	3	0-03	--

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PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC13-Pit6-0001	07/26/11	AOC13-PITOS6	0	0.5	0.5	0-0.5	--
AOC13-Pit6-0002	07/26/11	AOC13-PITOS6	2	3	3	0-03	--
AOC13-Pit6-0003	07/26/11	AOC13-PITOS6	5	6	6	0-06	--
AOC13-Pit6-0004	07/26/11	AOC13-PITOS6	7	7.5	7.5	0-10	--
AOC13-Pit7-0001	07/26/11	AOC13-PITOS7	0	0.5	0.5	0-0.5	--
AOC13-Pit7-0002	07/26/11	AOC13-PITOS7	2	3	3	0-03	--
AOC13-Pit7-0003	07/26/11	AOC13-PITOS7	5	6	6	0-06	--
AOC13-Pit7-0004	07/26/11	AOC13-PITOS7	8	8.5	8.5	0-10	--
AOC13-Pit7-1002	07/26/11	AOC13-PITOS7	2	3	3	0-03	--
AOC13-Pit8-0001	07/26/11	AOC13-PITOS8	0	0.5	0.5	0-0.5	--
AOC13-Pit8-0003	07/26/11	AOC13-PITOS8	5	6	6	0-06	--
AOC13-Pit8-0004	07/26/11	AOC13-PITOS8	9	10	10	0-10	--
AOC13-Pit8-0005	07/26/11	AOC13-PITOS8	11	11.5	11.5	NE	Excluded from HHERA (> 10 ft bgs)
AOC13-Pit9-0001	07/26/11	AOC13-PITOS9	0	0.5	0.5	0-0.5	--
AOC13-Pit9-0002	07/26/11	AOC13-PITOS9	2	3	3	0-03	--
AOC13-Pit9-0003	07/26/11	AOC13-PITOS9	5	6	6	0-06	--
AOC13-Pit9-1003	07/26/11	AOC13-PITOS9	5	6	6	0-06	--
AOC15-1-18000	01/22/16	AOC15-1	0	0.5	0.5	0-0.5	--
AOC15-1-18001	01/22/16	AOC15-1	2	3	3	0-03	--
AOC15-1-18018	01/19/17	AOC15-1	5	6	6	0-06	--
AOC15-1-18019	01/20/17	AOC15-1	9	10	10	0-10	--
AOC15-1-18020	01/20/17	AOC15-1	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC15-1-D1	12/05/13	AOC15-OS1	0	0.5	0.5	0-0.5	--
AOC15-1-D2	12/05/13	AOC15-OS1	2	3	3	0-03	--
AOC15-2-18002	01/22/16	AOC15-2	0	0.5	0.5	0-0.5	--
AOC15-2-18003	01/22/16	AOC15-2	2	3	3	0-03	--
AOC15-2-D1	12/05/13	AOC15-OS2	0	0.5	0.5	0-0.5	--
AOC15-2-D2	12/05/13	AOC15-OS2	2	3	3	0-03	--
AOC15-3-18004	01/22/16	AOC15-3	0	0.5	0.5	0-0.5	--
AOC15-3-18005	01/22/16	AOC15-3	2	3	3	0-03	--
AOC15-3-18006	01/22/16	AOC15-3	2	3	3	0-03	--
AOC15-4-18007	01/22/16	AOC15-4	0	0.5	0.5	0-0.5	--
AOC15-4-18008	01/22/16	AOC15-4	2	3	3	0-03	--
AOC15-5-18009	01/22/16	AOC15-5	0	0.5	0.5	0-0.5	--
AOC15-5-18010	01/22/16	AOC15-5	0	0.5	0.5	0-0.5	--
AOC15-5-18011	01/22/16	AOC15-5	2	3	3	0-03	--
AOC15-5-D1	12/05/13	AOC15-OS5	0	0.5	0.5	0-0.5	--
AOC15-5-D2	12/05/13	AOC15-OS5	2	3	3	0-03	--

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AOC15-6-18012	01/22/16	AOC15-6	0	0.5	0.5	0-0.5	--
AOC15-6-18013	01/22/16	AOC15-6	0	0.5	0.5	0-0.5	--
AOC15-6-18014	01/22/16	AOC15-6	2	3	3	0-03	--
AOC15-7-18015	01/22/16	AOC15-7	0	0.5	0.5	0-0.5	--
AOC15-7-18016	01/22/16	AOC15-7	0	0.5	0.5	0-0.5	--
AOC15-7-18017	01/22/16	AOC15-7	2	3	3	0-03	--
AOC16-1-19000	01/11/16	AOC16-1	0	0.5	0.5	0-0.5	--
AOC16-1-19001	01/11/16	AOC16-1	2	3	3	0-03	--
AOC16-2-19002	01/11/16	AOC16-2	0	0.5	0.5	0-0.5	--
AOC16-2-19003	01/11/16	AOC16-2	2	3	3	0-03	--
AOC16-3-19004	01/11/16	AOC16-3	0	0.5	0.5	0-0.5	--
AOC16-3-19005	01/11/16	AOC16-3	2	3	3	0-03	--
AOC16-4-19006	01/11/16	AOC16-4	0	1	0.5	0-0.5	--
AOC16-5-19008	02/20/17	AOC16-5	0	0.5	0.5	0-0.5	--
AOC16-5-19009	02/20/17	AOC16-5	0	0.5	0.5	0-0.5	--
AOC16-5-19010	02/20/17	AOC16-5	2	3	3	0-03	--
AOC16-grit-19007	01/05/17	AOC16-grit	0	0.5	0.5	0-0.5	--
AOC17-1-20000	12/06/15	AOC17-1	0	1	0.5	0-0.5	--
AOC17-1-20001	12/06/15	AOC17-1	0	1	0.5	0-0.5	--
AOC17-1-20002	12/06/15	AOC17-1	2	3	3	0-03	--
AOC17-1-20003	12/06/15	AOC17-1	5	6	6	0-06	--
AOC17-1-20022	12/06/15	AOC17-1	9	10	10	0-10	--
AOC17-2-20004	12/06/15	AOC17-2	0	1	0.5	0-0.5	--
AOC17-2-20005	12/06/15	AOC17-2	2	3	3	0-03	--
AOC17-2-20006	12/06/15	AOC17-2	5	6	6	0-06	--
AOC17-2-20007	12/06/15	AOC17-2	9	10	10	0-10	--
AOC17-3-20008	12/06/15	AOC17-3	0	1	0.5	0-0.5	--
AOC17-3-20009	12/06/15	AOC17-3	0	1	0.5	0-0.5	--
AOC17-3-20010	12/06/15	AOC17-3	2	3	3	0-03	--
AOC17-3-20011	12/06/15	AOC17-3	5	6	6	0-06	--
AOC17-3-20012	12/06/15	AOC17-3	9	10	10	0-10	--
AOC17-4-20013	12/06/15	AOC17-4	0	1	0.5	0-0.5	--
AOC17-4-20014	12/06/15	AOC17-4	2	3	3	0-03	--
AOC17-4-20015	12/06/15	AOC17-4	5	6	6	0-06	--
AOC17-5-20017	12/06/15	AOC17-5	0	1	0.5	0-0.5	--
AOC17-5-20018	12/06/15	AOC17-5	2	3	3	0-03	--
AOC17-5-20019	12/06/15	AOC17-5	2	3	3	0-03	--
AOC17-5-20020	12/06/15	AOC17-5	5	6	6	0-06	--
AOC17-5-20021	12/06/15	AOC17-5	9	10	10	0-10	--
AOC18-10-21004	12/16/15	AOC18-10	0	0.5	0.5	0-0.5	--

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC18-10-21005	12/16/15	AOC18-10	2	3	3	0-03	--
AOC18-10-21006	12/16/15	AOC18-10	5	6	6	0-06	--
AOC18-11-21007	01/11/16	AOC18-11	0	0.5	0.5	0-0.5	--
AOC18-11-21008	01/11/16	AOC18-11	2	3	3	0-03	--
AOC18-11-21009	01/11/16	AOC18-11	5	6	6	0-06	--
AOC18-1-21000	01/12/16	AOC18-1	0	0.5	0.5	0-0.5	--
AOC18-1-21001	01/12/16	AOC18-1	0	0.5	0.5	0-0.5	--
AOC18-1-21002	01/12/16	AOC18-1	2	3	3	0-03	--
AOC18-1-21003	01/12/16	AOC18-1	5	6	6	0-06	--
AOC18-12-21010	12/04/15	AOC18-12	0	0.5	0.5	0-0.5	--
AOC18-12-21011	12/04/15	AOC18-12	2	3	3	0-03	--
AOC18-12-21012	12/04/15	AOC18-12	5	6	6	0-06	--
AOC18-2-21013	01/12/16	AOC18-2	0	0.5	0.5	0-0.5	--
AOC18-2-21014	01/12/16	AOC18-2	2	3	3	0-03	--
AOC18-2-21015	01/12/16	AOC18-2	5	6	6	0-06	--
AOC18-3-21016	01/12/16	AOC18-3	0	0.5	0.5	0-0.5	--
AOC18-3-21017	01/12/16	AOC18-3	2	3	3	0-03	--
AOC18-3-21018	01/12/16	AOC18-3	5	6	6	0-06	--
AOC18-4-21019	12/04/15	AOC18-4	0	0.5	0.5	0-0.5	--
AOC18-4-21020	12/04/15	AOC18-4	2	3	3	0-03	--
AOC18-4-21021	12/05/15	AOC18-4	5	6	6	0-06	--
AOC18-5-21022	12/04/15	AOC18-5	0	0.5	0.5	0-0.5	--
AOC18-5-21023	12/04/15	AOC18-5	2	3	3	0-03	--
AOC18-5-21024	12/04/15	AOC18-5	5	6	6	0-06	--
AOC18-6-21025	12/04/15	AOC18-6	0	0.5	0.5	0-0.5	--
AOC18-6-21026	12/04/15	AOC18-6	2	3	3	0-03	--
AOC18-6-21027	12/04/15	AOC18-6	2	3	3	0-03	--
AOC18-6-21028	12/04/15	AOC18-6	5	6	6	0-06	--
AOC18-7-21029	12/08/15	AOC18-7	0	0.5	0.5	0-0.5	--
AOC18-7-21030	12/08/15	AOC18-7	2	3	3	0-03	--
AOC18-8-21032	12/08/15	AOC18-8	0	1	0.5	0-0.5	--
AOC18-8-21033	12/08/15	AOC18-8	2	3	3	0-03	--
AOC18-9-21036	12/07/15	AOC18-9	0	0.5	0.5	0-0.5	--
AOC18-9-21037	12/07/15	AOC18-9	0	0.5	0.5	0-0.5	--
AOC18-9-21038	12/07/15	AOC18-9	2	3	3	0-03	--
AOC19-10-22000	12/16/15	AOC19-10	0	0.5	0.5	0-0.5	--
AOC19-10-22001	12/16/15	AOC19-10	2	3	3	0-03	--
AOC19-10-22021	01/22/17	AOC19-10	5	5.5	5.5	0-06	--
AOC19-10-22022	01/22/17	AOC19-10	6.5	7	7	0-10	--
AOC19-10-D1	12/04/13	AOC19-OS10	0	0.5	0.5	0-0.5	--

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Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC19-10-D2	12/04/13	AOC19-OS10	2	3	3	0-03	--
AOC19-1-1001	01/12/11	AOC19-OS1	0	0.5	0.5	0-0.5	--
AOC19-1-1002	01/12/11	AOC19-OS1	1	2	2	0-03	--
AOC19-11-22018	03/10/16	AOC19-11	0	1	0.5	0-0.5	--
AOC19-11-22019	03/10/16	AOC19-11	2	3	3	0-03	--
AOC19-11-22020	03/10/16	AOC19-11	2	3	3	0-03	--
AOC19-11-22023	01/23/17	AOC19-11	5	6	6	0-06	--
AOC19-11-22024	01/23/17	AOC19-11	9	10	10	0-10	--
AOC19-12-22025	01/21/17	AOC19-12	0	0.5	0.5	0-0.5	--
AOC19-12-22026	01/21/17	AOC19-12	2	3	3	0-03	--
AOC19-12-22027	01/21/17	AOC19-12	2	3	3	0-03	--
AOC19-12-22028	01/21/17	AOC19-12	4	5	5	0-06	--
AOC19-13-22029	01/22/17	AOC19-13	0	0.5	0.5	0-0.5	--
AOC19-13-22030	01/22/17	AOC19-13	2	3	3	0-03	--
AOC19-13-22031	01/22/17	AOC19-13	5	6	6	0-06	--
AOC19-14-22032	01/21/17	AOC19-14	0	0.5	0.5	0-0.5	--
AOC19-14-22033	01/21/17	AOC19-14	0	0.5	0.5	0-0.5	--
AOC19-14-22034	01/21/17	AOC19-14	2	3	3	0-03	--
AOC19-14-22035	01/21/17	AOC19-14	5	6	6	0-06	--
AOC19-15-22036	01/21/17	AOC19-15	0	0.5	0.5	0-0.5	--
AOC19-15-22037	01/21/17	AOC19-15	2	3	3	0-03	--
AOC19-15-22038	01/21/17	AOC19-15	5	6	6	0-06	--
AOC19-2-1003	01/12/11	AOC19-OS2	0	0.5	0.5	0-0.5	--
AOC19-2-1004	01/12/11	AOC19-OS2	1	2	2	0-03	--
AOC19-3-1005	01/12/11	AOC19-OS3	0	0.5	0.5	0-0.5	--
AOC19-3-1006	01/12/11	AOC19-OS3	1	2	2	0-03	--
AOC19-4-1007	01/12/11	AOC19-OS4	0	0.5	0.5	0-0.5	--
AOC19-4-1008	01/12/11	AOC19-OS4	1	2	2	0-03	--
AOC19-5-22002	12/06/15	AOC19-5	0	0.5	0.5	0-0.5	--
AOC19-5-22003	12/06/15	AOC19-5	2	3	3	0-03	--
AOC19-6-22006	01/23/16	AOC19-6	0	0.5	0.5	0-0.5	--
AOC19-6-22007	01/23/16	AOC19-6	2	3	3	0-03	--
AOC19-7-22008	01/23/16	AOC19-7	0	0.5	0.5	0-0.5	--
AOC19-7-22009	01/23/16	AOC19-7	0	0.5	0.5	0-0.5	--
AOC19-7-22010	01/23/16	AOC19-7	2	3	3	0-03	--
AOC19-7-D1	12/04/13	AOC19-OS7	0	0.5	0.5	0-0.5	--
AOC19-7-D2	12/04/13	AOC19-OS7	2	3	3	0-03	--
AOC19-8-22011	12/16/15	AOC19-8	0	0.5	0.5	0-0.5	--
AOC19-8-22012	12/16/15	AOC19-8	2	3	3	0-03	--
AOC19-8-22013	12/16/15	AOC19-8	5	6	6	0-06	--

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Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
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AOC19-8-22014	12/16/15	AOC19-8	9	10	10	0-10	--
AOC19-8-D1	12/04/13	AOC19-OS8	0	0.5	0.5	0-0.5	--
AOC19-8-D2	12/04/13	AOC19-OS8	2	3	3	0-03	--
AOC19-9-22015	12/05/15	AOC19-9	0	0.5	0.5	0-0.5	--
AOC19-9-22016	12/05/15	AOC19-9	2	3	3	0-03	--
AOC19-9-22017	12/06/15	AOC19-9	5	6	6	0-06	--
AOC20-08-OS1-1001	12/18/16	AOC20-08	0	0.5	0.5	0-0.5	--
AOC20-08-OS1-1002	12/18/16	AOC20-08	4	5	5	0-06	--
AOC20-09-OS1-1001	12/20/16	AOC20-09	0	0.5	0.5	0-0.5	--
AOC20-09-OS1-1002	12/20/16	AOC20-09	4	5	5	0-06	--
AOC20-09-OS1-1003	12/20/16	AOC20-09	4	5	5	0-06	--
AOC20-11-OS1-1001	12/21/16	AOC20-11	0	0.5	0.5	0-0.5	--
AOC20-11-OS1-1002	12/21/16	AOC20-11	2	3	3	0-03	--
AOC20-11-OS1-1003	12/21/16	AOC20-11	6	7	7	0-10	--
AOC20-1-23000	01/26/16	AOC20-1	0	1	0.5	0-0.5	--
AOC20-1-23001	01/26/16	AOC20-1	2	3	3	0-03	--
AOC20-1-23002	01/26/16	AOC20-1	2	3	3	0-03	--
AOC20-12-OS1-1001	12/21/16	AOC20-12	0	0.5	0.5	0-0.5	--
AOC20-12-OS1-1002	12/21/16	AOC20-12	2	3	3	0-03	--
AOC20-12-OS1-1003	12/21/16	AOC20-12	5	6	6	0-06	--
AOC20-13-OS1-1001	12/21/16	AOC20-13	0	0.5	0.5	0-0.5	--
AOC20-13-OS1-1002	12/21/16	AOC20-13	2	3	3	0-03	--
AOC20-13-OS1-1003	12/21/16	AOC20-13	2	3	3	0-03	--
AOC20-13-OS1-1004	12/21/16	AOC20-13	5	6	6	0-06	--
AOC20-14-OS1-1001	12/19/16	AOC20-14	0	0.5	0.5	0-0.5	--
AOC20-14-OS1-1002	12/19/16	AOC20-14	2	3	3	0-03	--
AOC20-14-OS1-1003	12/20/16	AOC20-14	6	7	7	0-10	--
AOC20-14-OS1-1004	12/20/16	AOC20-14	6	7	7	0-10	--
AOC20-16-OS1-1001	12/19/16	AOC20-16	0	0.5	0.5	0-0.5	--
AOC20-16-OS1-1002	12/19/16	AOC20-16	2	3	3	0-03	--
AOC20-16-OS1-1003	12/19/16	AOC20-16	5	6	6	0-06	--
AOC20-16-OS1-1004	12/19/16	AOC20-16	9	9.5	9.5	0-10	--
AOC20-16-OS1-1005	12/19/16	AOC20-16	9	9.5	9.5	0-10	--
AOC20-18-OS1-1001	12/17/16	AOC20-18	0	0.5	0.5	0-0.5	--
AOC20-18-OS1-1002	12/17/16	AOC20-18	3	3.5	3.5	0-06	--
AOC20-21-OS1-1001	12/20/16	AOC20-21	0	0.5	0.5	0-0.5	--
AOC20-21-OS1-1002	12/20/16	AOC20-21	2	3	3	0-03	--
AOC20-21-OS1-1003	12/20/16	AOC20-21	5	6	6	0-06	--
AOC20-21-OS1-1004	12/20/16	AOC20-21	8.5	9	9	0-10	--
AOC20-21-OS1-1005	12/20/16	AOC20-21	8.5	9	9	0-10	--

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Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC20-2-23003	12/18/15	AOC20-2	0	1	0.5	0-0.5	--
AOC20-2-23004	12/18/15	AOC20-2	2	3	3	0-03	--
AOC20-2-23016	12/18/15	AOC20-2	5	6	6	0-06	--
AOC20-2-23017	12/18/15	AOC20-2	9	10	10	0-10	--
AOC20-3-23005	12/18/15	AOC20-3	0	1	0.5	0-0.5	--
AOC20-3-23006	12/18/15	AOC20-3	2	3	3	0-03	--
AOC20-3-23019	12/18/15	AOC20-3	7	8	8	0-10	--
AOC20-4-23007	12/15/15	AOC20-4	0	1	0.5	0-0.5	--
AOC20-4-23008	12/15/15	AOC20-4	0	1	0.5	0-0.5	--
AOC20-4-23009	12/15/15	AOC20-4	2	3	3	0-03	--
AOC20-4-23016	12/15/15	AOC20-4	1.9	2	2	0-03	--
AOC20-5-23010	12/15/15	AOC20-5	0	1	0.5	0-0.5	--
AOC20-5-23011	12/15/15	AOC20-5	2	3	3	0-03	--
AOC20-6-23012	12/15/15	AOC20-6	0	1	0.5	0-0.5	--
AOC20-6-23013	12/15/15	AOC20-6	2	3	3	0-03	--
AOC20-7-23014	12/18/15	AOC20-7	0	1	0.5	0-0.5	--
AOC20-7-23015	12/18/15	AOC20-7	2	3	3	0-03	--
AOC20-7-23018	12/18/15	AOC20-7	5	5.5	5.5	0-06	--
AOC21-1-24000	01/12/16	AOC21-1	0	0.5	0.5	0-0.5	--
AOC21-1-24001	01/12/16	AOC21-1	2	3	3	0-03	--
AOC21-1-24002	01/12/16	AOC21-1	5	6	6	0-06	--
AOC21-1-24003	01/11/17	AOC21-1	9	10	10	0-10	--
AOC21-1-24004	01/11/17	AOC21-1	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
AOC21-OS1-D1	09/23/14	AOC21-OS1	0	0.5	0.5	0-0.5	--
AOC21-OS1-D2	09/23/14	AOC21-OS1	2	3	3	0-03	--
AOC21-OS1-D3	09/23/14	AOC21-OS1	5	6	6	0-06	--
AOC21-OS1-D99	09/23/14	AOC21-OS1	2	3	3	0-03	--
AOC21-OS2-D1	09/23/14	AOC21-OS2	0	0.5	0.5	0-0.5	--
AOC21-OS2-D2	09/23/14	AOC21-OS2	1	1.5	1.5	0-03	--
AOC21-OS3-D1	09/23/14	AOC21-OS3	0	0.5	0.5	0-0.5	--
AOC21-OS3-D2	09/23/14	AOC21-OS3	2	3	3	0-03	--
AOC21-OS4-D1	09/23/14	AOC21-OS4	0	0.5	0.5	0-0.5	--
AOC21-OS4-D2	09/23/14	AOC21-OS4	2	3	3	0-03	--
AOC21-OS5-D1	10/27/14	AOC21-OS5	7	8	8	0-10	--
AOC21-OS6-D1	10/27/14	AOC21-OS6	8	9	9	0-10	--
AOC21-OS7-D1	10/27/14	AOC21-OS7	3.5	4.5	4.5	0-06	--
AOC21-OS8-D1	10/27/14	AOC21-OS8	5	6	6	0-06	--
AOC21-OS8-D99	10/27/14	AOC21-OS8	5	6	6	0-06	--
AOC21-OS9-D1	10/27/14	AOC21-OS9	5	6	6	0-06	--

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Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
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AOC22-1-25000	01/06/16	AOC22-1	0	0.5	0.5	0-0.5	--
AOC22-1-25001	01/06/16	AOC22-1	0	0.5	0.5	0-0.5	--
AOC22-1-25002	01/06/16	AOC22-1	2	3	3	0-03	--
AOC22-2-25003	01/06/16	AOC22-2	0	0.5	0.5	0-0.5	--
AOC22-2-25004	01/06/16	AOC22-2	2	3	3	0-03	--
AOC22-2-25005	01/17/17	AOC22-2	5	6	6	0-06	--
AOC22-2-25006	01/17/17	AOC22-2	5	6	6	0-06	--
AOC22-2-25007	01/17/17	AOC22-2	9	10	10	0-10	--
AOC22-3-25008	01/17/17	AOC22-3	0	0.5	0.5	0-0.5	--
AOC22-3-25009	01/17/17	AOC22-3	2	3	3	0-03	--
AOC22-3-25010	01/17/17	AOC22-3	5	6	6	0-06	--
AOC22-3-25011	01/17/17	AOC22-3	9	10	10	0-10	--
AOC23-1-26000	12/08/15	AOC23-1	0	1	0.5	0-0.5	--
AOC23-1-26001	12/08/15	AOC23-1	0	1	0.5	0-0.5	--
AOC23-1-26002	12/08/15	AOC23-1	2	3	3	0-03	--
AOC23-2-26003	01/07/16	AOC23-2	0	0.5	0.5	0-0.5	--
AOC23-3-26005	01/07/16	AOC23-3	0	0.5	0.5	0-0.5	--
AOC23-4-26006	01/17/17	AOC23-4	0	0.5	0.5	0-0.5	--
AOC23-4-26007	01/17/17	AOC23-4	2	3	3	0-03	--
AOC24-1-27000	01/10/16	AOC24-1	0	0.5	0.5	0-0.5	--
AOC24-1-27001	01/10/16	AOC24-1	2	3	3	0-03	--
AOC24-2-27002	01/11/16	AOC24-2	0	0.5	0.5	0-0.5	--
AOC24-2-27003	01/11/16	AOC24-2	0	0.5	0.5	0-0.5	--
AOC24-2-27004	01/11/16	AOC24-2	2	3	3	0-03	--
AOC24-2-27005	01/11/16	AOC24-2	5	6	6	0-06	--
AOC24-OS1-0001	12/14/11	AOC24-OS1	0	0.5	0.5	0-0.5	--
AOC24-OS1-0002	12/14/11	AOC24-OS1	1	2	2	0-03	--
AOC24-OS2-0001	12/14/11	AOC24-OS2	0	0.5	0.5	0-0.5	--
AOC24-OS2-0002	12/14/11	AOC24-OS2	1	2	2	0-03	--
AOC26-1-28000	12/15/15	AOC26-1	0	0.5	0.5	0-0.5	--
AOC26-1-28001	12/15/15	AOC26-1	2	3	3	0-03	--
AOC26-1-28002	12/15/15	AOC26-1	5	6	6	0-06	--
AOC26-1-28003	12/15/15	AOC26-1	9	10	10	0-10	--
AOC26-1-28004	01/10/16	AOC26-1	24	25	25	NE	Excluded from HHERA (> 10 ft bgs)
AOC26-1-28005	01/10/16	AOC26-1	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
AOC26-1-28006	01/11/16	AOC26-1	74	75	75	NE	Excluded from HHERA (> 10 ft bgs)
AOC26-2-28007	01/14/16	AOC26-2	0	0.5	0.5	0-0.5	--

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC26-2-28008	01/14/16	AOC26-2	2	3	3	0-03	--
AOC26-2-28009	01/14/16	AOC26-2	5	6	6	0-06	--
AOC26-3-28011	01/13/16	AOC26-3	0	0.5	0.5	0-0.5	--
AOC26-3-28012	01/13/16	AOC26-3	2	3	3	0-03	--
AOC26-3-28013	01/13/16	AOC26-3	5	6	6	0-06	--
AOC26-4-28015	01/13/16	AOC26-4	0	0.5	0.5	0-0.5	--
AOC26-4-28016	01/13/16	AOC26-4	2	3	3	0-03	--
AOC26-4-28017	01/13/16	AOC26-4	5	6	6	0-06	--
AOC26-4-28018	01/13/16	AOC26-4	9	10	10	0-10	--
AOC26-5-28019	01/13/16	AOC26-5	0	0.5	0.5	0-0.5	--
AOC26-5-28020	01/13/16	AOC26-5	2	3	3	0-03	--
AOC26-5-28021	01/13/16	AOC26-5	5	6	6	0-06	--
AOC26-5-28022	01/13/16	AOC26-5	8	9	9	0-10	--
AOC26-Pit4-0001	07/26/11	AOC13-PITOS13	0	0.5	0.5	0-0.5	--
AOC26-Pit4-0002	07/26/11	AOC13-PITOS13	2	3	3	0-03	--
AOC26-Pit4-0003	07/26/11	AOC13-PITOS13	5	6	6	0-06	--
AOC26-Pit4-0004	07/26/11	AOC13-PITOS13	9	9.5	9.5	0-10	--
AOC26-Pit4-1001	07/26/11	AOC13-PITOS13	0	0.5	0.5	0-0.5	--
AOC26-Pit5-0001	07/26/11	AOC13-PITOS14	0	0.5	0.5	0-0.5	--
AOC26-Pit5-0002	07/26/11	AOC13-PITOS14	2	3	3	0-03	--
AOC26-Pit5-0003	07/26/11	AOC13-PITOS14	4	4.5	4.5	0-06	--
AOC2A	02/20/03	AOC 2A	0.4	0.4	0.4	0-0.5	--
AOC2B	02/20/03	AOC 2B	0.4	0.4	0.4	0-0.5	--
AOC4-17-3100	12/01/15	AOC4-17	2	3	3	0-03	--
AOC4-17-OS1-D1	10/17/13	AOC4-17-OS1	2	3	3	0-03	--
AOC4-17-OS1-D2	10/17/13	AOC4-17-OS1	5	6	6	0-06	--
AOC4-17-OS99-D2	10/17/13	AOC4-17-OS1	5	6	6	0-06	--
AOC4-18-3103	12/01/15	AOC4-18	2	3	3	0-03	--
AOC4-18-OS2-D1	10/17/13	AOC4-18-OS2	2	3	3	0-03	--
AOC4-18-OS2-D2	10/17/13	AOC4-18-OS2	5	6	6	0-06	--
AOC4-23-3114	12/06/15	AOC4-23	0	1	0.5	0-0.5	--
AOC4-23-3115	12/06/15	AOC4-23	2	3	3	0-03	--
AOC4-24-3116	12/06/15	AOC4-24	0	1	0.5	0-0.5	--
AOC4-24-3117	12/06/15	AOC4-24	2	3	3	0-03	--
AOC4-25-3118	11/20/15	AOC4-25	0	1	0.5	0-0.5	--
AOC4-26-3120	11/20/15	AOC4-26	0	1	0.5	0-0.5	--
AOC4-26-3121	11/20/15	AOC4-26	2	3	3	0-03	--
AOC4-26-3172	02/01/17	AOC4-26	5	6	6	0-06	--
AOC4-27-3122	11/20/15	AOC4-27	0	1	0.5	0-0.5	--
AOC4-27-3123	11/20/15	AOC4-27	2	3	3	0-03	--

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Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC4-27-3174	02/01/17	AOC4-27	5	5.5	5.5	0-06	--
AOC4-28-3124	11/20/15	AOC4-28	0	1	0.5	0-0.5	--
AOC4-29-3153	12/02/15	AOC4-29	0	1	0.5	0-0.5	--
AOC4-29-3154	12/03/15	AOC4-29	2	3	3	0-03	--
AOC4-29-3155	12/03/15	AOC4-29	5	6	6	0-06	--
AOC4-30-3157	12/02/15	AOC4-30	0	1	0.5	0-0.5	--
AOC4-30-3158	12/03/15	AOC4-30	2	3	3	0-03	--
AOC4-30-3159	12/03/15	AOC4-30	5	6	6	0-06	--
AOC4-30-OS3-D1	10/17/13	AOC4-30-OS3	2	3	3	0-03	--
AOC4-30-OS3-D2	10/17/13	AOC4-30-OS3	5	6	6	0-06	--
AOC4-31-3161	12/02/15	AOC4-31	0	1	0.5	0-0.5	--
AOC4-31-3162	12/02/15	AOC4-31	2	3	3	0-03	--
AOC4-31-3163	12/02/15	AOC4-31	5	6	6	0-06	--
AOC4-31-OS4-D1	10/17/13	AOC4-31-OS4	2	3	3	0-03	--
AOC4-31-OS4-D2	10/17/13	AOC4-31-OS4	5	6	6	0-06	--
AOC4-32-3164	12/02/15	AOC4-32	0	1	0.5	0-0.5	--
AOC4-32-3165	12/02/15	AOC4-32	2	3	3	0-03	--
AOC4-32-3166	12/02/15	AOC4-32	5	6	6	0-06	--
AOC4-32-OS5-D1	10/17/13	AOC4-32-OS5	2	3	3	0-03	--
AOC4-32-OS5-D2	10/17/13	AOC4-32-OS5	5	6	6	0-06	--
AOC4-36-3188	01/05/17	AOC4-36	0	0.5	0.5	0-0.5	--
AOC4-36-3189	01/05/17	AOC4-36	0.9	1	1	0-03	--
AOC4-37-3192	02/04/17	AOC4-37	0	0.5	0.5	0-0.5	--
AOC4-38-3196	02/02/17	AOC4-38	0	0.5	0.5	0-0.5	--
AOC4-38-3197	02/02/17	AOC4-38	2	2.2	2.2	0-03	--
AOC4-39-3200	01/05/17	AOC4-39	0	0.5	0.5	0-0.5	--
AOC4-39-3201	01/05/17	AOC4-39	0	0.5	0.5	0-0.5	--
AOC4-39-3202	01/05/17	AOC4-39	1.5	1.7	1.7	0-03	--
AOC4-40-3205	02/06/17	AOC4-40	0	0.5	0.5	0-0.5	--
AOC4-40-3206	02/06/17	AOC4-40	0	0.5	0.5	0-0.5	--
AOC4-40-3207	02/06/17	AOC4-40	0.5	1	1	0-03	--
AOC4-41-3210	02/02/17	AOC4-41	0	0.5	0.5	0-0.5	--
AOC4-42-3177	02/04/17	AOC4-42	0	0.5	0.5	0-0.5	--
AOC4-42-3178	02/04/17	AOC4-42	2	3	3	0-03	--
AOC4-42-3179	02/04/17	AOC4-42	5	6	6	0-06	--
AOC4-42-3181	02/04/17	AOC4-42	7	7.5	7.5	0-10	--
AOC4-L01-10881	05/14/10	AOC4-L01	0	0	0	0-0.5	--
AOC4-L02-10885	05/14/10	AOC4-L02	0	0	0	0-0.5	--
AOC4-L03-10889	05/13/10	AOC4-L03	0	0	0	0-0.5	--
AOC4-M01-10961	09/30/10	AOC4-M01	0	0	0	0-0.5	--

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PG&E Topock Compressor Station
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AOC4-M02-10965	09/30/10	AOC4-M02	0	0	0	0-0.5	--
AOC4-M03-10969	10/04/10	AOC4-M03	0	0	0	0-0.5	--
AOC4-M04-10973	10/05/10	AOC4-M04	0	0	0	0-0.5	--
AOC4-N01-11105	09/30/10	AOC4-N01	0	0	0	0-0.5	--
AOC4-N02-11109	09/30/10	AOC4-N02	0	0	0	0-0.5	--
AOC4-N03-11113	10/04/10	AOC4-N03	0	0	0	0-0.5	--
AOC4-N04-11117	10/05/10	AOC4-N04	0	0	0	0-0.5	--
AOC4-N05-11058	10/05/10	AOC4-N05	0	0	0	0-0.5	--
AOC4-O02-11125	10/04/10	AOC4-O02	0	0	0	0-0.5	--
AOC4-O03-11131	10/26/10	AOC4-O03	0	0	0	0-0.5	--
AOC4-O04-11133	10/26/10	AOC4-O04	0	0	0	0-0.5	--
AOC4-O05-11137	10/27/10	AOC4-O05	0	0	0	0-0.5	--
AOC4-O06-11141	10/07/10	AOC4-O06	0	0	0	0-0.5	--
AOC4-O20-21137	10/27/10	AOC4-O05	0	0	0	0-0.5	--
AOC4-O25-21131	10/26/10	AOC4-O03	0	0	0	0-0.5	--
AOC4-P03-11209	10/04/10	AOC4-P03	0	0	0	0-0.5	--
AOC4-P04-11214	11/19/10	AOC4-P04	0	0	0	0-0.5	--
AOC4-P05-11218	10/27/10	AOC4-P05	0	0	0	0-0.5	--
AOC4-P06-11222	10/25/10	AOC4-P06	0	0	0	0-0.5	--
AOC4-P07-11226	10/22/10	AOC4-P07	0	0	0	0-0.5	--
AOC4-P08-11231	10/22/10	AOC4-P08	0	0	0	0-0.5	--
AOC4-P25-21218	10/27/10	AOC4-P05	0	0	0	0-0.5	--
AOC4-Q04-11253	10/07/10	AOC4-Q04	0	0	0	0-0.5	--
AOC4-Q05-11257	10/07/10	AOC4-Q05	0	0	0	0-0.5	--
AOC4-Q06-11262	10/25/10	AOC4-Q06	0	0	0	0-0.5	--
AOC4-Q07-11266	10/25/10	AOC4-Q07	0	0	0	0-0.5	--
AOC4-Q08-11270	10/22/10	AOC4-Q08	0	0	0	0-0.5	--
AOC4-Q25-21257	10/07/10	AOC4-Q05	0	0	0	0-0.5	--
AOC4-R05-11298	10/29/10	AOC4-R05	0	0	0	0-0.5	--
AOC4-R06-11301	10/07/10	AOC4-R06	0	0	0	0-0.5	--
AOC4-R07-11305	10/08/10	AOC4-R07	0	0	0	0-0.5	--
AOC4-R25-21298	10/29/10	AOC4-R05	0	0	0	0-0.5	--
AOC4-tar	02/06/17	AOC4-tar	0	0.5		0-0.5	--
AOC5-1-13000	01/19/16	AOC5-1	0	0.5	0.5	0-0.5	--
AOC5-1-13001	01/19/16	AOC5-1	2	3	3	0-03	--
AOC5-1-13002	01/19/16	AOC5-1	5	6	6	0-06	--
AOC5-1-13003	01/19/16	AOC5-1	9	10	10	0-10	--
AOC5-2-13004	12/08/15	AOC5-2	0	0.5	0.5	0-0.5	--
AOC5-2-13005	12/08/15	AOC5-2	2	3	3	0-03	--
AOC5-2-13019	01/18/17	AOC5-2	5	6	6	0-06	--

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PG&E Topock Compressor Station
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AOC5-2-D1	12/05/13	AOC5-OS2	0	0.5	0.5	0-0.5	--
AOC5-2-D2	12/05/13	AOC5-OS2	2	3	3	0-03	--
AOC5-2-Scale	01/18/17	AOC5-2	0.5	0.5	0.5	0-0.5	--
AOC5-3-13006	01/23/16	AOC5-3	0	0.5	0.5	0-0.5	--
AOC5-3-13007	01/23/16	AOC5-3	2	3	3	0-03	--
AOC5-3-D1	12/05/13	AOC5-OS3	0	0.5	0.5	0-0.5	--
AOC5-3-D2	12/05/13	AOC5-OS3	2	3	3	0-03	--
AOC5-4-13010	01/23/16	AOC5-4	0	0.5	0.5	0-0.5	--
AOC5-4-13011	01/23/16	AOC5-4	2	3	3	0-03	--
AOC5-4-13021	01/19/17	AOC5-4	5	5.5	5.5	0-06	--
AOC5-4-13022	01/19/17	AOC5-4	6.5	7	7	0-10	--
AOC5-4-D1	12/05/13	AOC5-OS4	0	0.5	0.5	0-0.5	--
AOC5-4-D2	12/05/13	AOC5-OS4	2	3	3	0-03	--
AOC5-5-13012	01/14/16	AOC5-5	0	0.5	0.5	0-0.5	--
AOC5-5-13013	01/14/16	AOC5-5	2	3	3	0-03	--
AOC5-5-13014	01/14/16	AOC5-5	5	6	6	0-06	--
AOC5-5-13015	01/14/16	AOC5-5	9	10	10	0-10	--
AOC5-6-13016	01/19/16	AOC5-6	0	0.5	0.5	0-0.5	--
AOC5-6-13017	01/19/16	AOC5-6	0.5	1	1	0-03	--
AOC5-6-13018	01/19/16	AOC5-6	2	3	3	0-03	--
AOC5-99-D2	12/05/13	AOC5-OS4	2	3	3	0-03	--
AOC6-1-14000	01/20/16	AOC6-1	0	0.5	0.5	0-0.5	--
AOC6-1-14001	01/20/16	AOC6-1	2	3	3	0-03	--
AOC6-1-14002	01/20/16	AOC6-1	2	3	3	0-03	--
AOC6-2-14003	01/20/16	AOC6-2	0	0.5	0.5	0-0.5	--
AOC6-2-14004	01/20/16	AOC6-2	2	3	3	0-03	--
AOC6-3-14005	01/20/16	AOC6-3	0	0.5	0.5	0-0.5	--
AOC6-3-14006	01/20/16	AOC6-3	0	0.5	0.5	0-0.5	--
AOC6-3-14007	01/20/16	AOC6-3	2	3	3	0-03	--
AOC6-4-14008	01/20/16	AOC6-4	0	0.5	0.5	0-0.5	--
AOC6-4-14009	01/20/16	AOC6-4	2	3	3	0-03	--
AOC6-5-14010	01/19/16	AOC6-5	0	0.5	0.5	0-0.5	--
AOC6-5-14011	01/19/16	AOC6-5	2	3	3	0-03	--
AOC6-5-14012	01/19/16	AOC6-5	2	3	3	0-03	--
AOC6-5-14019	01/24/17	AOC6-5	5	6	6	0-06	--
AOC6-5-14020	01/24/17	AOC6-5	9	10	10	0-10	--
AOC6-6-0001	11/08/11	AOC6-6	0	0.5	0.5	0-0.5	--
AOC6-6-0002	11/08/11	AOC6-6	2	3	3	0-03	--
AOC6-6-0003	11/08/11	AOC6-6	4	5	5	0-06	--
AOC6-7-14013	01/19/16	AOC6-7	0	0.5	0.5	0-0.5	--

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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
AOC6-7-14014	01/19/16	AOC6-7	2	3	3	0-03	--
AOC6-7-14021	01/24/17	AOC6-7	5	6	6	0-06	--
AOC6-7-14022	01/24/17	AOC6-7	9	10	10	0-10	--
AOC6-8-14015	01/25/16	AOC6-8	0	0.5	0.5	0-0.5	--
AOC6-8-14016	01/25/16	AOC6-8	2	3	3	0-03	--
AOC6-8-14017	01/25/16	AOC6-8	5	6	6	0-06	--
AOC6-8-14018	01/25/16	AOC6-8	8	9	9	0-10	--
AOC7-1-15000	01/06/16	AOC7-1	0	0.5	0.5	0-0.5	--
AOC7-1-15001	01/06/16	AOC7-1	2	3	3	0-03	--
AOC7-2-15002	01/06/16	AOC7-2	0	0.5	0.5	0-0.5	--
AOC7-2-15003	01/06/16	AOC7-2	0	0.5	0.5	0-0.5	--
AOC7-2-15004	01/06/16	AOC7-2	2	3	3	0-03	--
AOC7-3-15005	12/09/15	AOC7-3	0	1	0.5	0-0.5	--
AOC7-3-15006	12/09/15	AOC7-3	2	3	3	0-03	--
AOC7-4-15007	12/09/15	AOC7-4	0	1	0.5	0-0.5	--
AOC7-4-15008	12/09/15	AOC7-4	2	3	3	0-03	--
AOC7-5-15009	01/06/16	AOC7-5	0	0.5	0.5	0-0.5	--
AOC7-5-15010	01/06/16	AOC7-5	2	3	3	0-03	--
AOC8-1-16000	01/07/16	AOC8-1	0	0.5	0.5	0-0.5	--
AOC8-1-16001	01/07/16	AOC8-1	2	3	3	0-03	--
AOC8-2-16002	12/09/15	AOC8-2	0	1	0.5	0-0.5	--
AOC8-2-16003	12/09/15	AOC8-2	2	3	3	0-03	--
BH-65-10001	03/17/11	BH-65	9	10	10	0-10	--
BH-65-10002	03/17/11	BH-65	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10003	03/17/11	BH-65	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10004	03/17/11	BH-65	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10005	03/17/11	BH-65	37	40	40	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10006	03/17/11	BH-65	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10007	03/17/11	BH-65	59	60	60	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10008	03/18/11	BH-65	69	70	70	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10009	03/18/11	BH-65	79	80	80	NE	Excluded from HHERA (> 10 ft bgs)

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
BH-65-10010	03/18/11	BH-65	89	90	90	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10011	03/18/11	BH-65	99	100	100	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10012	03/18/11	BH-65	109	110	110	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10013	03/18/11	BH-65	119	120	120	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10014	03/19/11	BH-65	129	130	130	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10015	03/19/11	BH-65	139	140	140	NE	Excluded from HHERA (> 10 ft bgs)
BH-65-10016	03/24/11	BH-65	0	0.5	0.5	0-0.5	--
BH-65-10017	03/24/11	BH-65	2	3	3	0-03	--
BH-65-50001	03/18/11	BH-65	79	80	80	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10101	03/23/11	BH-66	0	0.5	0.5	0-0.5	--
BH-66-10102	03/23/11	BH-66	2	3	3	0-03	--
BH-66-10103	03/23/11	BH-66	5	6	6	0-06	--
BH-66-10104	04/12/11	BH-66	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10105	04/12/11	BH-66	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10106	04/12/11	BH-66	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10107	04/12/11	BH-66	39	40	40	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10108	04/12/11	BH-66	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10109	04/13/11	BH-66	59	60	60	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10110	04/13/11	BH-66	69	70	70	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10111	04/13/11	BH-66	79	80	80	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10112	04/13/11	BH-66	89	90	90	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10113	04/13/11	BH-66	99	100	100	NE	Excluded from HHERA (> 10 ft bgs)

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
BH-66-10114	04/13/11	BH-66	109	110	110	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10115	04/14/11	BH-66	119	120	120	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-10116	04/14/11	BH-66	129	130	130	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-50003	04/12/11	BH-66	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-66-50004	04/14/11	BH-66	119	120	120	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10201	03/17/11	BH-67	0	0.5	0.5	0-0.5	--
BH-67-10202	03/17/11	BH-67	2	3	3	0-03	--
BH-67-10203	03/17/11	BH-67	5	6	6	0-06	--
BH-67-10204	04/29/11	BH-67	9	10	10	0-10	--
BH-67-10205	04/29/11	BH-67	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10206	04/29/11	BH-67	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10207	04/29/11	BH-67	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10208	04/29/11	BH-67	39	40	40	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10209	04/29/11	BH-67	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10210	04/29/11	BH-67	59	60	60	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10211	04/29/11	BH-67	69	70	70	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10212	04/29/11	BH-67	79	80	80	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10213	04/29/11	BH-67	89	90	90	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10214	04/29/11	BH-67	99	100	100	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10215	04/29/11	BH-67	109	110	110	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10216	04/29/11	BH-67	119	120	120	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10217	04/30/11	BH-67	129	130	130	NE	Excluded from HHERA (> 10 ft bgs)

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
BH-67-10218	04/30/11	BH-67	139	140	140	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10219	04/30/11	BH-67	149	150	150	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-10220	04/30/11	BH-67	159	160	160	NE	Excluded from HHERA (> 10 ft bgs)
BH-67-50007	04/30/11	BH-67	139	140	140	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10301	03/17/11	BH-68	2	3	3	0-03	--
BH-68-10302	03/17/11	BH-68	5	6	6	0-06	--
BH-68-10303	03/17/11	BH-68	0	0.5	0.5	0-0.5	--
BH-68-10304	05/13/11	BH-68	9	10	10	0-10	--
BH-68-10305	05/13/11	BH-68	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10306	05/13/11	BH-68	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10307	05/13/11	BH-68	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10308	05/13/11	BH-68	39	40	40	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10309	05/13/11	BH-68	49	50	50	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10310	05/13/11	BH-68	59	60	60	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10311	05/13/11	BH-68	69	70	70	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10312	05/13/11	BH-68	79	80	80	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10313	05/13/11	BH-68	89	90	90	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10314	05/13/11	BH-68	99	100	100	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10315	05/13/11	BH-68	109	110	110	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10316	05/13/11	BH-68	119	120	120	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10317	05/13/11	BH-68	129	130	130	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10318	05/14/11	BH-68	139	140	140	NE	Excluded from HHERA (> 10 ft bgs)

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
BH-68-10319	05/14/11	BH-68	149	150	150	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-10320	05/14/11	BH-68	159	160	160	NE	Excluded from HHERA (> 10 ft bgs)
BH-68-50009	03/17/11	BH-68	0	0.5	0.5	0-0.5	--
BH-68-50010	05/13/11	BH-68	99	100	100	NE	Excluded from HHERA (> 10 ft bgs)
BH-69-10401	03/18/11	BH-69	0	0.5	0.5	0-0.5	--
BH-69-10402	03/18/11	BH-69	2	3	3	0-03	--
BH-69-10403	05/31/11	BH-69	5	6	6	0-06	--
BH-69-10404	05/31/11	BH-69	9	10	10	0-10	--
BH-69-10405	05/31/11	BH-69	14	15	15	NE	Excluded from HHERA (> 10 ft bgs)
BH-69-10406	05/31/11	BH-69	19	20	20	NE	Excluded from HHERA (> 10 ft bgs)
BH-69-10407	05/31/11	BH-69	29	30	30	NE	Excluded from HHERA (> 10 ft bgs)
BH-69-10408	05/31/11	BH-69	39	40	40	NE	Excluded from HHERA (> 10 ft bgs)
CTB-2-001_110811	11/08/11	AOC6-OS1	0	0.5	0.5	0-0.5	--
JP-10-2	11/13/98	JP-10	2	2	2	0-03	--
JP-10-3	11/13/98	JP-10	3	3	3	0-03	--
JP-10-S	11/13/98	JP-10	0	0	0	0-0.5	--
JP-1-3	04/25/97	JP-1	3	3	3	0-03	--
JP-1-4.5	04/25/97	JP-1	4.5	4.5	4.5	0-06	--
JP-1-S	04/24/97	JP-1	0	0	0	0-0.5	--
JP-2-3	04/25/97	JP-2	3	3	3	0-03	--
JP-2-S	04/24/97	JP-2	0	0	0	0-0.5	--
JP-3-S	04/24/97	JP-3	0	0	0	0-0.5	--
JP-4-S	04/24/97	JP-4	0	0	0	0-0.5	--
JP-5-S	04/24/97	JP-5	0	0	0	0-0.5	--
JP-6-S	04/24/97	JP-6	0	0	0	0-0.5	--
JP-7-S	04/24/97	JP-7	0	0	0	0-0.5	--
JP-8-3	11/13/98	JP-8	3	3	3	0-03	--
JP-8-S	11/13/98	JP-8	0	0	0	0-0.5	--
JP-9-3	11/13/98	JP-9	3	3	3	0-03	--
JP-9-S	11/13/98	JP-9	0	0	0	0-0.5	--
PA-01-1	11/09/15	PA-01	0	1	0.5	0-0.5	--
PA-02-1	11/09/15	PA-02	0	1	0.5	0-0.5	--
PA-07-1	11/09/15	PA-07	0	1	0.5	0-0.5	--

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PG&E Topock Compressor Station
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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
PA-13-01	01/27/16	PA-13	0	1	0.5	0-0.5	--
PA-14-01	01/27/16	PA-14	0	1	0.5	0-0.5	--
PA-15-01	01/27/16	PA-15	0	1	0.5	0-0.5	--
PA-16-01	01/27/16	PA-16	0	1	0.5	0-0.5	--
PA-17-01	01/27/16	PA-17	0	1	0.5	0-0.5	--
PA-22-01	01/27/16	PA-22	0	1	0.5	0-0.5	--
PA-OS3-D1	12/10/14	PA-OS3	0.5	0.5	0.5	0-0.5	--
PA-OS3-D2	12/10/14	PA-OS3	3	3	3	0-03	--
PGE-LT5-0.5	03/08/07	PGE-LT-OS5	0.5	0.5	0.5	0-0.5	--
PGE-LT5-3.0	03/08/07	PGE-LT-OS5	3	3	3	0-03	--
PGE-LT6-0.5	03/08/07	PGE-LT-OS6	0.5	0.5	0.5	0-0.5	--
PGE-LT6-3.0	03/08/07	PGE-LT-OS6	3	3	3	0-03	--
PGE-LT7-0.5	03/08/07	PGE-LT-OS7	0.5	0.5	0.5	0-0.5	--
PGE-LT7-3.0	03/08/07	PGE-LT-OS7	3	3	3	0-03	--
PGE-LT8-0.5	03/08/07	PGE-LT-OS8	0.5	0.5	0.5	0-0.5	--
PGE-LT8-3.0	03/08/07	PGE-LT-OS8	3	3	3	0-03	--
PGE-LT9-0.5	03/08/07	PGE-LT-OS9	0.5	0.5	0.5	0-0.5	--
PGE-LT9-3.0	03/08/07	PGE-LT-OS9	3	3	3	0-03	--
PGE-UT1-0.5	03/08/07	PGE-UTOS1	0.5	0.5	0.5	0-0.5	--
PGE-UT1-3.0	03/08/07	PGE-UTOS1	3	3	3	0-03	--
PGE-UT2-0.5	03/08/07	PGE-UTOS2	0.5	0.5	0.5	0-0.5	--
PGE-UT2-3.0	03/08/07	PGE-UTOS2	3	3	3	0-03	--
PGE-UT3-0.5	03/08/07	PGE-UTOS3	0.5	0.5	0.5	0-0.5	--
PGE-UT3-3.0	03/08/07	PGE-UTOS3	3	3	3	0-03	--
PGE-UT4-0.5	03/08/07	PGE-UTOS4	0.5	0.5	0.5	0-0.5	--
PGE-UT4-3.0	03/08/07	PGE-UTOS4	3	3	3	0-03	--
PS-1-0	04/13/99	PS-1	0	0	0	0-0.5	--
PS-10-0	04/13/99	PS-10	0	0	0	0-0.5	--
PS-1-1	04/13/99	PS-1	1	1	1	0-03	--
PS-11-0	04/13/99	PS-11	0	0	0	0-0.5	--
PS-12-0	04/13/99	PS-12	0	0	0	0-0.5	--
PS-13-0	04/13/99	PS-13	0	0	0	0-0.5	--
PS-13-3	04/13/99	PS-13	3	3	3	0-03	--
PS-14-0	04/13/99	PS-14	0	0	0	0-0.5	--
PS-15-0	04/13/99	PS-15	0	0	0	0-0.5	--
PS-16-0	04/13/99	PS-16	0	0	0	0-0.5	--
PS-17-0	04/13/99	PS-17	0	0	0	0-0.5	--
PS-17-3	04/13/99	PS-17	3	3	3	0-03	--
PS-18-0	04/13/99	PS-18	0	0	0	0-0.5	--
PS-19-0	04/13/99	PS-19	0	0	0	0-0.5	--

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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
PS-2-0	04/13/99	PS-2	0	0	0	0-0.5	--
PS-20-0	04/13/99	PS-20	0	0	0	0-0.5	--
PS-2-3	04/13/99	PS-2	3	3	3	0-03	--
PS-3-0	04/13/99	PS-3	0	0	0	0-0.5	--
PS-3-3	04/13/99	PS-3	3	3	3	0-03	--
PS-4-0	04/13/99	PS-4	0	0	0	0-0.5	--
PS-5-0	04/13/99	PS-5	0	0	0	0-0.5	--
PS-6-0	04/13/99	PS-6	0	0	0	0-0.5	--
PS-7-0	04/13/99	PS-7	0	0	0	0-0.5	--
PS-8-0	04/13/99	PS-8	0	0	0	0-0.5	--
PS-8-3	04/13/99	PS-8	3	3	3	0-03	--
PS-9-0	04/13/99	PS-9	0	0	0	0-0.5	--
SD-24-01	03/09/16	SD-24	0	1	0.5	0-0.5	--
SD-24-03	03/09/16	SD-24	2	3	3	0-03	--
SD-28-01	02/05/17	SD-28	0	0.5	0.5	0-0.5	--
SD-28-02	02/05/17	SD-28	2	3	3	0-03	--
SD-28-03	02/05/17	SD-28	5	6	6	0-06	--
SD-28-04	02/05/17	SD-28	9	10	10	0-10	--
SD-29-01	02/04/17	SD-29	0	0.5	0.5	0-0.5	--
SD-29-02	02/04/17	SD-29	2	3	3	0-03	--
SD-29-03	02/05/17	SD-29	4.5	5	5	0-06	--
SD-29-04	02/05/17	SD-29	7.5	8	8	0-10	--
SD-31-01	02/15/17	SD-31	0	0.5	0.5	0-0.5	--
SD-31-02	02/15/17	SD-31	0	0.5	0.5	0-0.5	--
SD-31-03	02/15/17	SD-31	2	3	3	0-03	--
SD-31-PIPE	02/15/17	SD-31	1	2	2	0-03	--
SD-34A-OS1-1001	12/02/16	SD-OS34A	0	0.5	0.5	0-0.5	--
SD-34A-OS1-1002	12/02/16	SD-OS34A	1	1.5	1.5	0-03	--
SD-34A-OS1-1003	12/02/16	SD-OS34A	2	3	3	0-03	--
SD-34A-OS1-1004	12/02/16	SD-OS34A	5	6	6	0-06	--
SD-34-OS1-1001	12/02/16	SD-OS34	0	0.5	0.5	0-0.5	--
SD-34-OS1-1002	12/02/16	SD-OS34	1	1.5	1.5	0-03	--
SD-34-OS1-1003	12/03/16	SD-OS34	2	3	3	0-03	--
SD-34-OS1-1004	12/03/16	SD-OS34	5	6	6	0-06	--
SD-34-OS1-1005	12/02/16	SD-OS34	0.5	1	1	0-03	--
SD-34-OS1-1006	12/03/16	SD-OS34	5	6	6	0-06	--
SD-35A-OS1-1001	12/05/16	SD-OS35A	4.5	5.5	5.5	0-06	--
SD-35A-OS1-1002	12/05/16	SD-OS35A	2	3	3	0-03	--
SD-35A-OS1-1003	12/05/16	SD-OS35A	0	0.5	0.5	0-0.5	--
SD-35-OS1-1001	12/04/16	SD-OS35	0	0.5	0.5	0-0.5	--

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Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
SD-35-OS1-1002	12/04/16	SD-OS35	2	3	3	0-03	--
SD-35-OS1-1003	12/05/16	SD-OS35	4.5	5.5	5.5	0-06	--
SD-36-OS1-1001	12/01/16	SD-OS36	0	0.5	0.5	0-0.5	--
SD-36-OS1-1002	12/01/16	SD-OS36	2.5	3	3	0-03	--
SD-36-OS1-1003	12/01/16	SD-OS36	5	6	6	0-06	--
SD-38-OS1-1001	12/13/16	SD-OS38	0	0.5	0.5	0-0.5	--
SD-38-OS1-1002	12/13/16	SD-OS38	3	4	4	0-06	--
SD-39-OS1-1001	11/29/16	SD-OS39	0	0.5	0.5	0-0.5	--
SD-39-OS1-1002	11/29/16	SD-OS39	2.5	3	3	0-03	--
SD-39-OS1-1003	11/29/16	SD-OS39	2.5	3	3	0-03	--
SD-39-OS1-1004	11/29/16	SD-OS39	0	0.5	0.5	0-0.5	--
SD-40-OS1-1001	12/06/16	SD-OS40	0	0.5	0.5	0-0.5	--
SD-40-OS1-1002	12/06/16	SD-OS40	2	3	3	0-03	--
SD-40-OS1-1003	12/06/16	SD-OS40	5	5.5	5.5	0-06	--
SD-40-OS1-1004	12/09/16	SD-OS40	6	7	7	0-10	--
SD-40-OS1-1005	12/09/16	SD-OS40	7	8	8	0-10	--
SD-40-OS1-1006	12/09/16	SD-OS40	9	10	10	0-10	--
SD-40-OS1-1007	12/11/16	SD-OS40	7	8	8	0-10	--
SD-40-OS1-1008	12/09/16	SD-OS40	5	6	6	0-06	--
SD-41-OS1-1001	12/13/16	SD-OS41	0	0.5	0.5	0-0.5	--
SD-41-OS1-1002	12/13/16	SD-OS41	2	3	3	0-03	--
SD-41-OS1-1003	12/14/16	SD-OS41	5	6	6	0-06	--
SD-41-OS1-1004	12/14/16	SD-OS41	8	8.5	8.5	0-10	--
SD-7-D1	12/17/15	SD-7	0	1	0.5	0-0.5	--
SD-7-D2	12/17/15	SD-7	2	3	3	0-03	--
SD-7-D3	12/18/15	SD-7	5	6	6	0-06	--
SD-7-D4	12/18/15	SD-7	9	10	10	0-10	--
SD-7-D5	12/18/15	SD-7	9	10	10	0-10	--
SWMU11-1-32000	01/19/16	SWMU11-1	0	0.5	0.5	0-0.5	--
SWMU11-1-32001	01/19/16	SWMU11-1	2	3	3	0-03	--
SWMU11-2-32002	01/26/16	SWMU11-2	0	0.5	0.5	0-0.5	--
SWMU11-2-32003	01/26/16	SWMU11-2	2	3	3	0-03	--
SWMU11-3-32004	01/19/16	SWMU11-3	0	0.5	0.5	0-0.5	--
SWMU11-3-32005	01/19/16	SWMU11-3	2	3	3	0-03	--
SWMU11-3-32010	01/18/17	SWMU11-3	5	6	6	0-06	--
SWMU11-3-32011	01/18/17	SWMU11-3	9	10	10	0-10	--
SWMU11-4-32006	01/25/16	SWMU11-4	0	0.5	0.5	0-0.5	--
SWMU11-4-32007	01/25/16	SWMU11-4	2	3	3	0-03	--
SWMU11-5-32008	01/20/16	SWMU11-5	0	0.5	0.5	0-0.5	--
SWMU11-5-32009	01/20/16	SWMU11-5	2	3	3	0-03	--

Table ICS-1.1
Samples and Sampling Locations Included in the ICS Exposure Area

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Location ID	Upper Depth (ft bgs)	Lower Depth (ft bgs)	Risk End Depth (ft bgs)	Baseline (ft bgs)	Notes
SWMU5-1-29000	12/08/15	SWMU5-1	0	1	0.5	0-0.5	--
SWMU5-1-29001	12/08/15	SWMU5-1	2	3	3	0-03	--
SWMU5-2-29002	12/07/15	SWMU5-2	0	0.5	0.5	0-0.5	--
SWMU5-2-29003	12/07/15	SWMU5-2	2	3	3	0-03	--
SWMU5-2-29004	12/07/15	SWMU5-2	2	3	3	0-03	--
SWMU5-2-29005	01/12/17	SWMU5-2	5	6	6	0-06	--
SWMU5-2-29006	01/12/17	SWMU5-2	5	6	6	0-06	--
SWMU5-2-29007	01/12/17	SWMU5-2	9	10	10	0-10	--
SWMU6-1-30000	12/07/15	SWMU6-1	0	1	0.5	0-0.5	--
SWMU6-1-30001	12/07/15	SWMU6-1	2	3	3	0-03	--
SWMU6-1-30002	12/07/15	SWMU6-1	5	6	6	0-06	--
SWMU6-1-30003	01/12/17	SWMU6-1	9	10	10	0-10	--
SWMU6-1-30004	01/12/17	SWMU6-1	9	10	10	0-10	--
SWMU8-1-31000	12/09/15	SWMU8-1	0	1	0.5	0-0.5	--
SWMU8-1-31001	12/09/15	SWMU8-1	2	3	3	0-03	--
TD-3	11/12/15	TD-3	0	0	0	0-0.5	--
TD-4	11/12/15	TD-4	0	0	0	0-0.5	--
Units 4.3-1-33000	12/07/15	Units4.3-1	0	1	0.5	0-0.5	--
Units 4.3-1-33001	12/07/15	Units4.3-1	2	3	3	0-03	--
Units 4.3-2-33002	12/07/15	Units4.3-2	0	1	0.5	0-0.5	--
Units 4.3-2-33003	12/07/15	Units4.3-2	2	3	3	0-03	--

Abbreviations:

AOC = area of concern

ft bgs = feet below ground surface

HHERA = human health and ecological risk assessment

NE = not evaluated in the HHERA

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	41 / 41	2,700 - 16,000	mg/kg	No	Within Background
Antimony	2 / 265	2.7 - 3.2	mg/kg	Yes	Above Background
Arsenic	236 / 265	1.4 - 18	mg/kg	No	Within Background
Barium	264 / 265	39 - 1,100	mg/kg	No	Within Background
Beryllium	1 / 265	0.54	mg/kg	No	Within Background
Cadmium	16 / 265	0.53 - 7.2	mg/kg	No	Within Background
Calcium ^b	44 / 44	9,800 - 100,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	169 / 285	0.21 - 170	mg/kg	Yes	Above Background
Chromium, total	297 / 298	4.9 - 2,100	mg/kg	Yes	Above Background
Cobalt	261 / 263	2.2 - 27	mg/kg	No	Within Background
Copper	290 / 292	3.7 - 1,500	mg/kg	Yes	Above Background
Cyanide	5 / 41	0.38 - 5.0	mg/kg	Yes	Detected
Iron ^b	43 / 43	6,200 - 31,000	mg/kg	No	Within Background
Lead	271 / 272	1.1 - 820	mg/kg	Yes	Above Background
Magnesium ^b	40 / 40	2,900 - 13,000	mg/kg	No	Within Background
Manganese ^b	43 / 43	130 - 320	mg/kg	No	Within Background
Mercury (inorganic)	38 / 265	0.10 - 4.6	mg/kg	Yes	Above Background
Molybdenum	79 / 272	0.86 - 1,300	mg/kg	Yes	Above Background
Nickel	289 / 290	3.8 - 67	mg/kg	No	Within Background
Potassium ^b	40 / 40	710 - 2,900	mg/kg	No	Within Background
Selenium	1 / 265	0.86	mg/kg	No	Within Background
Silver	0 / 265	ND	mg/kg	No	Not Detected
Sodium ^b	43 / 44	58 - 2,700	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Sulfate ^c	3 / 3	25 - 3,690	mg/kg	No	No Toxicity Values Available
Thallium	1 / 265	2.4	mg/kg	Yes	Above Background
Vanadium	262 / 263	9.7 - 63	mg/kg	No	Within Background
Zinc	297 / 298	12 - 1,900	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 26	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,1-Trichloroethane	0 / 26	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 26	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 26	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 26	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 26	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 26	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 17	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 26	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 137	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 26	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 26	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 26	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 137	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 26	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 26	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 26	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 137	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 17	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 137	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 34	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 17	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 120	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 120	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 26	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 3	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 17	ND	ug/kg	No	Not Detected
Acetone	1 / 26	650	ug/kg	Yes	Detected
Acrolein	0 / 26	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 26	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzene	0 / 26	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 120	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 120	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 26	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 17	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 26	ND	ug/kg	No	Not Detected
Bromoform	0 / 26	ND	ug/kg	No	Not Detected
Bromomethane	0 / 26	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 26	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 26	ND	ug/kg	No	Not Detected
Chloro methane	0 / 26	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 26	ND	ug/kg	No	Not Detected
Chloroethane	0 / 26	ND	ug/kg	No	Not Detected
Chloroform	0 / 26	ND	ug/kg	No	Not Detected
cis-1,2-Dichloroethene	0 / 26	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 26	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 17	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 26	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 26	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 128	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 34	ND	ug/kg	No	Not Detected
Isobutyl alcohol	0 / 9	ND	ug/kg	No	Not Detected
Isophorone	0 / 120	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 26	ND	ug/kg	No	Not Detected
Methyl acetate	1 / 3	28	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 26	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 26	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 26	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Methylcyclohexane	0 / 3	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 26	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 26	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 120	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 26	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 17	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 26	ND	ug/kg	No	Not Detected
Styrene	0 / 26	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 26	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 26	ND	ug/kg	No	Not Detected
Toluene	2 / 26	5.8 - 5.9	ug/kg	Yes	Detected
trans-1,2-Dichloroethene	0 / 26	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 17	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 26	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 17	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 26	ND	ug/kg	No	Not Detected
Xylenes, total	1 / 26	17	ug/kg	Yes	Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 34	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 34	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 34	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 120	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 120	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 120	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 120	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 120	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 120	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 120	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 120	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 120	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
2-Nitrophenol	0 / 120	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 120	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 120	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 120	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 120	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 120	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 120	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 120	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 120	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 120	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 120	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 120	ND	ug/kg	No	Not Detected
Acetophenone	0 / 34	ND	ug/kg	No	Not Detected
Atrazine	0 / 34	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 34	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 120	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 120	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 120	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 120	360	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 120	ND	ug/kg	No	Not Detected
Caprolactam	0 / 34	ND	ug/kg	No	Not Detected
Carbazole	0 / 34	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 120	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 120	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 120	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 120	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 120	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 120	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 120	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 120	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-nitrosodiphenylamine	0 / 120	ND	ug/kg	No	Not Detected
Phenol	0 / 120	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	10 / 204	5.1 - 2,400	ug/kg	Yes	Detected
2-Methyl naphthalene	23 / 205	5.0 - 2,900	ug/kg	Yes	Detected
Acenaphthene	8 / 214	7.9 - 440	ug/kg	Yes	Detected
Acenaphthylene	2 / 212	7.1 - 76	ug/kg	Yes	Detected
Anthracene	27 / 216	5.6 - 270	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	116 / 224	5.2 - 4,600	ug/kg	Yes	Above Background
Benzo (a) pyrene ^d	97 / 222	5.3 - 1,900	ug/kg	Yes	Above Background
Benzo (b) fluoranthene ^d	123 / 224	5.1 - 4,400	ug/kg	Yes	Above Background
Benzo (ghi) perylene	85 / 220	5.2 - 1,800	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	88 / 223	5.0 - 1,300	ug/kg	Yes	Above Background
Chrysene ^d	129 / 223	5.3 - 2,600	ug/kg	Yes	Above Background
Dibenzo (a,h) anthracene ^d	11 / 215	5.1 - 170	ug/kg	Yes	Above Background
Fluoranthene	155 / 223	5.1 - 9,400	ug/kg	Yes	Detected
Fluorene	7 / 214	5.3 - 260	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	76 / 220	5.2 - 1,500	ug/kg	Yes	Above Background
Naphthalene	5 / 213	5.5 - 990	ug/kg	Yes	Detected
Phenanthrene	106 / 222	5.0 - 5,200	ug/kg	Yes	Detected
Pyrene	151 / 223	5.0 - 7,700	ug/kg	Yes	Detected
B(a)P Equivalent ^e	149 / 225	6.1 - 2,900	ug/kg	Yes	Above Background
Pesticides					
4,4-DDD	0 / 22	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 22	7.2	ug/kg	Yes	Detected
4,4-DDT	1 / 22	6.0	ug/kg	Yes	Detected
Aldrin	0 / 22	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 22	ND	ug/kg	No	Not Detected
alpha-Chlordane	2 / 22	1.3 - 1.7	ug/kg	Yes	Detected
beta-BHC	0 / 22	ND	ug/kg	No	Not Detected

Table ICS-2.1a

Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
delta-BHC	0 / 22	ND	ug/kg	No	Not Detected
Dieldrin	0 / 22	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 22	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 22	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 22	ND	ug/kg	No	Not Detected
Endrin	0 / 22	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 22	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 21	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 22	ND	ug/kg	No	Not Detected
gamma-Chlordane	2 / 22	1.6 - 2.8	ug/kg	Yes	Detected
Heptachlor	0 / 22	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 22	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 22	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 156	ND	ug/kg	No	Not Detected
Toxaphene	0 / 22	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	121 / 206	44 - 13,800	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	91 / 153	10 - 270	mg/kg	Yes	Detected
TPH as gasoline	0 / 36	ND	mg/kg	No	Not Detected
TPH as motor oil	141 / 153	11 - 810	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^g	100 / 100	0.10 - 2,200	ng/kg	Yes	Above Background

Table ICS-2.1a**Chemicals Included in the Risk Assessment: ICS Surface Soil (0 to 0.5 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for sulfate, thus sulfate was not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	67 / 67	2,000 - 18,000	mg/kg	No	Within Background
Antimony	5 / 493	0.77 - 6.1	mg/kg	Yes	Above Background
Arsenic	463 / 493	1.3 - 18	mg/kg	No	Within Background
Barium	492 / 493	29 - 1,100	mg/kg	No	Within Background
Beryllium	2 / 493	0.28 - 0.54	mg/kg	No	Within Background
Cadmium	28 / 493	0.23 - 10	mg/kg	No	Within Background
Calcium ^b	74 / 74	6,900 - 310,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	272 / 513	0.21 - 170	mg/kg	Yes	Above Background
Chromium, total	537 / 538	3.9 - 2,100	mg/kg	Yes	Above Background
Cobalt	484 / 491	1.2 - 28	mg/kg	No	Within Background
Copper	525 / 530	1.7 - 1,500	mg/kg	Yes	Above Background
Cyanide	5 / 64	0.38 - 5.0	mg/kg	Yes	Detected
Iron ^b	69 / 69	4,200 - 38,000	mg/kg	No	Within Background
Lead	499 / 502	1.1 - 1,100	mg/kg	Yes	Above Background
Magnesium ^b	66 / 66	2,600 - 15,000	mg/kg	No	Within Background
Manganese ^b	69 / 69	70 - 360	mg/kg	No	Within Background
Mercury (inorganic)	65 / 493	0.10 - 25	mg/kg	Yes	Above Background
Molybdenum	122 / 502	0.57 - 1,300	mg/kg	Yes	Above Background
Nickel	527 / 528	1.8 - 210	mg/kg	No	Within Background
Potassium ^b	66 / 66	440 - 3,800	mg/kg	No	Within Background
Selenium	8 / 493	0.52 - 3.0	mg/kg	No	Within Background
Silver	4 / 493	1.2 - 3.4	mg/kg	Yes	Above Background
Sodium ^b	73 / 74	58 - 3,400	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Sulfate ^c	3 / 3	25 - 3,690	mg/kg	No	No Toxicity Values Available
Thallium	5 / 493	1.2 - 2.4	mg/kg	Yes	Above Background
Vanadium	490 / 491	6.7 - 82	mg/kg	No	Within Background
Zinc	537 / 538	4.1 - 1,900	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 153	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,1-Trichloroethane	0 / 153	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 153	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 153	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 153	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 153	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 153	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 135	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 135	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 153	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 273	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 153	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 153	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 153	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 273	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 153	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 153	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 153	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 273	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 135	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 273	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 50	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 135	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 231	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 231	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 153	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 33	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 135	ND	ug/kg	No	Not Detected
Acetone	3 / 153	140 - 2,200	ug/kg	Yes	Detected
Acrolein	0 / 153	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 153	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzene	0 / 153	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 231	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 231	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 153	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 135	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 153	ND	ug/kg	No	Not Detected
Bromoform	0 / 153	ND	ug/kg	No	Not Detected
Bromomethane	0 / 153	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 153	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 153	ND	ug/kg	No	Not Detected
Chloro methane	0 / 153	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 153	ND	ug/kg	No	Not Detected
Chloroethane	0 / 153	ND	ug/kg	No	Not Detected
Chloroform	2 / 153	5.8 - 12	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 153	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 135	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 33	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 153	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 135	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 153	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 153	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 255	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 53	ND	ug/kg	No	Not Detected
Isobutyl alcohol	0 / 18	ND	ug/kg	No	Not Detected
Isophorone	0 / 231	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 153	ND	ug/kg	No	Not Detected
Methyl acetate	2 / 33	28 - 1,800	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 153	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 153	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 153	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Methylcyclohexane	0 / 33	ND	ug/kg	No	Not Detected
Methylene chloride	0 / 153	ND	ug/kg	No	Not Detected
n-Butylbenzene	0 / 153	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 231	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 153	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 135	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 153	ND	ug/kg	No	Not Detected
Styrene	0 / 153	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 153	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 153	ND	ug/kg	No	Not Detected
Toluene	2 / 153	5.8 - 5.9	ug/kg	Yes	Detected
trans-1,2-Dichloroethene	0 / 153	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 135	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 153	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 135	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 153	ND	ug/kg	No	Not Detected
Xylenes, total	1 / 153	17	ug/kg	Yes	Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 53	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 53	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 53	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 231	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 231	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 231	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 231	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 231	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 231	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 231	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 231	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 231	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
2-Nitrophenol	0 / 231	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 231	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 231	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 231	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 231	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 231	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 231	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 231	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 231	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 231	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 231	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 231	ND	ug/kg	No	Not Detected
Acetophenone	0 / 53	ND	ug/kg	No	Not Detected
Atrazine	0 / 53	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 53	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 227	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 231	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 231	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	1 / 231	360	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 231	ND	ug/kg	No	Not Detected
Caprolactam	0 / 53	ND	ug/kg	No	Not Detected
Carbazole	0 / 53	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 231	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 231	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 231	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 231	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 231	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 231	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 231	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 231	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-nitrosodiphenylamine	0 / 231	ND	ug/kg	No	Not Detected
Phenol	0 / 231	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	18 / 363	5.1 - 2,400	ug/kg	Yes	Detected
2-Methyl naphthalene	38 / 368	5.0 - 2,900	ug/kg	Yes	Detected
Acenaphthene	15 / 388	5.4 - 440	ug/kg	Yes	Detected
Acenaphthylene	6 / 384	5.4 - 2,000	ug/kg	Yes	Detected
Anthracene	46 / 391	5.4 - 270	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	182 / 403	5.1 - 4,600	ug/kg	Yes	Above Background
Benzo (a) pyrene ^d	152 / 401	5.3 - 1,900	ug/kg	Yes	Above Background
Benzo (b) fluoranthene ^d	196 / 403	5.1 - 4,400	ug/kg	Yes	Above Background
Benzo (ghi) perylene	137 / 398	5.1 - 1,800	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	141 / 402	5.0 - 1,300	ug/kg	Yes	Above Background
Chrysene ^d	198 / 402	5.1 - 2,600	ug/kg	Yes	Above Background
Dibenzo (a,h) anthracene ^d	20 / 390	5.1 - 310	ug/kg	Yes	Above Background
Fluoranthene	240 / 402	5.1 - 9,400	ug/kg	Yes	Detected
Fluorene	9 / 387	5.3 - 260	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	125 / 398	5.2 - 1,500	ug/kg	Yes	Above Background
Naphthalene	11 / 389	5.4 - 990	ug/kg	Yes	Detected
Phenanthrene	150 / 400	5.0 - 29,000	ug/kg	Yes	Detected
Pyrene	237 / 402	5.0 - 28,000	ug/kg	Yes	Detected
B(a)P Equivalent ^e	236 / 404	6.1 - 2,900	ug/kg	Yes	Above Background
Pesticides					
4,4-DDD	0 / 29	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 29	7.2	ug/kg	Yes	Detected
4,4-DDT	1 / 29	6.0	ug/kg	Yes	Detected
Aldrin	0 / 29	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 29	ND	ug/kg	No	Not Detected
alpha-Chlordane	2 / 29	1.3 - 1.7	ug/kg	Yes	Detected
beta-BHC	0 / 29	ND	ug/kg	No	Not Detected

Table ICS-2.1b

Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
delta-BHC	0 / 29	ND	ug/kg	No	Not Detected
Dieldrin	0 / 29	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 29	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 29	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 29	ND	ug/kg	No	Not Detected
Endrin	0 / 29	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 29	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 23	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 29	ND	ug/kg	No	Not Detected
gamma-Chlordane	2 / 29	1.6 - 2.8	ug/kg	Yes	Detected
Heptachlor	0 / 29	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 29	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 29	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 272	ND	ug/kg	No	Not Detected
Toxaphene	0 / 29	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	196 / 368	43 - 13,800	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	155 / 303	10 - 7,100	mg/kg	Yes	Detected
TPH as gasoline	0 / 180	ND	mg/kg	No	Not Detected
TPH as motor oil	250 / 303	11 - 21,000	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^g	151 / 156	0.10 - 2,200	ng/kg	Yes	Above Background

Table ICS-2.1b**Chemicals Included in the Risk Assessment: ICS Shallow Soil (0 to 3 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for sulfate, thus sulfate was not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	79 / 79	670 - 20,000	mg/kg	No	Within Background
Antimony	5 / 594	0.77 - 6.1	mg/kg	Yes	Above Background
Arsenic	564 / 594	1.2 - 18	mg/kg	No	Within Background
Barium	593 / 594	20 - 1,100	mg/kg	No	Within Background
Beryllium	3 / 594	0.28 - 0.54	mg/kg	No	Within Background
Cadmium	34 / 594	0.23 - 10	mg/kg	No	Within Background
Calcium ^b	90 / 90	6,900 - 310,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	303 / 614	0.21 - 170	mg/kg	Yes	Above Background
Chromium, total	639 / 640	2.8 - 2,100	mg/kg	Yes	Above Background
Cobalt	585 / 592	1.1 - 28	mg/kg	No	Within Background
Copper	623 / 631	1.7 - 1,500	mg/kg	Yes	Above Background
Cyanide	5 / 71	0.38 - 5.0	mg/kg	Yes	Detected
Iron ^b	81 / 81	2,400 - 38,000	mg/kg	No	Within Background
Lead	598 / 604	1.1 - 1,100	mg/kg	Yes	Above Background
Magnesium ^b	78 / 78	2,600 - 17,000	mg/kg	No	Within Background
Manganese ^b	81 / 81	64 - 520	mg/kg	No	Within Background
Mercury (inorganic)	69 / 594	0.10 - 25	mg/kg	Yes	Above Background
Molybdenum	140 / 604	0.57 - 1,300	mg/kg	Yes	Above Background
Nickel	628 / 629	1.8 - 210	mg/kg	No	Within Background
Potassium ^b	78 / 78	170 - 3,800	mg/kg	No	Within Background
Selenium	10 / 594	0.52 - 3.0	mg/kg	No	Within Background
Silver	5 / 594	1.2 - 3.4	mg/kg	Yes	Above Background
Sodium ^b	89 / 90	58 - 3,400	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Sulfate ^c	3 / 3	25 - 3,690	mg/kg	No	No Toxicity Values Available
Thallium	9 / 594	1.2 - 2.4	mg/kg	Yes	Above Background
Vanadium	591 / 592	4.4 - 82	mg/kg	No	Within Background
Zinc	639 / 640	3.4 - 1,900	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 211	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,1-Trichloroethane	0 / 211	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 211	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 211	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 211	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 211	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 211	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 193	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 193	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 211	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 336	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 211	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 211	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 211	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 336	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 211	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 211	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 211	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 336	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 193	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 336	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 60	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 193	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 285	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 285	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 211	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 48	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 193	ND	ug/kg	No	Not Detected
Acetone	4 / 211	140 - 2,200	ug/kg	Yes	Detected
Acrolein	0 / 211	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 211	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzene	0 / 211	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 285	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 285	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 211	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 193	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 211	ND	ug/kg	No	Not Detected
Bromoform	0 / 211	ND	ug/kg	No	Not Detected
Bromomethane	0 / 211	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 211	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 211	ND	ug/kg	No	Not Detected
Chloro methane	0 / 211	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 211	ND	ug/kg	No	Not Detected
Chloroethane	0 / 211	ND	ug/kg	No	Not Detected
Chloroform	2 / 211	5.8 - 12	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 211	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 193	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 48	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 211	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 193	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 211	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 211	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 318	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 65	ND	ug/kg	No	Not Detected
Isobutyl alcohol	0 / 18	ND	ug/kg	No	Not Detected
Isophorone	0 / 285	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 211	ND	ug/kg	No	Not Detected
Methyl acetate	3 / 48	25 - 1,800	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 211	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 211	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 211	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Methylcyclohexane	0 / 48	ND	ug/kg	No	Not Detected
Methylene chloride	2 / 211	5.6 - 5.7	ug/kg	Yes	Detected
n-Butylbenzene	0 / 211	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 285	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 211	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 193	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 211	ND	ug/kg	No	Not Detected
Styrene	0 / 211	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 211	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 211	ND	ug/kg	No	Not Detected
Toluene	2 / 211	5.8 - 5.9	ug/kg	Yes	Detected
trans-1,2-Dichloroethene	0 / 211	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 193	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 211	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 193	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 211	ND	ug/kg	No	Not Detected
Xylenes, total	1 / 211	17	ug/kg	Yes	Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 64	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 65	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 65	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 285	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 285	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 285	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 285	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 285	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 285	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 285	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 285	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 285	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
2-Nitrophenol	0 / 285	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 285	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 285	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 285	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 285	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 285	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 285	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 285	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 285	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 285	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 285	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 285	ND	ug/kg	No	Not Detected
Acetophenone	0 / 65	ND	ug/kg	No	Not Detected
Atrazine	0 / 65	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 65	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 279	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 285	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 285	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	2 / 285	360 - 460	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 285	ND	ug/kg	No	Not Detected
Caprolactam	0 / 65	ND	ug/kg	No	Not Detected
Carbazole	0 / 65	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 285	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 285	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 285	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 285	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 285	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 285	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 285	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 285	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-nitrosodiphenylamine	0 / 285	ND	ug/kg	No	Not Detected
Phenol		ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	19 / 444	5.1 - 2,400	ug/kg	Yes	Detected
2-Methyl naphthalene	41 / 456	5.0 - 2,900	ug/kg	Yes	Detected
Acenaphthene	18 / 476	5.4 - 440	ug/kg	Yes	Detected
Acenaphthylene	6 / 472	5.4 - 2,000	ug/kg	Yes	Detected
Anthracene	49 / 479	5.4 - 660	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	206 / 491	5.1 - 4,600	ug/kg	Yes	Above Background
Benzo (a) pyrene ^d	178 / 489	5.3 - 1,900	ug/kg	Yes	Above Background
Benzo (b) fluoranthene ^d	228 / 491	5.1 - 4,400	ug/kg	Yes	Above Background
Benzo (ghi) perylene	157 / 486	5.1 - 1,800	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	163 / 490	5.0 - 1,300	ug/kg	Yes	Above Background
Chrysene ^d	222 / 490	5.1 - 2,600	ug/kg	Yes	Above Background
Dibenzo (a,h) anthracene ^d	20 / 478	5.1 - 310	ug/kg	Yes	Above Background
Fluoranthene	270 / 490	5.1 - 9,400	ug/kg	Yes	Detected
Fluorene	10 / 475	5.3 - 320	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	139 / 486	5.2 - 1,500	ug/kg	Yes	Above Background
Naphthalene	13 / 477	5.4 - 1,100	ug/kg	Yes	Detected
Phenanthrene	164 / 488	5.0 - 29,000	ug/kg	Yes	Detected
Pyrene	269 / 490	5.0 - 28,000	ug/kg	Yes	Detected
B(a)P Equivalent ^e	270 / 492	6.1 - 2,900	ug/kg	Yes	Above Background
Pesticides					
4,4-DDD	0 / 38	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 38	7.2	ug/kg	Yes	Detected
4,4-DDT	2 / 38	5.6 - 6.0	ug/kg	Yes	Detected
Aldrin	0 / 38	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 38	ND	ug/kg	No	Not Detected
alpha-Chlordane	3 / 38	1.3 - 1.7	ug/kg	Yes	Detected
beta-BHC	0 / 38	ND	ug/kg	No	Not Detected

Table ICS-2.1c

Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
delta-BHC	0 / 38	ND	ug/kg	No	Not Detected
Dieldrin	0 / 38	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 38	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 38	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 38	ND	ug/kg	No	Not Detected
Endrin	0 / 38	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 38	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 30	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 38	ND	ug/kg	No	Not Detected
gamma-Chlordane	3 / 38	1.6 - 2.8	ug/kg	Yes	Detected
Heptachlor	0 / 38	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 38	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 38	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 327	ND	ug/kg	No	Not Detected
Toxaphene	0 / 38	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	221 / 447	43 - 13,800	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	179 / 375	10 - 7,100	mg/kg	Yes	Detected
TPH as gasoline	0 / 252	ND	mg/kg	No	Not Detected
TPH as motor oil	296 / 375	11 - 21,000	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^g	169 / 177	0.10 - 2,200	ng/kg	Yes	Above Background

Table ICS-2.1c**Chemicals Included in the Risk Assessment: ICS Subsurface I Soil (0 to 6 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels and have available toxicity values.
- ^c No toxicity values are available for sulfate, thus sulfate was not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Inorganics					
Aluminum	82 / 82	670 - 20,000	mg/kg	No	Within Background
Antimony	5 / 644	0.77 - 6.1	mg/kg	Yes	Above Background
Arsenic	611 / 644	1.2 - 18	mg/kg	No	Within Background
Barium	643 / 644	17 - 1,100	mg/kg	No	Within Background
Beryllium	4 / 644	0.28 - 0.61	mg/kg	No	Within Background
Cadmium	35 / 644	0.23 - 10	mg/kg	No	Within Background
Calcium ^b	95 / 95	6,900 - 310,000	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Chromium, Hexavalent	317 / 665	0.21 - 170	mg/kg	Yes	Above Background
Chromium, total	689 / 690	2.5 - 2,100	mg/kg	Yes	Above Background
Cobalt	634 / 642	1.1 - 28	mg/kg	No	Within Background
Copper	670 / 681	1.7 - 1,500	mg/kg	Yes	Above Background
Cyanide	5 / 74	0.38 - 5.0	mg/kg	Yes	Detected
Iron ^b	84 / 84	2,400 - 38,000	mg/kg	No	Within Background
Lead	647 / 654	1.1 - 1,100	mg/kg	Yes	Above Background
Magnesium ^b	81 / 81	2,600 - 17,000	mg/kg	No	Within Background
Manganese ^b	84 / 84	64 - 520	mg/kg	No	Within Background
Mercury (inorganic)	71 / 644	0.10 - 25	mg/kg	Yes	Above Background
Molybdenum	153 / 654	0.57 - 1,300	mg/kg	Yes	Above Background
Nickel	678 / 679	1.7 - 210	mg/kg	No	Within Background
Potassium ^b	81 / 81	170 - 4,000	mg/kg	No	Within Background
Selenium	10 / 644	0.52 - 3.0	mg/kg	No	Within Background
Silver	5 / 644	1.2 - 3.4	mg/kg	Yes	Above Background
Sodium ^b	94 / 95	58 - 3,400	mg/kg	No	Essential Nutrient (No Toxicity Values Available)
Sulfate ^c	3 / 3	25 - 3,690	mg/kg	No	No Toxicity Values Available
Thallium	11 / 644	1.2 - 2.4	mg/kg	Yes	Above Background
Vanadium	641 / 642	4.4 - 82	mg/kg	No	Within Background
Zinc	689 / 690	3.4 - 1,900	mg/kg	Yes	Above Background
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	0 / 240	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
1,1,1-Trichloroethane	0 / 240	ND	ug/kg	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 240	ND	ug/kg	No	Not Detected
1,1,2-Trichloroethane	0 / 240	ND	ug/kg	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 240	ND	ug/kg	No	Not Detected
1,1-Dichloroethane	0 / 240	ND	ug/kg	No	Not Detected
1,1-Dichloroethene	0 / 240	ND	ug/kg	No	Not Detected
1,1-Dichloropropene	0 / 222	ND	ug/kg	No	Not Detected
1,2,3-Trichlorobenzene	0 / 222	ND	ug/kg	No	Not Detected
1,2,3-Trichloropropane	0 / 240	ND	ug/kg	No	Not Detected
1,2,4-Trichlorobenzene	0 / 366	ND	ug/kg	No	Not Detected
1,2,4-Trimethylbenzene	0 / 240	ND	ug/kg	No	Not Detected
1,2-Dibromo-3-chloropropane	0 / 240	ND	ug/kg	No	Not Detected
1,2-Dibromoethane	0 / 240	ND	ug/kg	No	Not Detected
1,2-Dichlorobenzene	0 / 366	ND	ug/kg	No	Not Detected
1,2-Dichloroethane	0 / 240	ND	ug/kg	No	Not Detected
1,2-Dichloropropane	0 / 240	ND	ug/kg	No	Not Detected
1,3,5-Trimethylbenzene	0 / 240	ND	ug/kg	No	Not Detected
1,3-Dichlorobenzene	0 / 366	ND	ug/kg	No	Not Detected
1,3-Dichloropropane	0 / 222	ND	ug/kg	No	Not Detected
1,4-Dichlorobenzene	0 / 366	ND	ug/kg	No	Not Detected
1,4-Dioxane	0 / 63	ND	ug/kg	No	Not Detected
2,2-Dichloropropane	0 / 222	ND	ug/kg	No	Not Detected
2,4,5-Trichlorophenol	0 / 309	ND	ug/kg	No	Not Detected
2,4,6-Trichlorophenol	0 / 309	ND	ug/kg	No	Not Detected
2-Chlorotoluene	0 / 240	ND	ug/kg	No	Not Detected
2-Hexanone	0 / 57	ND	ug/kg	No	Not Detected
4-Isopropyltoluene	0 / 222	ND	ug/kg	No	Not Detected
Acetone	4 / 240	140 - 2,200	ug/kg	Yes	Detected
Acrolein	0 / 240	ND	ug/kg	No	Not Detected
Acrylonitrile	0 / 240	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Benzene	0 / 240	ND	ug/kg	No	Not Detected
bis (2-chloroethyl) ether	0 / 309	ND	ug/kg	No	Not Detected
bis (2-chloroisopropyl) ether	0 / 309	ND	ug/kg	No	Not Detected
Bromobenzene	0 / 240	ND	ug/kg	No	Not Detected
Bromochloromethane	0 / 222	ND	ug/kg	No	Not Detected
Bromodichloromethane	0 / 240	ND	ug/kg	No	Not Detected
Bromoform	0 / 240	ND	ug/kg	No	Not Detected
Bromomethane	0 / 240	ND	ug/kg	No	Not Detected
Carbon disulfide	0 / 240	ND	ug/kg	No	Not Detected
Carbon tetrachloride	0 / 240	ND	ug/kg	No	Not Detected
Chloro methane	0 / 240	ND	ug/kg	No	Not Detected
Chlorobenzene	0 / 240	ND	ug/kg	No	Not Detected
Chloroethane	0 / 240	ND	ug/kg	No	Not Detected
Chloroform	2 / 240	5.8 - 12	ug/kg	Yes	Detected
cis-1,2-Dichloroethene	0 / 240	ND	ug/kg	No	Not Detected
cis-1,3-Dichloropropene	0 / 222	ND	ug/kg	No	Not Detected
Cyclohexane	0 / 57	ND	ug/kg	No	Not Detected
Dibromochloromethane	0 / 240	ND	ug/kg	No	Not Detected
Dibromomethane	0 / 222	ND	ug/kg	No	Not Detected
Dichlorodifluoromethane	0 / 240	ND	ug/kg	No	Not Detected
Ethyl-benzene	0 / 240	ND	ug/kg	No	Not Detected
Hexachlorobutadiene	0 / 348	ND	ug/kg	No	Not Detected
Hexachlorocyclopentadiene	0 / 68	ND	ug/kg	No	Not Detected
Isobutyl alcohol	0 / 18	ND	ug/kg	No	Not Detected
Isophorone	0 / 309	ND	ug/kg	No	Not Detected
Isopropylbenzene	0 / 240	ND	ug/kg	No	Not Detected
Methyl acetate	3 / 57	25 - 1,800	ug/kg	Yes	Detected
Methyl ethyl ketone	0 / 240	ND	ug/kg	No	Not Detected
Methyl isobutyl ketone	0 / 240	ND	ug/kg	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 240	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
Methylcyclohexane	0 / 57	ND	ug/kg	No	Not Detected
Methylene chloride	2 / 240	5.6 - 5.7	ug/kg	Yes	Detected
n-Butylbenzene	0 / 240	ND	ug/kg	No	Not Detected
Nitrobenzene	0 / 309	ND	ug/kg	No	Not Detected
n-Propylbenzene	0 / 240	ND	ug/kg	No	Not Detected
p-Chlorotoluene	0 / 222	ND	ug/kg	No	Not Detected
sec-Butylbenzene	0 / 240	ND	ug/kg	No	Not Detected
Styrene	0 / 240	ND	ug/kg	No	Not Detected
tert-Butylbenzene	0 / 240	ND	ug/kg	No	Not Detected
Tetrachloroethene	0 / 240	ND	ug/kg	No	Not Detected
Toluene	2 / 240	5.8 - 5.9	ug/kg	Yes	Detected
trans-1,2-Dichloroethene	0 / 240	ND	ug/kg	No	Not Detected
trans-1,3-Dichloropropene	0 / 222	ND	ug/kg	No	Not Detected
Trichloroethene	0 / 240	ND	ug/kg	No	Not Detected
Trichlorofluoromethane (Freon 11)	0 / 222	ND	ug/kg	No	Not Detected
Vinyl chloride	0 / 240	ND	ug/kg	No	Not Detected
Xylenes, total	1 / 240	17	ug/kg	Yes	Detected
Semi-Volatile Organic Compounds					
1,1'-Biphenyl	0 / 66	ND	ug/kg	No	Not Detected
1,2,4,5-Tetrachlorobenzene	0 / 68	ND	ug/kg	No	Not Detected
2,3,4,6-Tetrachlorophenol	0 / 68	ND	ug/kg	No	Not Detected
2,4-Dichlorophenol	0 / 309	ND	ug/kg	No	Not Detected
2,4-Dimethylphenol	0 / 309	ND	ug/kg	No	Not Detected
2,4-Dinitrophenol	0 / 309	ND	ug/kg	No	Not Detected
2,4-Dinitrotoluene	0 / 309	ND	ug/kg	No	Not Detected
2,6-Dinitrotoluene	0 / 309	ND	ug/kg	No	Not Detected
2-Chloro naphthalene	0 / 309	ND	ug/kg	No	Not Detected
2-Chlorophenol	0 / 309	ND	ug/kg	No	Not Detected
2-Methylphenol	0 / 309	ND	ug/kg	No	Not Detected
2-Nitroaniline	0 / 309	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
2-Nitrophenol	0 / 309	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 309	ND	ug/kg	No	Not Detected
3,3-Dichlorobenzidene	0 / 309	ND	ug/kg	No	Not Detected
3-Nitroaniline	0 / 309	ND	ug/kg	No	Not Detected
4,6-Dinitro-2-methylphenol	0 / 309	ND	ug/kg	No	Not Detected
4-Bromophenyl phenyl ether	0 / 309	ND	ug/kg	No	Not Detected
4-Chloro-3-methylphenol	0 / 309	ND	ug/kg	No	Not Detected
4-Chloroaniline	0 / 309	ND	ug/kg	No	Not Detected
4-Chlorophenyl phenyl ether	0 / 309	ND	ug/kg	No	Not Detected
4-Methylphenol	0 / 309	ND	ug/kg	No	Not Detected
4-Nitroaniline	0 / 309	ND	ug/kg	No	Not Detected
4-Nitrophenol	0 / 309	ND	ug/kg	No	Not Detected
Acetophenone	0 / 68	ND	ug/kg	No	Not Detected
Atrazine	0 / 68	ND	ug/kg	No	Not Detected
Benzaldehyde	0 / 68	ND	ug/kg	No	Not Detected
Benzoic acid	0 / 303	ND	ug/kg	No	Not Detected
Benzyl alcohol	0 / 309	ND	ug/kg	No	Not Detected
bis (2-chloroethoxy) methane	0 / 309	ND	ug/kg	No	Not Detected
bis (2-ethylhexyl) phthalate	2 / 309	360 - 460	ug/kg	Yes	Detected
Butylbenzylphthalate	0 / 309	ND	ug/kg	No	Not Detected
Caprolactam	0 / 68	ND	ug/kg	No	Not Detected
Carbazole	0 / 68	ND	ug/kg	No	Not Detected
Dibenzofuran	0 / 309	ND	ug/kg	No	Not Detected
Diethyl phthalate	0 / 309	ND	ug/kg	No	Not Detected
Dimethyl phthalate	0 / 309	ND	ug/kg	No	Not Detected
Di-n-butyl phthalate	0 / 309	ND	ug/kg	No	Not Detected
Di-n-octyl phthalate	0 / 309	ND	ug/kg	No	Not Detected
Hexachlorobenzene	0 / 309	ND	ug/kg	No	Not Detected
Hexachloroethane	0 / 309	ND	ug/kg	No	Not Detected
n-Nitroso-di-n-propylamine	0 / 309	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
n-nitrosodiphenylamine	0 / 309	ND	ug/kg	No	Not Detected
Phenol	0 / 309	ND	ug/kg	No	Not Detected
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	19 / 485	5.1 - 2,400	ug/kg	Yes	Detected
2-Methyl naphthalene	42 / 498	5.0 - 2,900	ug/kg	Yes	Detected
Acenaphthene	18 / 518	5.4 - 440	ug/kg	Yes	Detected
Acenaphthylene	6 / 514	5.4 - 2,000	ug/kg	Yes	Detected
Anthracene	51 / 521	5.4 - 660	ug/kg	Yes	Detected
Benzo (a) anthracene ^d	215 / 533	5.1 - 4,600	ug/kg	Yes	Detected
Benzo (a) pyrene ^d	187 / 531	5.3 - 1,900	ug/kg	Yes	Detected
Benzo (b) fluoranthene ^d	244 / 533	5.1 - 4,400	ug/kg	Yes	Detected
Benzo (ghi) perylene	167 / 528	5.1 - 1,800	ug/kg	Yes	Detected
Benzo (k) fluoranthene ^d	173 / 532	5.0 - 1,300	ug/kg	Yes	Detected
Chrysene ^d	231 / 532	5.1 - 2,600	ug/kg	Yes	Detected
Dibenzo (a,h) anthracene ^d	20 / 520	5.1 - 310	ug/kg	Yes	Detected
Fluoranthene	285 / 532	5.1 - 9,400	ug/kg	Yes	Detected
Fluorene	10 / 517	5.3 - 320	ug/kg	Yes	Detected
Indeno (1,2,3-cd) pyrene ^d	146 / 528	5.2 - 1,500	ug/kg	Yes	Detected
Naphthalene	13 / 519	5.4 - 1,100	ug/kg	Yes	Detected
Phenanthrene	169 / 530	5.0 - 29,000	ug/kg	Yes	Detected
Pyrene	285 / 532	5.0 - 28,000	ug/kg	Yes	Detected
B(a)P Equivalent ^e	286 / 534	6.1 - 2,900	ug/kg	Yes	Above Background
Pesticides					
4,4-DDD	0 / 40	ND	ug/kg	No	Not Detected
4,4-DDE	1 / 40	7.2	ug/kg	Yes	Detected
4,4-DDT	2 / 40	5.6 - 6.0	ug/kg	Yes	Detected
Aldrin	0 / 40	ND	ug/kg	No	Not Detected
alpha-BHC	0 / 40	ND	ug/kg	No	Not Detected
alpha-Chlordane	3 / 40	1.3 - 1.7	ug/kg	Yes	Detected
beta-BHC	0 / 40	ND	ug/kg	No	Not Detected

Table ICS-2.1d

Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations	Units	Included in Risk Assessment ^a	Basis for selection as COPC in Risk Assessment
delta-BHC	0 / 40	ND	ug/kg	No	Not Detected
Dieldrin	0 / 40	ND	ug/kg	No	Not Detected
Endo sulfan I	0 / 40	ND	ug/kg	No	Not Detected
Endo sulfan II	0 / 40	ND	ug/kg	No	Not Detected
Endosulfan sulfate	0 / 40	ND	ug/kg	No	Not Detected
Endrin	0 / 40	ND	ug/kg	No	Not Detected
Endrin aldehyde	0 / 40	ND	ug/kg	No	Not Detected
Endrin ketone	0 / 32	ND	ug/kg	No	Not Detected
gamma-BHC	0 / 40	ND	ug/kg	No	Not Detected
gamma-Chlordane	3 / 40	1.6 - 2.8	ug/kg	Yes	Detected
Heptachlor	0 / 40	ND	ug/kg	No	Not Detected
Heptachlor epoxide	0 / 40	ND	ug/kg	No	Not Detected
Methoxy chlor	0 / 40	ND	ug/kg	No	Not Detected
Pentachlorophenol	0 / 352	ND	ug/kg	No	Not Detected
Toxaphene	0 / 40	ND	ug/kg	No	Not Detected
Polychlorinated Biphenyls					
Total PCBs ^f	232 / 486	43 - 13,800	ug/kg	Yes	Detected
Total Petroleum Hydrocarbons					
TPH as diesel	196 / 410	10 - 7,100	mg/kg	Yes	Detected
TPH as gasoline	0 / 287	ND	mg/kg	No	Not Detected
TPH as motor oil	315 / 410	11 - 21,000	mg/kg	Yes	Detected
Dioxins/Furans					
TEQ Human ^g	171 / 179	0.10 - 2,200	ng/kg	Yes	Above Background

Table ICS-2.1d**Chemicals Included in the Risk Assessment: ICS Subsurface II Soil (0 to 10 feet bgs) for Baseline Scenario****Soil Human Health and Ecological Risk Assessment****PG&E Topock Compressor Station****Needles, California****Notes:**

- ^a Applicable to human health risk assessment (HHRA) only.
- ^b Essential nutrient. No toxicity values are available for calcium, magnesium, potassium, and sodium, thus these chemicals are not evaluated in the HHRA. Human health toxicity values are available for iron and manganese, thus these chemicals are evaluated in the HHRA, if above background levels.
- ^c No toxicity values are available for sulfate, thus sulfate was not evaluated in the HHRA.
- ^d Carcinogenic polycyclic aromatic hydrocarbons (CPAHs).
- ^e Benzo(a)pyrene equivalent concentrations for CPAHs calculated for each sample using Potency Equivalency Factors (PEF) developed by United States Environmental Protection Agency (USEPA 2017) and recommended in Department of Toxic Substances Control (DTSC) guidance (2015).
- ^f Polychlorinated biphenyls (PCBs) are evaluated as total PCBs in the risk assessment.
- ^g Dioxins are evaluated in toxic equivalents.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

mg/kg = milligrams per kilogram.

ng/kg = nanograms per kilogram.

ug/kg = micrograms per kilogram.

COPC = Constituent of Potential Concern.

ND = Not detected.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

DTSC. 2015. Preliminary Endangerment Assessment Guidance Manual. October.

USEPA. 2017. Regional Screening Levels for Chemical Contaminants, November. Available at: <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-2.2

Chemicals Included in the Risk Assessment: ICS Soil Gas

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations (ug/m ³)	Included in Risk Assessment	Basis for selection as COPC in Risk Assessment
Volatile Organic Compounds				
1,1,1-Trichloroethane	0 / 15	ND	No	Not Detected
1,1,2,2-Tetrachloroethane	0 / 15	ND	No	Not Detected
1,1,2-Trichloroethane	0 / 15	ND	No	Not Detected
1,1,2-Trichlorotrifluoroethane (Freon 113)	0 / 15	ND	No	Not Detected
1,1-Dichloroethane	0 / 15	ND	No	Not Detected
1,1-Dichloroethene	1 / 15	4.6	Yes	Detected
1,2,4-Trichlorobenzene	0 / 15	ND	No	Not Detected
1,2,4-Trimethylbenzene	0 / 15	ND	No	Not Detected
1,2-Dibromoethane	0 / 15	ND	No	Not Detected
1,2-Dichlorobenzene	0 / 15	ND	No	Not Detected
1,2-Dichloroethane	0 / 15	ND	No	Not Detected
1,2-Dichloropropane	0 / 15	ND	No	Not Detected
1,2-Dichlorotetrafluoroethane (Freon 114)	0 / 15	ND	No	Not Detected
1,3,5-Trimethylbenzene	0 / 15	ND	No	Not Detected
1,3-Dichlorobenzene	3 / 15	6.4 - 8.7	Yes	Detected
1,4-Dichlorobenzene	0 / 15	ND	No	Not Detected
2-Hexanone	0 / 15	ND	No	Not Detected
4-Ethyltoluene	0 / 15	ND	No	Not Detected
Acetone	15 / 15	18 - 210	Yes	Detected
Benzene	6 / 15	3.4 - 178	Yes	Detected
Benzylchloride	0 / 15	ND	No	Not Detected
Bromodichloromethane	0 / 15	ND	No	Not Detected
Bromoform	0 / 15	ND	No	Not Detected
Bromomethane	0 / 15	ND	No	Not Detected
Carbon disulfide	11 / 15	4.1 - 74	Yes	Detected
Carbon tetrachloride	2 / 15	11 - 61	Yes	Detected
Chloro methane	3 / 15	2.8 - 4.2	Yes	Detected
Chlorobenzene	0 / 15	ND	No	Not Detected
Chloroethane	0 / 15	ND	No	Not Detected

Table ICS-2.2

Chemicals Included in the Risk Assessment: ICS Soil Gas

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Detection Frequency (Detections/ Samples Analyzed)	Range of Detected Site Concentrations (ug/m ³)	Included in Risk Assessment	Basis for selection as COPC in Risk Assessment
Chloroform	2 / 15	5.0 - 47	Yes	Detected
cis-1,2-Dichloroethene	0 / 15	ND	No	Not Detected
cis-1,3-Dichloropropene	0 / 15	ND	No	Not Detected
Dibromochloromethane	0 / 15	ND	No	Not Detected
Dichlorodifluoromethane	0 / 15	ND	No	Not Detected
Ethyl-benzene	3 / 15	3.3 - 115	Yes	Detected
Hexachlorobutadiene	0 / 15	ND	No	Not Detected
m,p-Xylenes	2 / 15	191 - 199	Yes	Detected
Methyl ethyl ketone	9 / 15	5.1 - 38	Yes	Detected
Methyl isobutyl ketone	0 / 15	ND	No	Not Detected
Methyl tert-butyl ether (MTBE)	0 / 15	ND	No	Not Detected
Methylene chloride	1 / 15	8.8	Yes	Detected
o-Xylene	2 / 15	63 - 68	Yes	Detected
Styrene	0 / 15	ND	No	Not Detected
Tetrachloroethene	7 / 15	6.6 - 344	Yes	Detected
Toluene	10 / 15	6.7 - 624	Yes	Detected
trans-1,2-Dichloroethene	0 / 15	ND	No	Not Detected
trans-1,3-Dichloropropene	0 / 15	ND	No	Not Detected
Trichloroethene	1 / 15	7.6	Yes	Detected
Trichlorofluoromethane (Freon 11)	0 / 15	ND	No	Not Detected
Vinyl acetate	0 / 15	ND	No	Not Detected
Vinyl chloride	0 / 15	ND	No	Not Detected

Abbreviations:

ug/m³ = micrograms per cubic meter.

COPC = Constituent of Potential Concern.

ND = Not detected.

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}				
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis	
Soil Depth Interval: 0-0.5 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-0.5	41 / 41	100	2700	16000	NA	NA	7724	7724	7600	8213890	2866	--	--	--	--	--	
Antimony	mg/kg	0-0.5	2 / 264	1	2.7	3.2	0.13	3.15	2.95	0.152	2.95	0.125	0.354	X	3.2	Max Detect	3.2	Max Detect	
Arsenic	mg/kg	0-0.5	235 / 264	89	1.4	18	0.5	1	4.014	3.628	3.7	2.638	1.624	X	3.82	95% KM (BCA) UCL	4.07	Bootstrap BCA 95UCL	
Barium	mg/kg	0-0.5	263 / 264	100	39	1100	0.5	0.5	146.1	145.6	130	8640	92.95	X	159	KM H-UCL	167	Bootstrap BCA 95UCL	
Beryllium	mg/kg	0-0.5	1 / 264	0	0.54	0.54	0.13	0.6	0.54	0.132	0.54	NA	NA	--	--	--	--	--	
Cadmium	mg/kg	0-0.5	16 / 264	6	0.53	7.2	0.13	0.6	2.027	0.246	1.45	2.328	1.526	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-0.5	168 / 284	59	0.21	170	0.08	2.1	5.871	3.508	1.2	275.6	16.6	X	6.89	95% KM (Chebyshev) UCL	1.6	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-0.5	296 / 297	100	4.9	2100	0.5	0.5	98.72	98.39	28	57922	240.7	X	159	95% KM (Chebyshev) UCL	59.9	Bootstrap BCA 95UCL	
Cobalt	mg/kg	0-0.5	260 / 262	99	2.2	27	0.5	2.55	6.396	6.356	5.85	7.992	2.827	--	--	--	--	--	
Copper	mg/kg	0-0.5	289 / 291	99	3.7	1500	1	2.05	33.96	33.74	14	10453	102.2	X	59.8	95% KM (Chebyshev) UCL	31.8	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-0.5	5 / 41	12	0.38	5	0.021	0.5	1.802	0.239	1	3.513	1.874	X	0.482	95% KM (t) UCL	0.468	Bootstrap BCA 95UCL	
Iron	mg/kg	0-0.5	43 / 43	100	6200	31000	NA	NA	14217	14217	14000	22090627	4700	--	--	--	--	--	
Lead	mg/kg	0-0.5	270 / 271	100	1.1	820	0.5	0.5	30.82	30.71	8	7036	83.88	X	52.9	95% KM (Chebyshev) UCL	29.3	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-0.5	43 / 43	100	130	320	NA	NA	215.8	215.8	220	2939	54.22	X	230	95% Student's-t UCL	227	Bootstrap BCA 95UCL	
Mercury	mg/kg	0-0.5	38 / 264	14	0.1	4.6	0.0495	0.06	0.342	0.0916	0.14	0.537	0.733	X	0.171	95% KM (Chebyshev) UCL	0.123	Bootstrap BCA 95UCL	
Molybdenum	mg/kg	0-0.5	79 / 271	29	0.86	1300	0.135	2.1	118.5	34.63	5.6	68446	261.6	X	74.7	95% KM (Chebyshev) UCL	26.5	Bootstrap BCA 95UCL	
Nickel	mg/kg	0-0.5	288 / 289	100	3.8	67	0.5	0.5	14.71	14.66	12	68.34	8.267	--	--	--	--	--	
Selenium	mg/kg	0-0.5	1 / 264	0	0.86	0.86	0.13	0.6	0.86	0.133	0.86	NA	NA	--	--	--	--	--	
Silver	mg/kg	0-0.5	0 / 264	0	NA	NA	0.13	0.6	NA	NA	NA	NA	NA	--	--	--	--	--	
Thallium	mg/kg	0-0.5	1 / 264	0	2.4	2.4	0.13	1.2	2.4	0.139	2.4	NA	NA	X	2.4	Max Detect	2.4	Max Detect	
Vanadium	mg/kg	0-0.5	261 / 262	100	9.7	63	0.5	0.5	27.21	27.1	25	101	10.05	--	--	--	--	--	
Zinc	mg/kg	0-0.5	296 / 297	100	12	1900	0.5	0.5	98.92	98.59	42	35108	187.4	X	146	95% KM (Chebyshev) UCL	163	Bootstrap BCA 95UCL	
Volatile Organic Compounds																			
1,2,4-Trimethylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
1,3,5-Trimethylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Acetone	µg/kg	0-0.5	1 / 26	4	650	650	22.5	45	650	46.63	650	NA	NA	X	650	Max Detect	650	Max Detect	
Bromomethane	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloro methane	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Chloroform	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Ethyl- benzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Isopropylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-0.5	1 / 3	33	28	28	4.5	4.85	28	12.33	28	NA	NA	X	28	Max Detect	28	Max Detect	
Methyl ethyl ketone	µg/kg	0-0.5	0 / 26	0	NA	NA	5	45	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	5.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-0.5	2 / 26	8	5.8	5.9	2.25	4.5	5.85	2.527	5.85	0.005	0.0707	X	5.9	Max Detect	5.9	Max Detect	
Xylene, m,p-	µg/kg	0-0.5	1 / 26	4	12	12	2.25	4.5	12	2.625	12	NA	NA	X	12	Max Detect	12	Max Detect	
Xylene, o-	µg/kg	0-0.5	0 / 26	0	NA	NA	2.25	4.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-0.5	1 / 26	4	17	17	2.25	4.5	17	2.817	17	NA	NA	X	17	Max Detect	17	Max Detect	

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis		
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-0.5	0 / 120	0	NA	NA	165	1800	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-0.5	1 / 120	1	360	360	165	17000	360	167.1	360	NA	NA	X	360	Max Detect	360	Max Detect	
Butylbenzylphthalate	µg/kg	0-0.5	0 / 120	0	NA	NA	165	17000	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-0.5	0 / 120	0	NA	NA	165	1800	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-0.5	0 / 120	0	NA	NA	165	1800	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-0.5	115 / 224	51	5	12500	0	0	206.3	105.9	14	1435209	1198	X	681	99% KM (Chebyshev) UCL	310	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-0.5	166 / 225	74	5.1	34400	0	0	1110	818.8	140.5	16576015	4071	X	3161	99% KM (Chebyshev) UCL	2275	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-0.5	10 / 204	5	5.1	2400	2.5	25.5	257.2	15	12.5	567400	753.3	X	68.9	95% KM (Chebyshev) UCL	40	Bootstrap BCA 95UCL	
2-Methyl naphthalene	µg/kg	0-0.5	23 / 205	11	5	2900	2.5	175	137.1	17.63	6.5	363017	602.5	X	80.5	95% KM (Chebyshev) UCL	47.9	Bootstrap BCA 95UCL	
Acenaphthene	µg/kg	0-0.5	8 / 214	4	7.9	440	2.5	175	70.13	5.038	14	22456	149.9	X	3.24	KM H-UCL	14	Bootstrap BCA 95UCL	
Acenaphthylene	µg/kg	0-0.5	2 / 212	1	7.1	76	2.5	175	41.55	2.871	41.55	2374	48.72	X	76	Max Detect	76	Max Detect	
Anthracene	µg/kg	0-0.5	27 / 216	13	5.6	270	2.5	175	34.29	6.512	9.7	4247	65.17	X	14.1	95% KM (Chebyshev) UCL	14.7	Bootstrap BCA 95UCL	
Benzo (a) anthracene	µg/kg	0-0.5	116 / 224	52	5.2	4600	2.5	175	159.3	84.19	19.5	350906	592.4	X	210	95% KM (Chebyshev) UCL	271	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-0.5	97 / 222	44	5.3	1900	2.5	280	131.1	60.27	31	98709	314.2	X	124	95% KM (Chebyshev) UCL	140	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-0.5	123 / 224	55	5.1	4400	2.5	280	247	138.5	57	461766	679.5	X	143	KM H-UCL	361	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-0.5	85 / 220	39	5.2	1800	2.5	280	83.56	35.25	18	53434	231.2	X	79.1	95% KM (Chebyshev) UCL	87.4	Bootstrap BCA 95UCL	
Benzo (k) fluoranthene	µg/kg	0-0.5	88 / 223	39	5	1300	2.5	280	104.4	44.15	22	52731	229.6	X	88.7	95% KM (Chebyshev) UCL	110	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-0.5	129 / 223	58	5.3	2600	2.5	175	126.5	74.75	28	124312	352.6	X	155	95% KM (Chebyshev) UCL	169	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-0.5	11 / 215	5	5.1	170	2.5	280	42.19	4.666	10	2918	54.02	X	6.9	95% KM Approximate Gamma UCL	19.7	Bootstrap BCA 95UCL	
Fluoranthene	µg/kg	0-0.5	155 / 223	70	5.1	9400	2.5	175	252.7	176.7	30	1073965	1036	X	431	95% KM (Chebyshev) UCL	555	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-0.5	7 / 214	3	5.3	260	2.5	175	49.53	4.044	10	8701	93.28	X	3.07	KM H-UCL	10.1	Bootstrap BCA 95UCL	
Indeno (1,2,3-cd) pyrene	µg/kg	0-0.5	76 / 220	35	5.2	1500	2.5	280	81.14	31.09	22	42008	205	X	68.2	95% KM (Chebyshev) UCL	76.8	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-0.5	5 / 213	2	5.5	990	2.25	175	204.8	7.011	9.5	192658	438.9	X	29.6	95% KM (Chebyshev) UCL	22.6	Bootstrap BCA 95UCL	
Phenanthrene	µg/kg	0-0.5	106 / 222	48	5	5200	2.5	175	138	67.37	13	326410	571.3	X	185	95% KM (Chebyshev) UCL	178	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-0.5	151 / 223	68	5	7700	2.5	175	227.5	155.1	29	787836	887.6	X	371	95% KM (Chebyshev) UCL	478	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-0.5	169 / 225	75	5.9	2900	5.8	400	158.5	121.7	58	171705	414.4	X	228	95% KM (Chebyshev) UCL	260	Bootstrap BCA 95UCL	
Pesticides																			
4,4-DDE	µg/kg	0-0.5	1 / 22	5	7.2	7.2	1	1.05	7.2	1.282	7.2	NA	NA	X	7.2	Max Detect	7.2	Max Detect	
4,4-DDT	µg/kg	0-0.5	1 / 22	5	6	6	1	1.05	6	1.227	6	NA	NA	X	6	Max Detect	6	Max Detect	
Alpha-Chlordane	µg/kg	0-0.5	2 / 22	9	1.3	1.7	0.5	0.55	1.5	0.591	1.5	0.08	0.283	X	1.7	Max Detect	1.7	Max Detect	
Dieldrin	µg/kg	0-0.5	0 / 22	0	NA	NA	1	1.05	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-0.5	2 / 22	9	1.6	2.8	0.5	0.55	2.2	0.655	2.2	0.72	0.849	X	2.8	Max Detect	2.8	Max Detect	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-0.5	121 / 206	59	43.5	13800	34	38	676.4	411.3	124	3165117	1779	X	837	95% KM (Chebyshev) UCL	891	Bootstrap BCA 95UCL	
Dioxins																			
TEQ Human	ng/kg	0-0.5	100 / 100	100	0.1	2200	NA	NA	95.12	95.12	8.95	95920	309.7	X	192	95% H-UCL	156	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-0.5	100 / 100	100	0.23	1500	NA	NA	62.18	62.18	6.05	37802	194.4	X	147	95% Chebyshev (Mean, Sd) UCL	104	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-0.5	100 / 100	100	0.1	2200	NA	NA	95.12	95.12	8.95	95920	309.7	X	192	95% H-UCL	159	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-0.5	10 / 100	10	0.17	69	0.012	20.5	7.769	0.799	1.05	463.1	21.52	X	3.95	95% KM (Chebyshev) UCL	3.53	Bootstrap BCA 95UCL	

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-0.5	91 / 153	59	10	270	5	5.5	46.18	29.49	29	2143	46.3	X	44	95% KM (Chebyshev) UCL	36.8	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-0.5	0 / 36	0	NA	NA	0.445	0.75	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-0.5	141 / 153	92	11	810	5	5.5	160.4	148.2	77	33414	182.8	X	212	95% KM (Chebyshev) UCL	166	Bootstrap BCA 95UCL
Miscellaneous																		
Sulfate	mg/kg	0-0.5	3 / 3	100	25	3690	NA	NA	1313	1313	224	4247497	2061	X	3690	Max Detect	3690	Max Detect
Soil Depth Interval: 0-3 ft bgs																		
Inorganic Compounds																		
Aluminum	mg/kg	0-3	47 / 47	100	2000	17000	NA	NA	7763	7763	7500	11843542	3441	--	--	--	--	--
Antimony	mg/kg	0-3	5 / 273	2	0.676	2.87	0.13	3.16	2.017	0.343	2.15	0.698	0.836	X	0.615	95% KM (t) UCL	1.15	Bootstrap BCA 95UCL
Arsenic	mg/kg	0-3	245 / 273	90	1.26	13.2	0.5	1	3.939	3.586	3.73	1.927	1.388	X	3.76	95% KM (BCA) UCL	4.03	Bootstrap BCA 95UCL
Barium	mg/kg	0-3	273 / 273	100	23	1100	NA	NA	148.3	148.3	130	8333	91.28	X	158	95% Modified-t UCL	175	Bootstrap BCA 95UCL
Beryllium	mg/kg	0-3	2 / 273	1	0.18	0.493	0.05	0.6	0.337	0.114	0.337	0.049	0.221	--	--	--	--	--
Cadmium	mg/kg	0-3	23 / 273	8	0.2	4.97	0.13	0.6	1.375	0.308	1.1	1.345	1.16	--	--	--	--	--
Chromium, hexavalent	mg/kg	0-3	179 / 291	62	0.143	125	0.1	2.1	4.564	2.85	0.973	145.8	12.07	X	5.33	95% KM (Chebyshev) UCL	1.43	Bootstrap BCA 95UCL
Chromium, total	mg/kg	0-3	307 / 307	100	2.37	1760	NA	NA	84.72	84.72	26.5	37790	194.4	X	133	95% Chebyshev (Mean, Sd) UCL	52.8	Bootstrap BCA 95UCL
Cobalt	mg/kg	0-3	273 / 273	100	1.13	25.5	NA	NA	6.317	6.317	5.73	8.157	2.856	--	--	--	--	--
Copper	mg/kg	0-3	300 / 300	100	1.97	1500	NA	NA	31.21	31.21	13	10145	100.7	X	56.6	95% Chebyshev (Mean, Sd) UCL	28.5	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-3	5 / 44	11	0.38	5	0.0208	0.5	1.802	0.224	1	3.513	1.874	X	0.45	95% KM (t) UCL	0.448	Bootstrap BCA 95UCL
Iron	mg/kg	0-3	50 / 50	100	4200	33300	NA	NA	14346	14346	14000	31740450	5634	--	--	--	--	--
Lead	mg/kg	0-3	280 / 280	100	1.13	684	NA	NA	26.05	26.05	7.2	4496	67.05	X	43.5	95% Chebyshev (Mean, Sd) UCL	28.9	Bootstrap BCA 95UCL
Manganese	mg/kg	0-3	50 / 50	100	70	360	NA	NA	214.2	214.2	220	3814	61.76	X	229	95% Student's-t UCL	224	Bootstrap BCA 95UCL
Mercury	mg/kg	0-3	44 / 273	16	0.0767	5.18	0.0495	0.06	0.418	0.109	0.15	1.095	1.046	X	0.225	95% KM (Chebyshev) UCL	0.128	Bootstrap BCA 95UCL
Molybdenum	mg/kg	0-3	87 / 280	31	0.57	1020	0.135	2.1	87	27.13	3.15	39481	198.7	X	57.9	95% KM (Chebyshev) UCL	19.9	Bootstrap BCA 95UCL
Nickel	mg/kg	0-3	300 / 300	100	1.9	64.7	NA	NA	14.67	14.67	12.55	71.64	8.464	--	--	--	--	--
Selenium	mg/kg	0-3	8 / 273	3	0.299	0.917	0.13	0.6	0.712	0.163	0.747	0.0374	0.193	--	--	--	--	--
Silver	mg/kg	0-3	4 / 273	1	0.733	1.47	0.126	0.6	1.158	0.141	1.215	0.126	0.354	X	0.156	95% KM (t) UCL	0.524	Bootstrap BCA 95UCL
Thallium	mg/kg	0-3	4 / 273	1	0.617	2.37	0.13	1.15	1.454	0.185	1.415	0.514	0.717	X	0.255	95% KM (t) UCL	1.04	Bootstrap BCA 95UCL
Vanadium	mg/kg	0-3	273 / 273	100	3.57	75.2	NA	NA	27.33	27.33	25.7	110.3	10.5	--	--	--	--	--
Zinc	mg/kg	0-3	307 / 307	100	5	1310	NA	NA	86.87	86.87	39.7	23602	153.6	X	125	95% Chebyshev (Mean, Sd) UCL	127	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-3	3 / 133	2	140	2200	22	75	962	43.2	546	1190692	1091	X	2200	Max Detect	2200	Max Detect
Bromomethane	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-3	2 / 133	2	5.8	12	2.2	7.5	8.9	2.302	8.9	19.22	4.384	X	12	Max Detect	12	Max Detect
Ethyl- benzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis		
Isopropylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Methyl acetate	µg/kg	0-3	2 / 33	6	28	1800	2.2	5.5	914	57.46	914	1569992	1253	X	1800	Max Detect	1800	Max Detect	
Methyl ethyl ketone	µg/kg	0-3	0 / 133	0	NA	NA	5	75	NA	NA	NA	NA	NA	--	--	--	--	--	
Methylene chloride	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Butylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
N-Propylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
sec-Butylbenzene	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Toluene	µg/kg	0-3	2 / 133	2	5.28	5.36	2.2	7.5	5.32	2.25	5.32	0.0032	0.0566	X	5.36	Max Detect	5.36	Max Detect	
Xylene, m,p-	µg/kg	0-3	1 / 133	1	9.1	9.1	2.2	7.5	9.1	2.252	9.1	NA	NA	X	9.1	Max Detect	9.1	Max Detect	
Xylene, o-	µg/kg	0-3	0 / 133	0	NA	NA	2.2	7.5	NA	NA	NA	NA	NA	--	--	--	--	--	
Xylenes, total	µg/kg	0-3	1 / 133	1	12.4	12.4	2.2	7.5	12.4	2.277	12.4	NA	NA	X	12.4	Max Detect	12.4	Max Detect	
Semi-Volatile Organic Compounds																			
4-Methylphenol	µg/kg	0-3	0 / 126	0	NA	NA	123	1780	NA	NA	NA	NA	NA	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	µg/kg	0-3	1 / 126	1	295	295	165	11900	295	166.3	295	NA	NA	X	295	Max Detect	295	Max Detect	
Butylbenzylphthalate	µg/kg	0-3	0 / 126	0	NA	NA	165	11900	NA	NA	NA	NA	NA	--	--	--	--	--	
Di-n-butyl phthalate	µg/kg	0-3	0 / 126	0	NA	NA	123	1780	NA	NA	NA	NA	NA	--	--	--	--	--	
Isophorone	µg/kg	0-3	0 / 126	0	NA	NA	123	1780	NA	NA	NA	NA	NA	--	--	--	--	--	
Polycyclic Aromatic Hydrocarbons																			
PAH low molecular weight	µg/kg	0-3	125 / 232	54	1.67	33000	0	0	396.1	213.4	13	9211507	3035	X	1674	99% KM (Chebyshev) UCL	687	Bootstrap BCA 95UCL	
PAH high molecular weight	µg/kg	0-3	179 / 231	77	2.23	28700	0	0	996.4	772.1	136	12478926	3533	X	2826	99% KM (Chebyshev) UCL	1923	Bootstrap BCA 95UCL	
1-Methyl naphthalene	µg/kg	0-3	15 / 207	7	3.57	2400	2.5	27.2	239.5	19.69	10.3	421954	649.6	X	76.1	95% KM (Chebyshev) UCL	54.9	Bootstrap BCA 95UCL	
2-Methyl naphthalene	µg/kg	0-3	31 / 210	15	3.5	2900	2.5	175	135	22.1	5.73	295126	543.3	X	86.5	95% KM (Chebyshev) UCL	66.1	Bootstrap BCA 95UCL	
Acenaphthene	µg/kg	0-3	15 / 221	7	2.77	440	2.5	260	38	4.927	8.1	12415	111.4	X	13.9	95% KM (Chebyshev) UCL	14.3	Bootstrap BCA 95UCL	
Acenaphthylene	µg/kg	0-3	6 / 217	3	3.57	2000	2.5	175	341.1	11.86	5.845	660576	812.8	X	55.7	95% KM (Chebyshev) UCL	32.1	Bootstrap BCA 95UCL	
Anthracene	µg/kg	0-3	36 / 223	16	3.1	270	2.5	260	24.23	6.065	9.745	2155	46.42	X	4.63	KM H-UCL	14.6	Bootstrap BCA 95UCL	
Benzo (a) anthracene	µg/kg	0-3	132 / 230	57	3.4	3180	2.5	175	119	69.8	18.6	161129	401.4	X	159	95% KM (Chebyshev) UCL	206	Bootstrap BCA 95UCL	
Benzo (a) pyrene	µg/kg	0-3	107 / 228	47	4.07	1700	2.5	280	113.7	56.16	29.3	70867	266.2	X	111	95% KM (Chebyshev) UCL	145	Bootstrap BCA 95UCL	
Benzo (b) fluoranthene	µg/kg	0-3	138 / 230	60	4.45	3650	2.52	280	185.6	114	48.45	241615	491.5	X	126	KM H-UCL	295	Bootstrap BCA 95UCL	
Benzo (ghi) perylene	µg/kg	0-3	97 / 226	43	4.37	970	2.5	280	67.58	31.83	18.3	20023	141.5	X	60.3	95% KM (Chebyshev) UCL	69.2	Bootstrap BCA 95UCL	
Benzo (k) fluoranthene	µg/kg	0-3	102 / 229	45	3.4	1100	2.5	280	79.47	38.15	22	29193	170.9	X	72.8	95% KM (Chebyshev) UCL	96.4	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-3	146 / 229	64	3.7	2200	2.5	260	106.5	69.31	25.2	92458	304.1	X	141	95% KM (Chebyshev) UCL	180	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-3	17 / 222	8	4.33	310	2.5	280	48.97	6.301	15	6536	80.85	X	4.16	KM H-UCL	22.5	Bootstrap BCA 95UCL	
Fluoranthene	µg/kg	0-3	168 / 229	73	3.57	5200	2.5	260	182.8	135.1	26.85	449218	670.2	X	302	95% KM (Chebyshev) UCL	385	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-3	9 / 220	4	3.57	260	2.5	260	37	3.922	6.93	7025	83.82	X	3.02	KM H-UCL	11.5	Bootstrap BCA 95UCL	
Indeno (1,2,3-cd) pyrene	µg/kg	0-3	92 / 226	41	3.5	770	2.5	280	62.54	28.25	17.8	16227	127.4	X	53.4	95% KM (Chebyshev) UCL	63.9	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-3	11 / 222	5	3.5	990	2.25	260	94.97	6.852	5.36	88124	296.9	X	27.2	95% KM (Chebyshev) UCL	23.7	Bootstrap BCA 95UCL	
Phenanthrene	µg/kg	0-3	115 / 227	51	3.33	29000	2.5	175	343.2	175.2	12	7386174	2718	X	737	95% KM (Chebyshev) UCL	564	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-3	164 / 229	72	3.93	28000	2.5	175	342.3	246.1	27.5	5125492	2264	X	800	95% KM (Chebyshev) UCL	719	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-3	180 / 231	78	5.9	2570	5.83	400	142.9	113.7	43.05	127394	356.9	X	205	95% KM (Chebyshev) UCL	226	Bootstrap BCA 95UCL	
Pesticides																			
4,4-DDE	µg/kg	0-3	1 / 26	4	7.2	7.2	1	1.1	7.2	1.238	7.2	NA	NA	X	7.2	Max Detect	7.2	Max Detect	

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis		
4,4-DDT	µg/kg	0-3	1 / 26	4	6	6	1	1.1	6	1.192	6	NA	NA	X	6	Max Detect	6	Max Detect	
Alpha-Chlordane	µg/kg	0-3	2 / 26	8	0.9	1.3	0.5	0.55	1.1	0.546	1.1	0.08	0.283	X	1.3	Max Detect	1.3	Max Detect	
Dieldrin	µg/kg	0-3	0 / 26	0	NA	NA	1	1.1	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-3	2 / 26	8	0.867	2.8	0.5	0.55	1.834	0.603	1.834	1.868	1.367	X	2.8	Max Detect	2.8	Max Detect	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-3	139 / 214	65	38.8	13800	34	68	525.7	353.4	97	2372232	1540	X	730	95% KM (Chebyshev) UCL	812	Bootstrap BCA 95UCL	
Dioxins																			
TEQ Human	ng/kg	0-3	105 / 108	97	0.153	1640	0.24	0.44	75.89	73.79	6.8	51599	227.2	X	159	KM H-UCL	127	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-3	105 / 108	97	0.23	1100	0.28	0.48	49.31	47.95	5	20056	141.6	X	107	95% KM (Chebyshev) UCL	81.7	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-3	105 / 108	97	0.153	1640	0.24	0.44	75.89	73.79	6.8	51599	227.2	X	159	KM H-UCL	127	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-3	10 / 108	9	0.17	46.1	0.0243	13.8	5.41	0.532	0.985	204.6	14.3	X	2.48	95% KM (Chebyshev) UCL	2.4	Bootstrap BCA 95UCL	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-3	112 / 158	71	6.67	7100	5	5.67	97.17	70.34	21.75	446839	668.5	X	266	95% KM (Chebyshev) UCL	162	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-3	0 / 144	0	NA	NA	0.415	1.65	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-3	152 / 158	96	9.67	21000	5	5.42	271	260.9	72.65	2884060	1698	X	203	KM H-UCL	521	Bootstrap BCA 95UCL	
Miscellaneous																			
Sulfate	mg/kg	0-3	3 / 3	100	25	3690	NA	NA	1313	1313	224	4247497	2061	X	3690	Max Detect	3690	Max Detect	
Soil Depth Interval: 0-6 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-6	54 / 54	100	670	17500	NA	NA	7680	7680	7400	13449317	3667	--	--	--	--	--	
Antimony	mg/kg	0-6	5 / 276	2	0.556	1.8	0.13	3.18	1.443	0.293	1.6	0.267	0.516	X	0.504	95% KM (t) UCL	1.14	Bootstrap BCA 95UCL	
Arsenic	mg/kg	0-6	248 / 276	90	0.904	12	0.5	1	3.805	3.47	3.64	1.63	1.277	X	3.62	95% KM (BCA) UCL	3.97	Bootstrap BCA 95UCL	
Barium	mg/kg	0-6	276 / 276	100	44.5	1100	NA	NA	147	147	130	8629	92.89	X	157	95% Modified-t UCL	176	Bootstrap BCA 95UCL	
Beryllium	mg/kg	0-6	3 / 276	1	0.168	0.398	0.05	0.608	0.265	0.146	0.23	0.0142	0.119	--	--	--	--	--	
Cadmium	mg/kg	0-6	28 / 276	10	0.14	2.73	0.13	0.608	1.032	0.268	0.817	0.484	0.696	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-6	182 / 296	61	0.121	79.3	0.1	2.1	3.355	2.107	0.734	63.21	7.951	X	3.74	95% KM (Chebyshev) UCL	1.11	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-6	310 / 310	100	4.37	1070	NA	NA	68.81	68.81	24.65	20288	142.4	X	104	95% Chebyshev (Mean, Sd) UCL	45.7	Bootstrap BCA 95UCL	
Cobalt	mg/kg	0-6	276 / 276	100	1.72	26.8	NA	NA	6.216	6.216	5.7	8.41	2.9	--	--	--	--	--	
Copper	mg/kg	0-6	303 / 303	100	2.76	1500	NA	NA	26.47	26.47	12.1	8398	91.64	X	49.4	95% Chebyshev (Mean, Sd) UCL	24.9	Bootstrap BCA 95UCL	
Cyanide	mg/kg	0-6	5 / 49	10	0.38	5	0.0207	0.5	1.802	0.203	1	3.513	1.874	X	0.407	95% KM (t) UCL	0.403	Bootstrap BCA 95UCL	
Iron	mg/kg	0-6	57 / 57	100	2400	35700	NA	NA	14290	14290	14000	39124982	6255	--	--	--	--	--	
Lead	mg/kg	0-6	283 / 283	100	1.17	413	NA	NA	19.39	19.39	6.6	1945	44.1	X	30.8	95% Chebyshev (Mean, Sd) UCL	23.1	Bootstrap BCA 95UCL	
Manganese	mg/kg	0-6	57 / 57	100	64	387	NA	NA	211.6	211.6	210	4653	68.21	X	227	95% Student's-t UCL	229	Bootstrap BCA 95UCL	
Mercury	mg/kg	0-6	46 / 276	17	0.0633	5.53	0.0495	0.0607	0.347	0.0991	0.14	0.758	0.87	X	0.197	95% KM (Chebyshev) UCL	0.128	Bootstrap BCA 95UCL	
Molybdenum	mg/kg	0-6	91 / 283	32	0.535	733	0.136	2.1	60.46	19.54	2.38	20727	144	X	41.9	95% KM (Chebyshev) UCL	14.5	Bootstrap BCA 95UCL	
Nickel	mg/kg	0-6	303 / 303	100	3.23	66.8	NA	NA	14.37	14.37	12.4	71.9	8.479	--	--	--	--	--	
Selenium	mg/kg	0-6	8 / 276	3	0.388	1.74	0.13	0.608	0.979	0.179	0.884	0.201	0.448	--	--	--	--	--	
Silver	mg/kg	0-6	4 / 276	1	0.858	2.37	0.128	0.6	1.72	0.151	1.825	0.466	0.683	X	0.174	95% KM (t) UCL	0.529	Bootstrap BCA 95UCL	
Thallium	mg/kg	0-6	6 / 276	2	0.85	2.33	0.13	1.22	1.508	0.212	1.425	0.261	0.511	X	0.309	95% KM (t) UCL	1.05	Bootstrap BCA 95UCL	

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Vanadium	mg/kg	0-6	276 / 276	100	6.68	78.6	NA	NA	27.38	27.38	25.75	119.2	10.92	--	--	--	--	--
Zinc	mg/kg	0-6	310 / 310	100	9.67	1130	NA	NA	73.27	73.27	37	15091	122.8	X	104	95% Chebyshev (Mean, Sd) UCL	88.8	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-6	4 / 138	3	47.5	2200	22.3	75.8	677.6	41.31	231.5	1045284	1022	X	86.4	95% KM Approximate Gamma UCL	129	Bootstrap BCA 95UCL
Bromomethane	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-6	2 / 138	1	5.54	12	2.23	7.58	8.77	2.326	8.77	20.87	4.568	X	12	Max Detect	12	Max Detect
Ethyl- benzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-6	3 / 35	9	8	1800	2.23	5.5	612	54.5	28	1058608	1029	X	1800	Max Detect	1800	Max Detect
Methyl ethyl ketone	µg/kg	0-6	0 / 138	0	NA	NA	5	75.8	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-6	2 / 138	1	3	3.73	2.23	7.58	3.365	2.258	3.365	0.266	0.516	X	3.73	Max Detect	3.73	Max Detect
N-Butylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-6	2 / 138	1	4.25	4.28	2.23	7.58	4.265	2.264	4.265	0.00045	0.0212	X	4.28	Max Detect	4.28	Max Detect
Xylene, m,p-	µg/kg	0-6	1 / 138	1	6.2	6.2	2.23	7.58	6.2	2.26	6.2	NA	NA	X	6.2	Max Detect	6.2	Max Detect
Xylene, o-	µg/kg	0-6	0 / 138	0	NA	NA	2.23	7.58	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-6	1 / 138	1	7.87	7.87	2.23	7.58	7.87	2.271	7.87	NA	NA	X	7.87	Max Detect	7.87	Max Detect
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-6	0 / 134	0	NA	NA	70	1920	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-6	2 / 134	1	230	460	165	6830	345	168.4	345	26450	162.6	X	460	Max Detect	460	Max Detect
Butylbenzylphthalate	µg/kg	0-6	0 / 134	0	NA	NA	165	6830	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-6	0 / 134	0	NA	NA	70	1920	NA	NA	NA	NA	NA	--	--	--	--	--
Isophorone	µg/kg	0-6	0 / 134	0	NA	NA	70	1920	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-6	127 / 239	53	0.84	33000	0	0	361.9	192.3	10.3	8702773	2950	X	1581	99% KM (Chebyshev) UCL	255	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-6	183 / 238	77	1.77	28700	0	0	901.2	692.9	111	11056140	3325	X	2589	99% KM (Chebyshev) UCL	1644	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-6	15 / 214	7	4.31	2400	2.5	65	238.9	19.08	12	422286	649.8	X	73.6	95% KM (Chebyshev) UCL	38	Bootstrap BCA 95UCL
2-Methyl naphthalene	µg/kg	0-6	31 / 220	14	3.33	2980	2.5	180	138.3	21.68	5.43	310077	556.8	X	84.7	95% KM (Chebyshev) UCL	60.9	Bootstrap BCA 95UCL
Acenaphthene	µg/kg	0-6	17 / 231	7	2.66	471	2.5	260	42.21	5.453	7.83	12560	112.1	X	3.47	KM H-UCL	16.6	Bootstrap BCA 95UCL
Acenaphthylene	µg/kg	0-6	6 / 229	3	3.3	2000	2.5	185	339.4	11.33	7.015	661864	813.6	X	52.9	95% KM (Chebyshev) UCL	19.8	Bootstrap BCA 95UCL
Anthracene	µg/kg	0-6	37 / 231	16	2.82	301	2.5	260	28.81	6.784	9.4	2755	52.48	X	13.5	95% KM (Chebyshev) UCL	15.9	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-6	137 / 237	58	3.05	3040	2.5	175	107.8	63.73	16.4	128030	357.8	X	142	95% KM (Chebyshev) UCL	192	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-6	110 / 236	47	3.76	1700	2.5	280	104.2	51.09	23.15	66687	258.2	X	103	95% KM (Chebyshev) UCL	141	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-6	141 / 238	59	3.51	3580	2.53	280	162.2	98.49	34	209980	458.2	X	201	95% KM (Chebyshev) UCL	274	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-6	102 / 234	44	3.04	1000	2.5	280	61.93	29.48	13.7	19859	140.9	X	57.3	95% KM (Chebyshev) UCL	66.1	Bootstrap BCA 95UCL

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis		
Benzo (k) fluoranthene	µg/kg	0-6	105 / 237	44	3.24	1100	2.5	280	70.6	33.81	18	24251	155.7	X	64.7	95% KM (Chebyshev) UCL	87.6	Bootstrap BCA 95UCL	
Chrysene	µg/kg	0-6	150 / 237	63	3.5	2270	2.53	260	97.71	63.23	19.15	86099	293.4	X	131	95% KM (Chebyshev) UCL	176	Bootstrap BCA 95UCL	
Dibenzo (a,h) anthracene	µg/kg	0-6	17 / 231	7	3.5	310	2.5	280	53	6.399	15	7311	85.51	X	10.5	95% KM Approximate Gamma UCL	22.4	Bootstrap BCA 95UCL	
Fluoranthene	µg/kg	0-6	169 / 237	71	3.41	5200	2.5	260	167.7	120.7	23.4	377276	614.2	X	269	95% KM (Chebyshev) UCL	362	Bootstrap BCA 95UCL	
Fluorene	µg/kg	0-6	10 / 230	4	3.46	291	2.5	260	43.34	4.295	8.885	7862	88.67	X	7.49	95% KM Approximate Gamma UCL	14.2	Bootstrap BCA 95UCL	
Indeno (1,2,3-cd) pyrene	µg/kg	0-6	94 / 234	40	3.69	801	2.5	280	58.71	26.09	13.35	16047	126.7	X	50.3	95% KM (Chebyshev) UCL	62.1	Bootstrap BCA 95UCL	
Naphthalene	µg/kg	0-6	13 / 232	6	2.97	1020	2.25	260	96.93	7.568	4.48	79431	281.8	X	27.7	95% KM (Chebyshev) UCL	25.6	Bootstrap BCA 95UCL	
Phenanthrene	µg/kg	0-6	116 / 235	49	3.18	29000	2.5	175	329.3	164	10.5	7262390	2695	X	704	95% KM (Chebyshev) UCL	220	Bootstrap BCA 95UCL	
Pyrene	µg/kg	0-6	167 / 237	70	3.37	28000	2.5	175	336.8	238.3	22.3	5014179	2239	X	772	95% KM (Chebyshev) UCL	393	Bootstrap BCA 95UCL	
B(a)P equivalent	µg/kg	0-6	184 / 238	77	5.9	3100	5.87	400	134	105.7	32.45	137706	371.1	X	199	95% KM (Chebyshev) UCL	210	Bootstrap BCA 95UCL	
Pesticides																			
4,4-DDE	µg/kg	0-6	1 / 33	3	7.2	7.2	1	1.1	7.2	1.188	7.2	NA	NA	X	7.2	Max Detect	7.2	Max Detect	
4,4-DDT	µg/kg	0-6	2 / 33	6	5.6	6	1	1.1	5.8	1.291	5.8	0.08	0.283	X	6	Max Detect	6	Max Detect	
Alpha-Chlordane	µg/kg	0-6	3 / 33	9	0.7	1.7	0.5	0.55	1.233	0.567	1.3	0.253	0.503	X	1.7	Max Detect	1.7	Max Detect	
Dieldrin	µg/kg	0-6	0 / 33	0	NA	NA	1	1.1	NA	NA	NA	NA	NA	--	--	--	--	--	
Gamma-Chlordane	µg/kg	0-6	3 / 33	9	0.683	2.8	0.5	0.55	1.894	0.627	2.2	1.19	1.091	X	2.8	Max Detect	2.8	Max Detect	
Polychlorinated Biphenyls																			
Total PCBs	µg/kg	0-6	145 / 222	65	38.5	13800	34	68	436.6	297	92	1985297	1409	X	635	95% KM (Chebyshev) UCL	739	Bootstrap BCA 95UCL	
Dioxins																			
TEQ Human	ng/kg	0-6	107 / 109	98	0.18	1070	0.232	16	61.07	59.99	6.4	28551	169	X	114	KM H-UCL	108	Bootstrap BCA 95UCL	
TEQ Avian	ng/kg	0-6	107 / 109	98	0.23	700	0.275	21	40.07	39.38	4.6	11310	106.3	X	83.4	95% KM (Chebyshev) UCL	70.3	Bootstrap BCA 95UCL	
TEQ Mammals	ng/kg	0-6	107 / 109	98	0.18	1070	0.232	16	61.07	59.99	6.4	28551	169	X	114	KM H-UCL	109	Bootstrap BCA 95UCL	
2,3,7,8-TCDD	ng/kg	0-6	11 / 109	10	0.101	23.1	0.0228	7.06	2.772	0.31	0.77	45.69	6.759	X	0.0935	KM H-UCL	1.34	Bootstrap BCA 95UCL	
Total Petroleum Hydrocarbons																			
TPH as diesel	mg/kg	0-6	116 / 165	70	6.05	7100	5	5.83	189.9	135	19.65	932255	965.5	X	411	95% KM (Chebyshev) UCL	107	Bootstrap BCA 95UCL	
TPH as gasoline	mg/kg	0-6	0 / 152	0	NA	NA	0.415	1.67	NA	NA	NA	NA	NA	--	--	--	--	--	
TPH as motor oil	mg/kg	0-6	156 / 165	95	7.33	21000	5	5.25	460.1	435.3	71.85	6294775	2509	X	1264	95% KM (Chebyshev) UCL	407	Bootstrap BCA 95UCL	
Miscellaneous																			
Sulfate	mg/kg	0-6	3 / 3	100	25	3690	NA	NA	1313	1313	224	4247497	2061	X	3690	Max Detect	3690	Max Detect	
Soil Depth Interval: 0-10 ft bgs																			
Inorganic Compounds																			
Aluminum	mg/kg	0-10	54 / 54	100	670	18500	NA	NA	7668	7668	7370	14290641	3780	--	--	--	--	--	
Antimony	mg/kg	0-10	5 / 279	2	0.498	1.52	0.138	3.19	1.168	0.274	1.28	0.158	0.397	X	0.453	95% KM (t) UCL	1.14	Bootstrap BCA 95UCL	
Arsenic	mg/kg	0-10	250 / 279	90	0.763	12	0.5	1	3.709	3.376	3.55	1.614	1.27	X	3.53	95% KM (BCA) UCL	3.9	Bootstrap BCA 95UCL	
Barium	mg/kg	0-10	279 / 279	100	38.9	1100	NA	NA	144.7	144.7	124	9097	95.38	X	154	95% Modified-t UCL	174	Bootstrap BCA 95UCL	
Beryllium	mg/kg	0-10	4 / 279	1	0.233	0.576	0.05	0.645	0.356	0.143	0.307	0.0236	0.154	--	--	--	--	--	
Cadmium	mg/kg	0-10	28 / 279	10	0.104	2.5	0.138	0.645	0.998	0.242	0.9	0.371	0.609	--	--	--	--	--	
Chromium, hexavalent	mg/kg	0-10	185 / 299	62	0.121	61.2	0.1	2.1	2.757	1.75	0.678	40.64	6.375	X	3.06	95% KM (Chebyshev) UCL	0.94	Bootstrap BCA 95UCL	
Chromium, total	mg/kg	0-10	313 / 313	100	4.2	982	NA	NA	60.44	60.44	23.5	14808	121.7	X	90.4	95% Chebyshev (Mean, Sd) UCL	41.9	Bootstrap BCA 95UCL	

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Cobalt	mg/kg	0-10	279 / 279	100	1.36	27.3	NA	NA	6.139	6.139	5.7	8.924	2.987	--	--	--	--	--
Copper	mg/kg	0-10	305 / 306	100	2.35	1500	1	1	24.8	24.73	11.9	8155	90.31	X	47.2	95% KM (Chebyshev) UCL	24	Bootstrap BCA 95UCL
Cyanide	mg/kg	0-10	5 / 49	10	0.38	5	0.0206	0.5	1.802	0.203	1	3.513	1.874	X	0.407	95% KM (t) UCL	0.406	Bootstrap BCA 95UCL
Iron	mg/kg	0-10	57 / 57	100	2400	36600	NA	NA	14228	14228	14000	41913130	6474	--	--	--	--	--
Lead	mg/kg	0-10	286 / 286	100	1.18	330	NA	NA	15.93	15.93	6.03	1215	34.85	X	24.9	95% Chebyshev (Mean, Sd) UCL	17.9	Bootstrap BCA 95UCL
Manganese	mg/kg	0-10	57 / 57	100	64	430	NA	NA	212.1	212.1	210	5148	71.75	X	228	95% Student's-t UCL	234	Bootstrap BCA 95UCL
Mercury	mg/kg	0-10	46 / 279	16	0.059	5.72	0.0495	0.0644	0.31	0.0924	0.127	0.723	0.85	X	0.186	95% KM (Chebyshev) UCL	0.135	Bootstrap BCA 95UCL
Molybdenum	mg/kg	0-10	96 / 286	34	0.521	710	0.138	2.1	47.16	15.93	1.975	14791	121.6	X	35	95% KM (Chebyshev) UCL	12.1	Bootstrap BCA 95UCL
Nickel	mg/kg	0-10	306 / 306	100	2.93	67.7	NA	NA	14.16	14.16	12.05	76.78	8.762	--	--	--	--	--
Selenium	mg/kg	0-10	8 / 279	3	0.441	2.21	0.138	0.645	1.097	0.217	0.99	0.4	0.632	--	--	--	--	--
Silver	mg/kg	0-10	4 / 279	1	0.735	2.74	0.129	0.62	1.786	0.153	1.835	0.685	0.828	X	0.177	95% KM (t) UCL	0.529	Bootstrap BCA 95UCL
Thallium	mg/kg	0-10	7 / 279	3	0.99	2.32	0.138	1.29	1.569	0.235	1.59	0.202	0.45	X	0.347	95% KM (t) UCL	1.06	Bootstrap BCA 95UCL
Vanadium	mg/kg	0-10	279 / 279	100	7.12	80	NA	NA	27.29	27.29	25.5	129.4	11.38	--	--	--	--	--
Zinc	mg/kg	0-10	313 / 313	100	9.3	1130	NA	NA	66.55	66.55	36	12849	113.4	X	94.5	95% Chebyshev (Mean, Sd) UCL	73.5	Bootstrap BCA 95UCL
Volatile Organic Compounds																		
1,2,4-Trimethylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
1,3,5-Trimethylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Acetone	µg/kg	0-10	4 / 140	3	92.3	2200	23	77.5	649.7	40.91	153.3	1071477	1035	X	84.8	95% KM Approximate Gamma UCL	126	Bootstrap BCA 95UCL
Bromomethane	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Chloro methane	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Chloroform	µg/kg	0-10	2 / 140	1	4.41	12	2.3	7.75	8.205	2.386	8.205	28.8	5.367	X	12	Max Detect	12	Max Detect
Ethyl- benzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Isopropylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Methyl acetate	µg/kg	0-10	3 / 35	9	8.47	1800	2.3	5.38	612.2	54.57	28	1058324	1029	X	1800	Max Detect	1800	Max Detect
Methyl ethyl ketone	µg/kg	0-10	0 / 140	0	NA	NA	5	77.5	NA	NA	NA	NA	NA	--	--	--	--	--
Methylene chloride	µg/kg	0-10	2 / 140	1	4.08	4.48	2.3	7.75	4.28	2.335	4.28	0.08	0.283	X	4.48	Max Detect	4.48	Max Detect
N-Butylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
N-Propylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
sec-Butylbenzene	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Toluene	µg/kg	0-10	2 / 140	1	3.63	3.63	2.3	42.4	3.63	2.325	3.63	0	0	X	3.63	Max Detect	3.63	Max Detect
Xylene, m,p-	µg/kg	0-10	1 / 140	1	4.94	4.94	2.3	7.75	4.94	2.32	4.94	NA	NA	X	4.94	Max Detect	4.94	Max Detect
Xylene, o-	µg/kg	0-10	0 / 140	0	NA	NA	2.3	7.75	NA	NA	NA	NA	NA	--	--	--	--	--
Xylenes, total	µg/kg	0-10	1 / 140	1	5.94	5.94	2.3	7.75	5.94	2.327	5.94	NA	NA	X	5.94	Max Detect	5.94	Max Detect
Semi-Volatile Organic Compounds																		
4-Methylphenol	µg/kg	0-10	0 / 136	0	NA	NA	49	1970	NA	NA	NA	NA	NA	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/kg	0-10	2 / 136	1	206	460	165	4800	333	168.2	333	32258	179.6	X	460	Max Detect	460	Max Detect
Butylbenzylphthalate	µg/kg	0-10	0 / 136	0	NA	NA	165	4800	NA	NA	NA	NA	NA	--	--	--	--	--
Di-n-butyl phthalate	µg/kg	0-10	0 / 136	0	NA	NA	49	1970	NA	NA	NA	NA	NA	--	--	--	--	--

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Constituent ^a	Units	Depth (ft bgs)	Summary Statistics for Depth-Weighted Soil Datasets											COPC?	Exposure Point Concentration ^{b,c}			
			Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation		Depth- Weighted UCL	Depth-Weighted UCL Basis	Area- Weighted UCL	Area-Weighted UCL Basis
Isophorone	µg/kg	0-10	0 / 136	0	NA	NA	49	1970	NA	NA	NA	NA	NA	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																		
PAH low molecular weight	µg/kg	0-10	129 / 241	54	0.504	33000	0	0	363.2	194.4	8.66	8595068	2932	X	1574	99% KM (Chebyshev) UCL	261	Bootstrap BCA 95UCL
PAH high molecular weight	µg/kg	0-10	183 / 240	76	1.06	28700	0	0	890.4	678.9	91.6	11394872	3376	X	2588	99% KM (Chebyshev) UCL	1617	Bootstrap BCA 95UCL
1-Methyl naphthalene	µg/kg	0-10	15 / 216	7	3.61	2400	2.5	65	239.2	18.95	8.21	422144	649.7	X	73	95% KM (Chebyshev) UCL	37.8	Bootstrap BCA 95UCL
2-Methyl naphthalene	µg/kg	0-10	31 / 222	14	3.01	3140	2.5	180	146	22.58	5.18	341068	584	X	88.1	95% KM (Chebyshev) UCL	65.3	Bootstrap BCA 95UCL
Acenaphthene	µg/kg	0-10	17 / 233	7	2.61	533	2.5	260	57.48	6.544	6.1	17950	134	X	17.7	95% KM (Chebyshev) UCL	18.7	Bootstrap BCA 95UCL
Acenaphthylene	µg/kg	0-10	6 / 231	3	3	2000	2.5	185	338.7	11.24	7.395	662393	813.9	X	52.4	95% KM (Chebyshev) UCL	19.8	Bootstrap BCA 95UCL
Anthracene	µg/kg	0-10	38 / 233	16	2.71	363	2.5	260	39.57	8.614	7.99	6316	79.47	X	18.6	95% KM (Chebyshev) UCL	19.8	Bootstrap BCA 95UCL
Benzo (a) anthracene	µg/kg	0-10	138 / 239	58	3.08	2990	2.51	175	109.7	64.72	16.1	131656	362.8	X	144	95% KM (Chebyshev) UCL	192	Bootstrap BCA 95UCL
Benzo (a) pyrene	µg/kg	0-10	110 / 238	46	3.31	1740	2.51	280	103.2	50.04	19.8	73052	270.3	X	104	95% KM (Chebyshev) UCL	138	Bootstrap BCA 95UCL
Benzo (b) fluoranthene	µg/kg	0-10	141 / 240	59	3.15	3550	2.54	280	156.7	94.27	31.4	217210	466.1	X	197	95% KM (Chebyshev) UCL	266	Bootstrap BCA 95UCL
Benzo (ghi) perylene	µg/kg	0-10	103 / 236	44	3.14	1060	2.51	280	59.39	28.27	11.3	22181	148.9	X	57.3	95% KM (Chebyshev) UCL	66.5	Bootstrap BCA 95UCL
Benzo (k) fluoranthene	µg/kg	0-10	105 / 239	44	3.04	1100	2.5	280	69.42	32.86	13.5	26142	161.7	X	64.5	95% KM (Chebyshev) UCL	84.9	Bootstrap BCA 95UCL
Chrysene	µg/kg	0-10	150 / 239	63	3.12	2320	2.54	260	99.18	63.6	16.85	94751	307.8	X	134	95% KM (Chebyshev) UCL	178	Bootstrap BCA 95UCL
Dibenzo (a,h) anthracene	µg/kg	0-10	17 / 233	7	3.14	310	2.5	280	62.69	7.035	15.6	9617	98.07	X	4.11	KM H-UCL	22.8	Bootstrap BCA 95UCL
Fluoranthene	µg/kg	0-10	170 / 239	71	3.09	5200	2.54	260	171.1	122.8	18.25	415042	644.2	X	278	95% KM (Chebyshev) UCL	360	Bootstrap BCA 95UCL
Fluorene	µg/kg	0-10	10 / 232	4	3.1	353	2.5	260	65.66	5.255	6.72	12995	114	X	13.1	95% KM (Chebyshev) UCL	15.7	Bootstrap BCA 95UCL
Indeno (1,2,3-cd) pyrene	µg/kg	0-10	96 / 236	41	3.34	863	2.5	280	55.9	25.12	11.35	17455	132.1	X	50.2	95% KM (Chebyshev) UCL	60.7	Bootstrap BCA 95UCL
Naphthalene	µg/kg	0-10	13 / 234	6	2.76	1080	2.28	260	129.6	9.359	4.68	104342	323	X	32.7	95% KM (Chebyshev) UCL	29.1	Bootstrap BCA 95UCL
Phenanthrene	µg/kg	0-10	118 / 237	50	3.01	29000	2.51	175	333.6	167.5	9.545	7170311	2678	X	705	95% KM (Chebyshev) UCL	220	Bootstrap BCA 95UCL
Pyrene	µg/kg	0-10	168 / 239	70	3.04	28000	2.54	175	337.8	238.4	18.35	5010029	2238	X	769	95% KM (Chebyshev) UCL	399	Bootstrap BCA 95UCL
B(a)P equivalent	µg/kg	0-10	184 / 240	77	5.9	2520	5.88	400	127.1	99.41	29.55	113290	336.6	X	184	95% KM (Chebyshev) UCL	205	Bootstrap BCA 95UCL
Pesticides																		
4,4-DDE	µg/kg	0-10	1 / 35	3	7.2	7.2	1	1.1	7.2	1.177	7.2	NA	NA	X	7.2	Max Detect	7.2	Max Detect
4,4-DDT	µg/kg	0-10	2 / 35	6	5.6	6	1	1.1	5.8	1.274	5.8	0.08	0.283	X	6	Max Detect	6	Max Detect
Alpha-Chlordane	µg/kg	0-10	3 / 35	9	0.62	1.7	0.5	0.55	1.207	0.561	1.3	0.298	0.546	X	1.7	Max Detect	1.7	Max Detect
Dieldrin	µg/kg	0-10	0 / 35	0	NA	NA	1	1.1	NA	NA	NA	NA	NA	--	--	--	--	--
Gamma-Chlordane	µg/kg	0-10	3 / 35	9	0.61	2.8	0.5	0.55	1.87	0.617	2.2	1.281	1.132	X	2.8	Max Detect	2.8	Max Detect
Polychlorinated Biphenyls																		
Total PCBs	µg/kg	0-10	148 / 225	66	36.2	13800	34	68	387.6	266.6	83.1	1827882	1352	X	589	95% KM (Chebyshev) UCL	697	Bootstrap BCA 95UCL
Dioxins																		
TEQ Human	ng/kg	0-10	107 / 109	98	0.18	868	0.215	16	55.55	54.57	5.9	24448	156.4	X	97.4	KM H-UCL	105	Bootstrap BCA 95UCL
TEQ Avian	ng/kg	0-10	107 / 109	98	0.23	608	0.265	21	36.52	35.89	4.6	9805	99.02	X	76.9	95% KM (Chebyshev) UCL	68.2	Bootstrap BCA 95UCL
TEQ Mammals	ng/kg	0-10	107 / 109	98	0.18	868	0.215	16	55.55	54.57	5.9	24448	156.4	X	97.4	KM H-UCL	105	Bootstrap BCA 95UCL
2,3,7,8-TCDD	ng/kg	0-10	11 / 109	10	0.143	13.9	0.0199	4.37	1.92	0.22	0.77	16.02	4.003	X	0.0827	KM H-UCL	0.997	Bootstrap BCA 95UCL
Total Petroleum Hydrocarbons																		
TPH as diesel	mg/kg	0-10	118 / 167	71	5.63	7100	5	5.9	191.7	136.9	18.2	921053	959.7	X	411	95% KM (Chebyshev) UCL	107	Bootstrap BCA 95UCL
TPH as gasoline	mg/kg	0-10	0 / 154	0	NA	NA	0.415	1.7	NA	NA	NA	NA	NA	--	--	--	--	--
TPH as motor oil	mg/kg	0-10	156 / 167	93	6.4	21000	5	5.5	455.3	425.7	57.7	6301524	2510	X	1245	95% KM (Chebyshev) UCL	401	Bootstrap BCA 95UCL

Table ICS-3.1
Summary Statistics and Exposure Point Concentrations for Soil Data in the Baseline (No Scouring) Scenario for
Inside Compressor Station (0-0.5 ft bgs, 0-3 ft bgs, 0-6 ft bgs, and 0-10 ft bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

			Summary Statistics for Depth-Weighted Soil Datasets												COPC?	Exposure Point Concentration ^{b,c}			
Constituent ^a	Units	Depth (ft bgs)	Detects / Total	FOD	Minimum Detect	Maximum Detect	Minimum Nondetect	Maximum Nondetect	Mean Detected	KM Mean	Median	Variance	Standard Deviation	Depth-Weighted UCL		Depth-Weighted UCL Basis	Area-Weighted UCL	Area-Weighted UCL Basis	
Miscellaneous																			
Sulfate	mg/kg	0-10	3 / 3	100	25	3690	NA	NA	1313	1313	224	4247497	2061	X	3690	Max Detect	3690	Max Detect	

Notes:

- ^a The constituent consists of analytes detected at least once at the Topock Compressor Station site and measured in soil in this exposure area.
- ^b If fewer than eight total locations and four total detected concentrations, the maximum depth-weighted concentration was selected as the EPC. Otherwise, the UCL was selected as the EPC.
- ^c EPCs and summary statistics were not calculated for some constituents (i.e., dioxin congeners and essential nutrients). Those data, if available, are presented in Attachment A1 of each exposure area-specific appendix.

Abbreviations:

- "--" = not applicable
- B(a)P equivalent = benzo(a)pyrene equivalent
- BCA = Bias-corrected accelerated bootstrap method
- COPC = constituent of potential concern
- DDE = Dichlorodiphenyldichloroethylene
- DDT = Dichlorodiphenyltrichloroethane
- EPC = exposure point concentration
- FOD = frequency of detection
- ft bgs = feet below ground surface
- KM = Kaplan-Meier
- µg/kg = micrograms per kilogram
- mg/kg = milligrams per kilogram
- NA = not applicable
- ng/kg = nanograms per kilogram
- PAH = polycyclic aromatic hydrocarbons
- PCB = polychlorinated biphenyls
- PG&E = Pacific Gas and Electric Company
- TCDD = Tetrachlorodibenzo-p-dioxin
- TEQ = toxic equivalent
- TPH = total petroleum hydrocarbons
- UCL = upper confidence limit
- X = COPC in the exposure depth interval

Table ICS-4.1

Summary of COPCs Evaluated in the HHRA for ICS: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Inorganics				
Antimony	X	X	X	X
Chromium, Hexavalent	X	X	X	X
Chromium, total	X	X	X	X
Copper	X	X	X	X
Cyanide	X	X	X	X
Lead	X	X	X	X
Mercury (inorganic)	X	X	X	X
Molybdenum	X	X	X	X
Silver	--	X	X	X
Thallium	X	X	X	X
Zinc	X	X	X	X
Volatile Organic Compounds				
Acetone	X	X	X	X
Chloroform	--	X	X	X
Methyl acetate	X	X	X	X
Methylene chloride	--	--	X	X
Toluene	X	X	X	X
Xylenes, total	X	X	X	X
Semi-Volatile Organic Compounds				
bis (2-ethylhexyl) phthalate	X	X	X	X
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	X	X	X	X
2-Methyl naphthalene	X	X	X	X

Table ICS-4.1

Summary of COPCs Evaluated in the HHRA for ICS: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Acenaphthene	X	X	X	X
Acenaphthylene	X	X	X	X
Anthracene	X	X	X	X
Benzo (a) anthracene	X	X	X	X
Benzo (a) pyrene	X	X	X	X
Benzo (b) fluoranthene	X	X	X	X
Benzo (ghi) perylene	X	X	X	X
Benzo (k) fluoranthene	X	X	X	X
Chrysene	X	X	X	X
Dibenzo (a,h) anthracene	X	X	X	X
Fluoranthene	X	X	X	X
Fluorene	X	X	X	X
Indeno (1,2,3-cd) pyrene	X	X	X	X
Naphthalene	X	X	X	X
Phenanthrene	X	X	X	X
Pyrene	X	X	X	X
B(a)P Equivalent	X	X	X	X
Pesticides				
4,4-DDE	X	X	X	X
4,4-DDT	X	X	X	X
alpha-Chlordane	X	X	X	X
gamma-Chlordane	X	X	X	X
Polychlorinated Biphenyls				
Total PCBs	X	X	X	X
Total Petroleum Hydrocarbons				
TPH as diesel	X	X	X	X
TPH as motor oil	X	X	X	X

Table ICS-4.1

Summary of COPCs Evaluated in the HHRA for ICS: Baseline Scenario

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	COPCs in Surface Soil (0 to 0.5 feet bgs)	COPCs in Shallow Soil (0 to 3 feet bgs)	COPCs in Subsurface I Soil (0 to 6 feet bgs)	COPCs in Subsurface II Soil (0 to 10 feet bgs)
Dioxins/Furans				
TEQ Human	x	x	x	x

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

-- = not detected or not analyzed.

x = Chemical included as COPC in human health risk assessment.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

Table ICS-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	3.2E+00	4.5E-01	3.2E-06	NV	3.2E-06	NV
Chromium, Hexavalent	6.9E+00	3.1E+00	6.9E-06	NV	6.9E-06	NV
Chromium, total	1.6E+02	9.0E+01	1.6E-04	NV	1.6E-04	NV
Copper	6.0E+01	4.7E+01	6.0E-05	NV	6.0E-05	NV
Cyanide	4.8E-01	4.1E-01	4.8E-07	NV	4.8E-07	NV
Lead	5.3E+01	2.5E+01	5.3E-05	NV	5.3E-05	NV
Mercury (inorganic)	1.7E-01	1.9E-01	1.7E-07	NV	1.7E-07	NV
Molybdenum	7.5E+01	3.5E+01	7.5E-05	NV	7.5E-05	NV
Silver	ND	1.8E-01	NA	NV	NA	NV
Thallium	2.4E+00	3.5E-01	2.4E-06	NV	2.4E-06	NV
Zinc	1.5E+02	9.5E+01	1.5E-04	NV	1.5E-04	NV
Volatile Organic Compounds						
Acetone	6.5E-01	8.5E-02	6.5E-07	2.5E-05	6.5E-07	4.6E-06
Chloroform	ND	1.2E-02	NA	1.9E-05	NA	3.4E-06
Methyl acetate	2.8E-02	1.8E+00	2.8E-08	9.0E-04	2.8E-08	1.6E-04
Methylene chloride	ND	4.5E-03	NA	8.3E-06	NA	1.5E-06
Toluene	5.9E-03	3.6E-03	5.9E-09	3.4E-06	5.9E-09	6.2E-07
Xylenes, total	1.7E-02	5.9E-03	1.7E-08	4.2E-06	1.7E-08	7.6E-07
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.6E-01	4.6E-01	3.6E-07	NV	3.6E-07	NV
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	6.9E-02	7.3E-02	6.9E-08	5.2E-06	6.9E-08	9.4E-07
2-Methyl naphthalene	8.1E-02	8.8E-02	8.1E-08	6.0E-06	8.1E-08	1.1E-06

Table ICS-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Acenaphthene	3.2E-03	1.8E-02	3.2E-09	5.0E-07	3.2E-09	9.1E-08
Acenaphthylene	7.6E-02	5.2E-02	7.6E-08	NV	7.6E-08	NV
Anthracene	1.4E-02	1.9E-02	1.4E-08	1.5E-07	1.4E-08	2.7E-08
Benzo (a) anthracene	2.1E-01	1.4E-01	2.1E-07	1.4E-07	2.1E-07	2.5E-08
Benzo (a) pyrene	1.2E-01	1.0E-01	1.2E-07	NV	1.2E-07	NV
Benzo (b) fluoranthene	1.4E-01	2.0E-01	1.4E-07	NV	1.4E-07	NV
Benzo (ghi) perylene	7.9E-02	5.7E-02	7.9E-08	NV	7.9E-08	NV
Benzo (k) fluoranthene	8.9E-02	6.5E-02	8.9E-08	NV	8.9E-08	NV
Chrysene	1.6E-01	1.3E-01	1.6E-07	NV	1.6E-07	NV
Dibenzo (a,h) anthracene	6.9E-03	4.1E-03	6.9E-09	NV	6.9E-09	NV
Fluoranthene	4.3E-01	2.8E-01	4.3E-07	NV	4.3E-07	NV
Fluorene	3.1E-03	1.3E-02	3.1E-09	1.8E-07	3.1E-09	3.4E-08
Indeno (1,2,3-cd) pyrene	6.8E-02	5.0E-02	6.8E-08	NV	6.8E-08	NV
Naphthalene	3.0E-02	3.3E-02	3.0E-08	2.8E-06	3.0E-08	5.1E-07
Phenanthrene	1.9E-01	7.1E-01	1.9E-07	NV	1.9E-07	NV
Pyrene	3.7E-01	7.7E-01	3.7E-07	1.3E-06	3.7E-07	2.3E-07
B(a)P Equivalent	2.3E-01	1.8E-01	2.3E-07	NV	2.3E-07	NV
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	1.8E-08	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-03	1.7E-09	NV	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV	2.8E-09	NV
Polychlorinated Biphenyls						
Total PCBs	8.4E-01	5.9E-01	8.4E-07	4.6E-06	8.4E-07	8.4E-07
Total Petroleum Hydrocarbons						
TPH as diesel	4.4E+01	4.1E+02	4.4E-05	8.5E-01	4.4E-05	1.5E-01
TPH as motor oil	2.1E+02	1.2E+03	2.1E-04	NV	2.1E-04	NV

Table ICS-4.2a

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans						
TEQ Human	1.9E-04	9.7E-05	1.9E-10	2.1E-10	1.9E-10	3.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used in commercial worker screening evaluation, and to evaluate inhalation of particulates in outdoor air for maintenance workers (short-term and long-term).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	6.2E-01	4.5E-01	6.2E-07	NV	6.2E-07	NV
Chromium, Hexavalent	5.3E+00	3.1E+00	5.3E-06	NV	5.3E-06	NV
Chromium, total	1.3E+02	9.0E+01	1.3E-04	NV	1.3E-04	NV
Copper	5.7E+01	4.7E+01	5.7E-05	NV	5.7E-05	NV
Cyanide	4.5E-01	4.1E-01	4.5E-07	NV	4.5E-07	NV
Lead	4.4E+01	2.5E+01	4.4E-05	NV	4.4E-05	NV
Mercury (inorganic)	2.3E-01	1.9E-01	2.3E-07	NV	2.3E-07	NV
Molybdenum	5.8E+01	3.5E+01	5.8E-05	NV	5.8E-05	NV
Silver	1.6E-01	1.8E-01	1.6E-07	NV	1.6E-07	NV
Thallium	2.6E-01	3.5E-01	2.6E-07	NV	2.6E-07	NV
Zinc	1.3E+02	9.5E+01	1.3E-04	NV	1.3E-04	NV
Volatile Organic Compounds						
Acetone	2.2E+00	8.5E-02	2.2E-06	2.5E-05	2.2E-06	4.6E-06
Chloroform	1.2E-02	1.2E-02	1.2E-08	1.9E-05	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E+00	1.8E-06	9.0E-04	1.8E-06	1.6E-04
Methylene chloride	ND	4.5E-03	NA	8.3E-06	NA	1.5E-06
Toluene	5.4E-03	3.6E-03	5.4E-09	3.4E-06	5.4E-09	6.2E-07
Xylenes, total	1.2E-02	5.9E-03	1.2E-08	4.2E-06	1.2E-08	7.6E-07
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.0E-01	4.6E-01	3.0E-07	NV	3.0E-07	NV
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	7.6E-02	7.3E-02	7.6E-08	5.2E-06	7.6E-08	9.4E-07
2-Methyl naphthalene	8.7E-02	8.8E-02	8.7E-08	6.0E-06	8.7E-08	1.1E-06

Table ICS-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Acenaphthene	1.4E-02	1.8E-02	1.4E-08	5.0E-07	1.4E-08	9.1E-08
Acenaphthylene	5.6E-02	5.2E-02	5.6E-08	NV	5.6E-08	NV
Anthracene	4.6E-03	1.9E-02	4.6E-09	1.5E-07	4.6E-09	2.7E-08
Benzo (a) anthracene	1.6E-01	1.4E-01	1.6E-07	1.4E-07	1.6E-07	2.5E-08
Benzo (a) pyrene	1.1E-01	1.0E-01	1.1E-07	NV	1.1E-07	NV
Benzo (b) fluoranthene	1.3E-01	2.0E-01	1.3E-07	NV	1.3E-07	NV
Benzo (ghi) perylene	6.0E-02	5.7E-02	6.0E-08	NV	6.0E-08	NV
Benzo (k) fluoranthene	7.3E-02	6.5E-02	7.3E-08	NV	7.3E-08	NV
Chrysene	1.4E-01	1.3E-01	1.4E-07	NV	1.4E-07	NV
Dibenzo (a,h) anthracene	4.2E-03	4.1E-03	4.2E-09	NV	4.2E-09	NV
Fluoranthene	3.0E-01	2.8E-01	3.0E-07	NV	3.0E-07	NV
Fluorene	3.0E-03	1.3E-02	3.0E-09	1.8E-07	3.0E-09	3.4E-08
Indeno (1,2,3-cd) pyrene	5.3E-02	5.0E-02	5.3E-08	NV	5.3E-08	NV
Naphthalene	2.7E-02	3.3E-02	2.7E-08	2.8E-06	2.7E-08	5.1E-07
Phenanthrene	7.4E-01	7.1E-01	7.4E-07	NV	7.4E-07	NV
Pyrene	8.0E-01	7.7E-01	8.0E-07	1.3E-06	8.0E-07	2.3E-07
B(a)P Equivalent	2.1E-01	1.8E-01	2.1E-07	NV	2.1E-07	NV
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	1.8E-08	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV	6.0E-09	NV
alpha-Chlordane	1.3E-03	1.7E-03	1.3E-09	NV	1.3E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV	2.8E-09	NV
Polychlorinated Biphenyls						
Total PCBs	7.3E-01	5.9E-01	7.3E-07	4.6E-06	7.3E-07	8.4E-07
Total Petroleum Hydrocarbons						
TPH as diesel	2.7E+02	4.1E+02	2.7E-04	8.5E-01	2.7E-04	1.5E-01
TPH as motor oil	2.0E+02	1.2E+03	2.0E-04	NV	2.0E-04	NV

Table ICS-4.2b

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Maintenance Workers:
COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans						
TEQ Human	1.6E-04	9.7E-05	1.6E-10	2.1E-10	1.6E-10	3.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used in commercial worker screening evaluation, and to evaluate inhalation of particulates in outdoor air for maintenance workers (short-term and long-term).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NA = not applicable.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics						
Antimony	5.0E-01	4.5E-01	5.0E-07	NV	5.0E-07	NV
Chromium, Hexavalent	3.7E+00	3.1E+00	3.7E-06	NV	3.7E-06	NV
Chromium, total	1.0E+02	9.0E+01	1.0E-04	NV	1.0E-04	NV
Copper	4.9E+01	4.7E+01	4.9E-05	NV	4.9E-05	NV
Cyanide	4.1E-01	4.1E-01	4.1E-07	NV	4.1E-07	NV
Lead	3.1E+01	2.5E+01	3.1E-05	NV	3.1E-05	NV
Mercury (inorganic)	2.0E-01	1.9E-01	2.0E-07	NV	2.0E-07	NV
Molybdenum	4.2E+01	3.5E+01	4.2E-05	NV	4.2E-05	NV
Silver	1.7E-01	1.8E-01	1.7E-07	NV	1.7E-07	NV
Thallium	3.1E-01	3.5E-01	3.1E-07	NV	3.1E-07	NV
Zinc	1.0E+02	9.5E+01	1.0E-04	NV	1.0E-04	NV
Volatile Organic Compounds						
Acetone	8.6E-02	8.5E-02	8.6E-08	2.5E-05	8.6E-08	4.6E-06
Chloroform	1.2E-02	1.2E-02	1.2E-08	1.9E-05	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E+00	1.8E-06	9.0E-04	1.8E-06	1.6E-04
Methylene chloride	3.7E-03	4.5E-03	3.7E-09	8.3E-06	3.7E-09	1.5E-06
Toluene	4.3E-03	3.6E-03	4.3E-09	3.4E-06	4.3E-09	6.2E-07
Xylenes, total	7.9E-03	5.9E-03	7.9E-09	4.2E-06	7.9E-09	7.6E-07
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	4.6E-01	4.6E-01	4.6E-07	NV	4.6E-07	NV
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	7.4E-02	7.3E-02	7.4E-08	5.2E-06	7.4E-08	9.4E-07
2-Methyl naphthalene	8.5E-02	8.8E-02	8.5E-08	6.0E-06	8.5E-08	1.1E-06

Table ICS-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Acenaphthene	3.5E-03	1.8E-02	3.5E-09	5.0E-07	3.5E-09	9.1E-08
Acenaphthylene	5.3E-02	5.2E-02	5.3E-08	NV	5.3E-08	NV
Anthracene	1.4E-02	1.9E-02	1.4E-08	1.5E-07	1.4E-08	2.7E-08
Benzo (a) anthracene	1.4E-01	1.4E-01	1.4E-07	1.4E-07	1.4E-07	2.5E-08
Benzo (a) pyrene	1.0E-01	1.0E-01	1.0E-07	NV	1.0E-07	NV
Benzo (b) fluoranthene	2.0E-01	2.0E-01	2.0E-07	NV	2.0E-07	NV
Benzo (ghi) perylene	5.7E-02	5.7E-02	5.7E-08	NV	5.7E-08	NV
Benzo (k) fluoranthene	6.5E-02	6.5E-02	6.5E-08	NV	6.5E-08	NV
Chrysene	1.3E-01	1.3E-01	1.3E-07	NV	1.3E-07	NV
Dibenzo (a,h) anthracene	1.1E-02	4.1E-03	1.1E-08	NV	1.1E-08	NV
Fluoranthene	2.7E-01	2.8E-01	2.7E-07	NV	2.7E-07	NV
Fluorene	7.5E-03	1.3E-02	7.5E-09	1.8E-07	7.5E-09	3.4E-08
Indeno (1,2,3-cd) pyrene	5.0E-02	5.0E-02	5.0E-08	NV	5.0E-08	NV
Naphthalene	2.8E-02	3.3E-02	2.8E-08	2.8E-06	2.8E-08	5.1E-07
Phenanthrene	7.0E-01	7.1E-01	7.0E-07	NV	7.0E-07	NV
Pyrene	7.7E-01	7.7E-01	7.7E-07	1.3E-06	7.7E-07	2.3E-07
B(a)P Equivalent	2.0E-01	1.8E-01	2.0E-07	NV	2.0E-07	NV
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	1.8E-08	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-03	1.7E-09	NV	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV	2.8E-09	NV
Polychlorinated Biphenyls						
Total PCBs	6.4E-01	5.9E-01	6.4E-07	4.6E-06	6.4E-07	8.4E-07
Total Petroleum Hydrocarbons						
TPH as diesel	4.1E+02	4.1E+02	4.1E-04	8.5E-01	4.1E-04	1.5E-01
TPH as motor oil	1.3E+03	1.2E+03	1.3E-03	NV	1.3E-03	NV

Table ICS-4.2c

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans						
TEQ Human	1.1E-04	9.7E-05	1.1E-10	2.1E-10	1.1E-10	3.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics					
Antimony	4.5E-01	4.5E-07	NV	4.5E-07	NV
Chromium, Hexavalent	3.1E+00	3.1E-06	NV	3.1E-06	NV
Chromium, total	9.0E+01	9.0E-05	NV	9.0E-05	NV
Copper	4.7E+01	4.7E-05	NV	4.7E-05	NV
Cyanide	4.1E-01	4.1E-07	NV	4.1E-07	NV
Lead	2.5E+01	2.5E-05	NV	2.5E-05	NV
Mercury (inorganic)	1.9E-01	1.9E-07	NV	1.9E-07	NV
Molybdenum	3.5E+01	3.5E-05	NV	3.5E-05	NV
Silver	1.8E-01	1.8E-07	NV	1.8E-07	NV
Thallium	3.5E-01	3.5E-07	NV	3.5E-07	NV
Zinc	9.5E+01	9.5E-05	NV	9.5E-05	NV
Volatile Organic Compounds					
Acetone	8.5E-02	8.5E-08	2.5E-05	8.5E-08	4.6E-06
Chloroform	1.2E-02	1.2E-08	1.9E-05	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E-06	9.0E-04	1.8E-06	1.6E-04
Methylene chloride	4.5E-03	4.5E-09	8.3E-06	4.5E-09	1.5E-06
Toluene	3.6E-03	3.6E-09	3.4E-06	3.6E-09	6.2E-07
Xylenes, total	5.9E-03	5.9E-09	4.2E-06	5.9E-09	7.6E-07
Semi-Volatile Organic Compounds					
bis (2-ethylhexyl) phthalate	4.6E-01	4.6E-07	NV	4.6E-07	NV
Polycyclic Aromatic Hydrocarbons					
1-Methyl naphthalene	7.3E-02	7.3E-08	5.2E-06	7.3E-08	9.4E-07
2-Methyl naphthalene	8.8E-02	8.8E-08	6.0E-06	8.8E-08	1.1E-06

Table ICS-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Acenaphthene	1.8E-02	1.8E-08	5.0E-07	1.8E-08	9.1E-08
Acenaphthylene	5.2E-02	5.2E-08	NV	5.2E-08	NV
Anthracene	1.9E-02	1.9E-08	1.5E-07	1.9E-08	2.7E-08
Benzo (a) anthracene	1.4E-01	1.4E-07	1.4E-07	1.4E-07	2.5E-08
Benzo (a) pyrene	1.0E-01	1.0E-07	NV	1.0E-07	NV
Benzo (b) fluoranthene	2.0E-01	2.0E-07	NV	2.0E-07	NV
Benzo (ghi) perylene	5.7E-02	5.7E-08	NV	5.7E-08	NV
Benzo (k) fluoranthene	6.5E-02	6.5E-08	NV	6.5E-08	NV
Chrysene	1.3E-01	1.3E-07	NV	1.3E-07	NV
Dibenzo (a,h) anthracene	4.1E-03	4.1E-09	NV	4.1E-09	NV
Fluoranthene	2.8E-01	2.8E-07	NV	2.8E-07	NV
Fluorene	1.3E-02	1.3E-08	1.8E-07	1.3E-08	3.4E-08
Indeno (1,2,3-cd) pyrene	5.0E-02	5.0E-08	NV	5.0E-08	NV
Naphthalene	3.3E-02	3.3E-08	2.8E-06	3.3E-08	5.1E-07
Phenanthrene	7.1E-01	7.1E-07	NV	7.1E-07	NV
Pyrene	7.7E-01	7.7E-07	1.3E-06	7.7E-07	2.3E-07
B(a)P Equivalent	1.8E-01	1.8E-07	NV	1.8E-07	NV
Pesticides					
4,4-DDE	7.2E-03	7.2E-09	1.8E-08	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-09	NV	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-09	NV	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-09	NV	2.8E-09	NV
Polychlorinated Biphenyls					
Total PCBs	5.9E-01	5.9E-07	4.6E-06	5.9E-07	8.4E-07
Total Petroleum Hydrocarbons					
TPH as diesel	4.1E+02	4.1E-04	8.5E-01	4.1E-04	1.5E-01
TPH as motor oil	1.2E+03	1.2E-03	NV	1.2E-03	NV

Table ICS-4.2d

Baseline Scenario Depth-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Short- and Long-Term Maintenance Workers:
COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Short Term Maintenance Worker		Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration	Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b	(mg/m ³) ^a	(mg/m ³) ^b
Dioxins/Furans					
TEQ Human	9.7E-05	9.7E-11	2.1E-10	9.7E-11	3.8E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of $1.0 \times 10^6 \text{ m}^3/\text{kg}$ was used for maintenance workers (short-term and long-term) as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
mg/kg = milligrams per kilogram.
mg/m³ = milligrams per cubic meter.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	3.2E+00	1.1E+00	3.2E-06	NV
Chromium, Hexavalent	1.6E+00	9.4E-01	1.6E-06	NV
Chromium, total	6.0E+01	4.2E+01	6.0E-05	NV
Copper	3.2E+01	2.4E+01	3.2E-05	NV
Cyanide	4.7E-01	4.1E-01	4.7E-07	NV
Lead	2.9E+01	1.8E+01	2.9E-05	NV
Mercury (inorganic)	1.2E-01	1.4E-01	1.2E-07	NV
Molybdenum	2.7E+01	1.2E+01	2.7E-05	NV
Silver	ND	5.3E-01	NA	NV
Thallium	2.4E+00	1.1E+00	2.4E-06	NV
Zinc	1.6E+02	7.4E+01	1.6E-04	NV
Volatile Organic Compounds				
Acetone	6.5E-01	1.3E-01	6.5E-07	6.8E-06
Chloroform	ND	1.2E-02	NA	3.4E-06
Methyl acetate	2.8E-02	1.8E+00	2.8E-08	1.6E-04
Methylene chloride	ND	4.5E-03	NA	1.5E-06
Toluene	5.9E-03	3.6E-03	5.9E-09	6.2E-07
Xylenes, total	1.7E-02	5.9E-03	1.7E-08	7.6E-07
Semi-Volatile Organic Compounds				
bis (2-ethylhexyl) phthalate	3.6E-01	4.6E-01	3.6E-07	NV
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	4.0E-02	3.8E-02	4.0E-08	4.9E-07
2-Methyl naphthalene	4.8E-02	6.5E-02	4.8E-08	8.1E-07

Table ICS-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Acenaphthene	1.4E-02	1.9E-02	1.4E-08	9.6E-08
Acenaphthylene	7.6E-02	2.0E-02	7.6E-08	NV
Anthracene	1.5E-02	2.0E-02	1.5E-08	2.9E-08
Benzo (a) anthracene	2.7E-01	1.9E-01	2.7E-07	3.3E-08
Benzo (a) pyrene	1.4E-01	1.4E-01	1.4E-07	NV
Benzo (b) fluoranthene	3.6E-01	2.7E-01	3.6E-07	NV
Benzo (ghi) perylene	8.7E-02	6.7E-02	8.7E-08	NV
Benzo (k) fluoranthene	1.1E-01	8.5E-02	1.1E-07	NV
Chrysene	1.7E-01	1.8E-01	1.7E-07	NV
Dibenzo (a,h) anthracene	2.0E-02	2.3E-02	2.0E-08	NV
Fluoranthene	5.6E-01	3.6E-01	5.6E-07	NV
Fluorene	1.0E-02	1.6E-02	1.0E-08	4.0E-08
Indeno (1,2,3-cd) pyrene	7.7E-02	6.1E-02	7.7E-08	NV
Naphthalene	2.3E-02	2.9E-02	2.3E-08	4.6E-07
Phenanthrene	1.8E-01	2.2E-01	1.8E-07	NV
Pyrene	4.8E-01	4.0E-01	4.8E-07	1.2E-07
B(a)P Equivalent	2.6E-01	2.1E-01	2.6E-07	NV
Pesticides				
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-03	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV
Polychlorinated Biphenyls				
Total PCBs	8.9E-01	7.0E-01	8.9E-07	9.9E-07
Total Petroleum Hydrocarbons				
TPH as diesel	3.7E+01	1.1E+02	3.7E-05	4.0E-02
TPH as motor oil	1.7E+02	4.0E+02	1.7E-04	NV

Table ICS-4.3a

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Surface Soil (0 to 0.5 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	1.6E-04	1.1E-04	1.6E-10	4.0E-11

Notes:

- ^a Exposure point concentrations (EPCs) for surface soil (0 to 0.5 feet bgs) are used in commercial worker screening evaluation, and to evaluate inhalation of particulates in outdoor air for long-term maintenance workers.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NA = not applicable.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.2E+00	1.1E+00	1.2E-06	NV
Chromium, Hexavalent	1.4E+00	9.4E-01	1.4E-06	NV
Chromium, total	5.3E+01	4.2E+01	5.3E-05	NV
Copper	2.9E+01	2.4E+01	2.9E-05	NV
Cyanide	4.5E-01	4.1E-01	4.5E-07	NV
Lead	2.9E+01	1.8E+01	2.9E-05	NV
Mercury (inorganic)	1.3E-01	1.4E-01	1.3E-07	NV
Molybdenum	2.0E+01	1.2E+01	2.0E-05	NV
Silver	5.2E-01	5.3E-01	5.2E-07	NV
Thallium	1.0E+00	1.1E+00	1.0E-06	NV
Zinc	1.3E+02	7.4E+01	1.3E-04	NV
Volatile Organic Compounds				
Acetone	2.2E+00	1.3E-01	2.2E-06	6.8E-06
Chloroform	1.2E-02	1.2E-02	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E+00	1.8E-06	1.6E-04
Methylene chloride	ND	4.5E-03	NA	1.5E-06
Toluene	5.4E-03	3.6E-03	5.4E-09	6.2E-07
Xylenes, total	1.2E-02	5.9E-03	1.2E-08	7.6E-07
Semi-Volatile Organic Compounds				
bis (2-ethylhexyl) phthalate	3.0E-01	4.6E-01	3.0E-07	NV
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	5.5E-02	3.8E-02	5.5E-08	4.9E-07
2-Methyl naphthalene	6.6E-02	6.5E-02	6.6E-08	8.1E-07

Table ICS-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
	(mg/kg) ^a	(mg/kg) ^b	Outdoor Airborne Particulate Concentration (mg/m ³) ^c	Outdoor Vapor Concentration (mg/m ³) ^d
Acenaphthene	1.4E-02	1.9E-02	1.4E-08	9.6E-08
Acenaphthylene	3.2E-02	2.0E-02	3.2E-08	NV
Anthracene	1.5E-02	2.0E-02	1.5E-08	2.9E-08
Benzo (a) anthracene	2.1E-01	1.9E-01	2.1E-07	3.3E-08
Benzo (a) pyrene	1.5E-01	1.4E-01	1.5E-07	NV
Benzo (b) fluoranthene	3.0E-01	2.7E-01	3.0E-07	NV
Benzo (ghi) perylene	6.9E-02	6.7E-02	6.9E-08	NV
Benzo (k) fluoranthene	9.6E-02	8.5E-02	9.6E-08	NV
Chrysene	1.8E-01	1.8E-01	1.8E-07	NV
Dibenzo (a,h) anthracene	2.3E-02	2.3E-02	2.3E-08	NV
Fluoranthene	3.9E-01	3.6E-01	3.9E-07	NV
Fluorene	1.2E-02	1.6E-02	1.2E-08	4.0E-08
Indeno (1,2,3-cd) pyrene	6.4E-02	6.1E-02	6.4E-08	NV
Naphthalene	2.4E-02	2.9E-02	2.4E-08	4.6E-07
Phenanthrene	5.6E-01	2.2E-01	5.6E-07	NV
Pyrene	7.2E-01	4.0E-01	7.2E-07	1.2E-07
B(a)P Equivalent	2.3E-01	2.1E-01	2.3E-07	NV
Pesticides				
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV
alpha-Chlordane	1.3E-03	1.7E-03	1.3E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV
Polychlorinated Biphenyls				
Total PCBs	8.1E-01	7.0E-01	8.1E-07	9.9E-07
Total Petroleum Hydrocarbons				
TPH as diesel	1.6E+02	1.1E+02	1.6E-04	4.0E-02
TPH as motor oil	5.2E+02	4.0E+02	5.2E-04	NV

Table ICS-4.3b

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Commercial and Long-Term Maintenance Workers:

COPCs in ICS Shallow Soil (0 to 3 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	1.3E-04	1.1E-04	1.3E-10	4.0E-11

Notes:

- ^a Exposure point concentrations (EPCs) for shallow soil (0 to 3 feet bgs) are used in commercial worker screening evaluation, and to evaluate inhalation of particulates in outdoor air for long-term maintenance workers.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10⁶ m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NA = not applicable.

ND = Not detected.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m3) ^c	(mg/m ³) ^d
Inorganics				
Antimony	1.1E+00	1.1E+00	1.1E-06	NV
Chromium, Hexavalent	1.1E+00	9.4E-01	1.1E-06	NV
Chromium, total	4.6E+01	4.2E+01	4.6E-05	NV
Copper	2.5E+01	2.4E+01	2.5E-05	NV
Cyanide	4.0E-01	4.1E-01	4.0E-07	NV
Lead	2.3E+01	1.8E+01	2.3E-05	NV
Mercury (inorganic)	1.3E-01	1.4E-01	1.3E-07	NV
Molybdenum	1.5E+01	1.2E+01	1.5E-05	NV
Silver	5.3E-01	5.3E-01	5.3E-07	NV
Thallium	1.1E+00	1.1E+00	1.1E-06	NV
Zinc	8.9E+01	7.4E+01	8.9E-05	NV
Volatile Organic Compounds				
Acetone	1.3E-01	1.3E-01	1.3E-07	6.8E-06
Chloroform	1.2E-02	1.2E-02	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E+00	1.8E-06	1.6E-04
Methylene chloride	3.7E-03	4.5E-03	3.7E-09	1.5E-06
Toluene	4.3E-03	3.6E-03	4.3E-09	6.2E-07
Xylenes, total	7.9E-03	5.9E-03	7.9E-09	7.6E-07
Semi-Volatile Organic Compounds				
bis (2-ethylhexyl) phthalate	4.6E-01	4.6E-01	4.6E-07	NV
Polycyclic Aromatic Hydrocarbons				
1-Methyl naphthalene	3.8E-02	3.8E-02	3.8E-08	4.9E-07
2-Methyl naphthalene	6.1E-02	6.5E-02	6.1E-08	8.1E-07

Table ICS-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Acenaphthene	1.7E-02	1.9E-02	1.7E-08	9.6E-08
Acenaphthylene	2.0E-02	2.0E-02	2.0E-08	NV
Anthracene	1.6E-02	2.0E-02	1.6E-08	2.9E-08
Benzo (a) anthracene	1.9E-01	1.9E-01	1.9E-07	3.3E-08
Benzo (a) pyrene	1.4E-01	1.4E-01	1.4E-07	NV
Benzo (b) fluoranthene	2.7E-01	2.7E-01	2.7E-07	NV
Benzo (ghi) perylene	6.6E-02	6.7E-02	6.6E-08	NV
Benzo (k) fluoranthene	8.8E-02	8.5E-02	8.8E-08	NV
Chrysene	1.8E-01	1.8E-01	1.8E-07	NV
Dibenzo (a,h) anthracene	2.2E-02	2.3E-02	2.2E-08	NV
Fluoranthene	3.6E-01	3.6E-01	3.6E-07	NV
Fluorene	1.4E-02	1.6E-02	1.4E-08	4.0E-08
Indeno (1,2,3-cd) pyrene	6.2E-02	6.1E-02	6.2E-08	NV
Naphthalene	2.6E-02	2.9E-02	2.6E-08	4.6E-07
Phenanthrene	2.2E-01	2.2E-01	2.2E-07	NV
Pyrene	3.9E-01	4.0E-01	3.9E-07	1.2E-07
B(a)P Equivalent	2.1E-01	2.1E-01	2.1E-07	NV
Pesticides				
4,4-DDE	7.2E-03	7.2E-03	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-03	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-03	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-03	2.8E-09	NV
Polychlorinated Biphenyls				
Total PCBs	7.4E-01	7.0E-01	7.4E-07	9.9E-07
Total Petroleum Hydrocarbons				
TPH as diesel	1.1E+02	1.1E+02	1.1E-04	4.0E-02
TPH as motor oil	4.1E+02	4.0E+02	4.1E-04	NV

Table ICS-4.3c

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface I Soil (0 to 6 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface I Soil: 0 to 6 feet bgs	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
			Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg) ^a	(mg/kg) ^b	(mg/m ³) ^c	(mg/m ³) ^d
Dioxins/Furans				
TEQ Human	1.1E-04	1.1E-04	1.1E-10	4.0E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface I soil (0 to 6 feet bgs) are used to evaluate inhalation of particulates in outdoor air.
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatiles in outdoor air.
- ^c Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^d Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NA = not applicable.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Inorganics			
Antimony	1.1E+00	1.1E-06	NV
Chromium, Hexavalent	9.4E-01	9.4E-07	NV
Chromium, total	4.2E+01	4.2E-05	NV
Copper	2.4E+01	2.4E-05	NV
Cyanide	4.1E-01	4.1E-07	NV
Lead	1.8E+01	1.8E-05	NV
Mercury (inorganic)	1.4E-01	1.4E-07	NV
Molybdenum	1.2E+01	1.2E-05	NV
Silver	5.3E-01	5.3E-07	NV
Thallium	1.1E+00	1.1E-06	NV
Zinc	7.4E+01	7.4E-05	NV
Volatile Organic Compounds			
Acetone	1.3E-01	1.3E-07	6.8E-06
Chloroform	1.2E-02	1.2E-08	3.4E-06
Methyl acetate	1.8E+00	1.8E-06	1.6E-04
Methylene chloride	4.5E-03	4.5E-09	1.5E-06
Toluene	3.6E-03	3.6E-09	6.2E-07
Xylenes, total	5.9E-03	5.9E-09	7.6E-07
Semi-Volatile Organic Compounds			
bis (2-ethylhexyl) phthalate	4.6E-01	4.6E-07	NV
Polycyclic Aromatic Hydrocarbons			
1-Methyl naphthalene	3.8E-02	3.8E-08	4.9E-07
2-Methyl naphthalene	6.5E-02	6.5E-08	8.1E-07

Table ICS-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Acenaphthene	1.9E-02	1.9E-08	9.6E-08
Acenaphthylene	2.0E-02	2.0E-08	NV
Anthracene	2.0E-02	2.0E-08	2.9E-08
Benzo (a) anthracene	1.9E-01	1.9E-07	3.3E-08
Benzo (a) pyrene	1.4E-01	1.4E-07	NV
Benzo (b) fluoranthene	2.7E-01	2.7E-07	NV
Benzo (ghi) perylene	6.7E-02	6.7E-08	NV
Benzo (k) fluoranthene	8.5E-02	8.5E-08	NV
Chrysene	1.8E-01	1.8E-07	NV
Dibenzo (a,h) anthracene	2.3E-02	2.3E-08	NV
Fluoranthene	3.6E-01	3.6E-07	NV
Fluorene	1.6E-02	1.6E-08	4.0E-08
Indeno (1,2,3-cd) pyrene	6.1E-02	6.1E-08	NV
Naphthalene	2.9E-02	2.9E-08	4.6E-07
Phenanthrene	2.2E-01	2.2E-07	NV
Pyrene	4.0E-01	4.0E-07	1.2E-07
B(a)P Equivalent	2.1E-01	2.1E-07	NV
Pesticides			
4,4-DDE	7.2E-03	7.2E-09	3.2E-09
4,4-DDT	6.0E-03	6.0E-09	NV
alpha-Chlordane	1.7E-03	1.7E-09	NV
gamma-Chlordane	2.8E-03	2.8E-09	NV
Polychlorinated Biphenyls			
Total PCBs	7.0E-01	7.0E-07	9.9E-07
Total Petroleum Hydrocarbons			
TPH as diesel	1.1E+02	1.1E-04	4.0E-02
TPH as motor oil	4.0E+02	4.0E-04	NV

Table ICS-4.3d

Baseline Scenario Area-Weighted Exposure Point Concentrations and Predicted Outdoor Air Concentrations for Long-Term Maintenance Workers:

COPCs in ICS Subsurface II Soil (0 to 10 feet bgs)

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

COPC	Exposure Point Concentration for Subsurface II Soil: 0 to 10 feet bgs	Long Term Maintenance Worker	
		Outdoor Airborne Particulate Concentration	Outdoor Vapor Concentration
	(mg/kg)	(mg/m ³) ^a	(mg/m ³) ^b
Dioxins/Furans			
TEQ Human	1.1E-04	1.1E-10	4.0E-11

Notes:

- ^a Exposure point concentrations (EPCs) for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of particulates in outdoor air. Outdoor airborne particulate concentration is calculated by dividing the soil EPCs by the particulate emission factor (PEF). Default PEF of 1.0×10^6 m³/kg was used for long-term maintenance workers as recommended by Department of Toxic Substances Control (2014).
- ^b EPCs for subsurface II soil (0 to 10 feet bgs) are used to evaluate inhalation of volatile compounds in outdoor air. Chemical-specific volatilization factors (VFs) were estimated as discussed in Section 4.0, Exposure Assessment, of the main report. Outdoor vapor concentration is calculated by dividing the soil EPC by the VF.

Abbreviations:

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

mg/kg = milligrams per kilogram.

mg/m³ = milligrams per cubic meter.

NV = Not volatile.

PCB = Polychlorinated biphenyls.

TPH = Total Petroleum Hydrocarbons.

TEQ = Toxic Equivalent.

References:

Department of Toxic Substances Control (DTSC). 2014. DTSC/HERO Human Health Risk Assessment (HHRA) Note Number 1: Recommended DTSC Default Exposure Factors for Use in Risk Assessment at California Hazardous Waste Sites and Permitted Facilities. September 30.

Table ICS-4.4

Human Health Risk and Hazard Estimate Summary at ICS for the Baseline Scenario Using Depth-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Commercial Worker	Surface	1E-05	6E-01
	Shallow	9E-06	4E-01
Short-Term Maintenance Worker	Surface	8E-07	5E-01
	Shallow	7E-07	4E-01
	Subsurface I	5E-07	4E-01
	Subsurface II	4E-07	4E-01
Long-Term Maintenance Worker	Surface	7E-06	1E-01
	Shallow	6E-06	1E-01
	Subsurface I	4E-06	9E-02
	Subsurface II	3E-06	8E-02

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Table ICS-4.5

Human Health Risk and Hazard Estimate Summary at ICS for the Baseline Scenario Using Area-Weighted Exposure Point Concentrations

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Receptor	Depth Interval	ILCR	HI
Commercial Worker	Surface	8E-06	5E-01
	Shallow	7E-06	4E-01
Long-Term Maintenance Worker	Surface	3E-06	1E-01
	Shallow	3E-06	9E-02
	Subsurface I	2E-06	8E-02
	Subsurface II	2E-06	8E-02

Abbreviations:

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

TABLE ICS-4.6

**Human Health Vapor Intrusion Risk and Hazard Estimate Summary for COPCs in ICS Subsurface Soil Gas:
Commercial Worker**

**Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California**

Sample ID	Cumulative ILCR ^a	Noncancer HI ^b
AOC13-11-SG04	1.2E-08	2.8E-04
AOC13-11-SG04_021117	1.1E-08	2.5E-04
AOC13-16-SG04	7.7E-09	1.9E-04
AOC13-16-SG04_021117	6.0E-09	1.4E-04
AOC13-5-SG04	1.2E-08	2.8E-04
AOC13-5-SG04_021017	1.7E-08	2.8E-04
AOC13-6-SG04	1.1E-08	2.6E-04
AOC13-6-SG04_021017	1.2E-08	2.8E-04
AOC26-1-SG05	8.9E-09	2.4E-04
AOC26-1-SG05_021217	7.2E-09	1.5E-04
AOC26-1-SG25	2.0E-08	6.3E-04
AOC26-1-SG25_022117	7.2E-08	2.2E-03
AOC26-1-SG50	1.0E-08	2.9E-04
AOC26-1-SG50_021317	2.2E-08	1.7E-04
Maximum ^c	7E-08	2E-03

Abbreviations:

COPC = Chemical of Potential Concern

ILCR = Incremental Lifetime Cancer Risk

HI = Hazard Index

Notes:

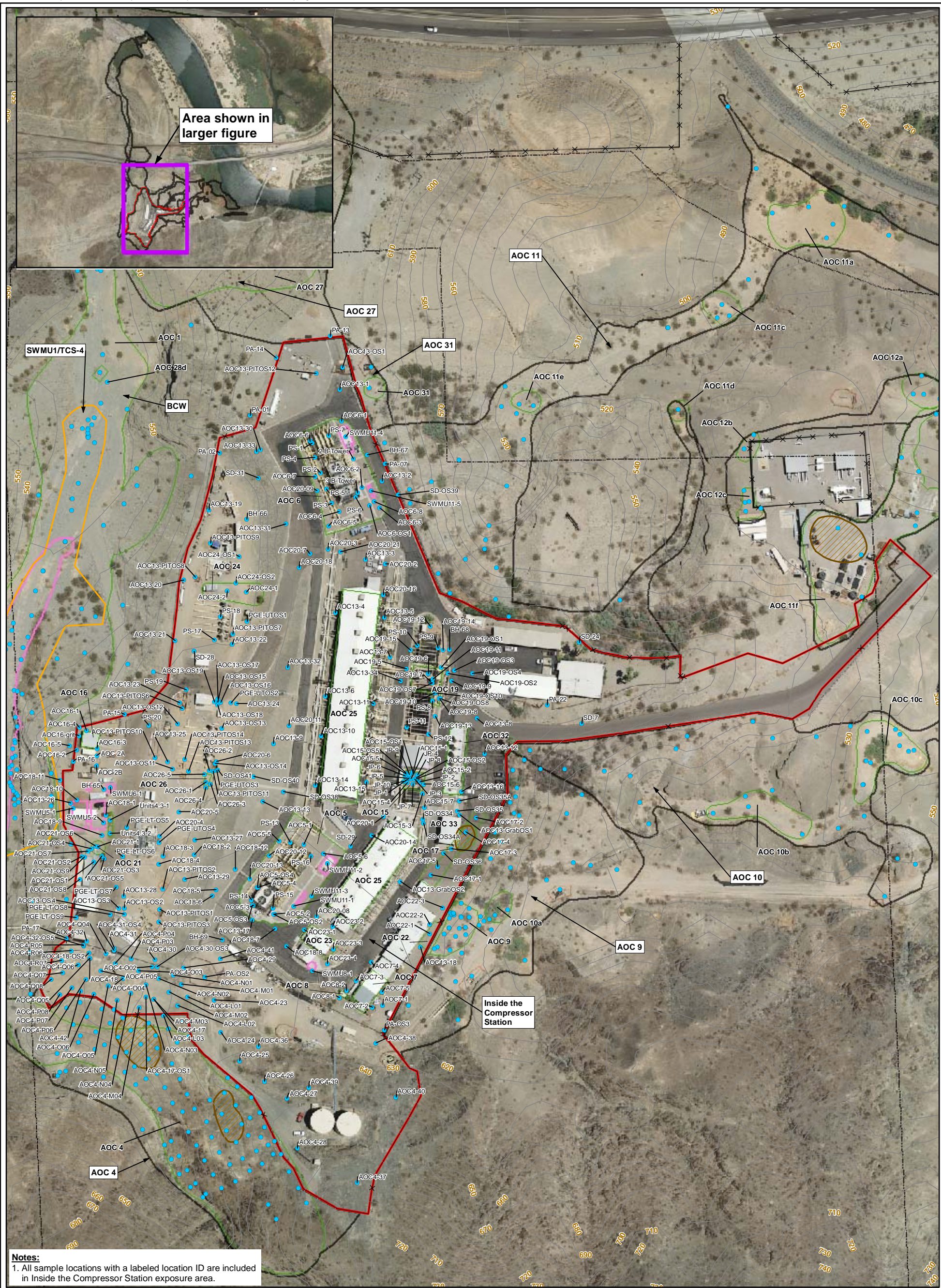
^a Cumulative ILCRs for each sample was calculated by adding ILCRs for all chemicals.

^b Noncancer HI for each sample was calculated by adding hazard quotients for all chemicals.

^c Maximum of Cumulative ILCRs and Noncancer HIs are presented in **bold**.

FIGURE





Notes:

1. All sample locations with a labeled location ID are included in Inside the Compressor Station exposure area.

Legend:

● Soil Sampling Location	Property Boundaries
Area of Concern	Contour Line (10 feet interval)
Exposure Area	Inside the Topock Compressor Station boundary, as defined by current fence line
Solid Waste Management Unit	
SWMU1 Exposure Area	
Potential Burning Related Location	
*** Fencing	

AOC 4 Label for Exposure Area

AOC 4 Label for Area of Concern

0 140 280

SCALE IN FEET

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**SOIL SAMPLING LOCATIONS
INSIDE TOPOCK COMPRESSOR STATION EXPOSURE AREA**

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
ICS-1.1

ATTACHMENT A

Dataset and Exposure Point Concentration Calculations for ICS HHRA



Attachment ICS-A
Dataset and Exposure Point Concentration Calculations for the ICS HHRA

Attachment ICS-A1

Table ICS-A1.1	Dataset for the ICS HHRA
Table ICS-A1.2	Soil Gas Dataset for Inside the Compressor Station (ICS) Potential Exposure Area HHRA

Attachment ICS-A2 (Tables provided separately as excel files)

Table ICS-A2	Depth-Weighting Files: Input Samples for Inside Compressor Station_Baseline_0-005
Table ICS-A2	Depth-Weighting Files: Input Samples for Inside Compressor Station_Baseline_0-03
Table ICS-A2	Depth-Weighting Files: Input Samples for Inside Compressor Station_Baseline_0-06
Table ICS-A2	Depth-Weighting Files: Input Samples for Inside Compressor Station_Baseline_0-10
Table ICS-A2	ProUCL Input Files: Inside Compressor Station_Baseline_0-005_ForProUCL
Table ICS-A2	ProUCL Input Files: Inside Compressor Station_Baseline_0-03_ForProUCL
Table ICS-A2	ProUCL Input Files: Inside Compressor Station_Baseline_0-06_ForProUCL
Table ICS-A2	ProUCL Input Files: Inside Compressor Station_Baseline_0-10_ForProUCL
Table ICS-A2	ProUCL Output Files: ALL DATA for ProUCL_DepthWtd_InsideCompStn_UCLs

Attachment ICS-A3 (Tables provided separately as excel files)

Table ICS-A3	ICS_Input Samples Area-Weighted
Table ICS-A3	ICS_Output Area-Weighted UCL-BCA
ICS-A3 Figures	Figures List Provided at Start of: ICS Figures_ThiessenAreaWeighting

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	2 B-Tower	3 B-Tower	AOC13-1	AOC13-1	AOC13-1	AOC13-10	AOC13-10	AOC13-11	AOC13-11	AOC13-11	AOC13-12	AOC13-12	AOC13-12	AOC13-13	AOC13-13
	SAMPLE	2 B-Tower	3 B-Tower	AOC13-1-17000	AOC13-1-17002	AOC13-1-17001	AOC13-10-17003	AOC13-10-17004	AOC13-11-17005	AOC13-11-17007	AOC13-11-17006	AOC13-12-17008	AOC13-12-17010	AOC13-12-17009	AOC13-13-17011	AOC13-13-17012
	DATE	4/13/1999	4/13/1999	12/5/2015	12/5/2015	12/5/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	1/5/2016	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		0	0	0	2	0	0	2	0	2	0.5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	1	3	1	0.5	3	0.5	3	1	1	3	1	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0.5	3	0.5	0.5	3	0.5	3	1	0.5	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate					Field Duplicate			Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	38 J	7 UJ	47 J	1.2 UJ	--	--	--	--	360 J	11 UJ
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	6.2 J	1.1 UJ	8.6 J	0.47 UJ	--	--	--	--	42 J	1.2 UJ
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	0.38 UJ	0.59 UJ	0.49 UJ	0.09 UJ	--	--	--	--	1.3 UJ	0.29 UJ
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	0.74 UJ	0.68 UJ	1.3 UJ	0.45 UJ	--	--	--	--	0.77 UJ	0.26 UJ
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	0.59 UJ	1.3 UJ	0.39 UJ	0.11 UJ	--	--	--	--	2.8 UJ	0.44 UJ
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	0.38 UJ	0.59 UJ	1.7 UJ	0.36 UJ	--	--	--	--	11 J	0.49 UJ
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	0.57 UJ	0.65 UJ	1 UJ	0.43 UJ	--	--	--	--	3.2 UJ	0.25 UJ
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	0.59 UJ	0.76 UJ	0.38 UJ	0.2 UJ	--	--	--	--	0.79 UJ	0.24 UJ
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	0.47 UJ	0.54 UJ	0.73 UJ	2 J	--	--	--	--	0.77 UJ	0.17 UJ
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	0.37 UJ	0.58 UJ	0.48 UJ	0.085 UJ	--	--	--	--	4.9 J	0.34 UJ
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	0.68 UJ	0.79 UJ	0.41 UJ	0.52 UJ	--	--	--	--	0.89 UJ	0.3 UJ
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	19 UJ	20 UJ	7.2 UJ	9.2 UJ	--	--	--	--	50 UJ	1.4 UJ
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	1.3 UJ	2.2 UJ	1.7 UJ	2.1 J	--	--	--	--	0.8 UJ	0.18 UJ
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	0.19 UJ	0.15 UJ	0.11 UJ	0.056 UJ	--	--	--	--	0.3 UJ	0.11 UJ
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	0.36 UJ	0.21 UJ	0.35 UJ	0.064 UJ	--	--	--	--	0.37 UJ	0.15 UJ
OCDD	ng/kg	--	--	--	--	--	380 J	56 J	350 J	8.1 U	--	--	--	--	3500 J	120 J
OCDF	ng/kg	--	--	--	--	--	6 UJ	1.6 UJ	6.2 J	0.19 UJ	--	--	--	--	82 J	2.9 UJ
TEQ Avian	ng/kg	--	--	--	--	--	2.5	2.9	2	3	--	--	--	--	5.7	0.51
TEQ Human	ng/kg	--	--	--	--	--	2.3	2.1	1.8	1.4	--	--	--	--	10	0.48
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	2.3	2.1	1.8	1.4	--	--	--	--	10	0.48
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	--	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 UJ	2.1 U
Arsenic	mg/kg	--	--	2.8	3	--	3	3	2.9	4.2	3.2	--	3.9	3.4	4.1	4.2
Barium	mg/kg	--	--	--	340	520	83	90	87	64	94	--	100	120	73	130
Beryllium	mg/kg	--	--	1.1 U	1.1 U	--	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1 U	1 U
Cadmium	mg/kg	--	--	1.1 U	1.1 U	--	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1 U	1 U
Chromium, Hexavalent	mg/kg	0.5 U	0.5 U	0.21 U	0.21 U	--	0.49	0.21 U	0.31	0.21 U	0.34	0.21 U	0.21 U	--	0.49	0.21 U
Chromium, total	mg/kg	78	150	31 J	12	--	22	14	13 J	9	18 J	--	7.1	7.6	33	6.2
Cobalt	mg/kg	--	--	--	5.9	7.1	3.3	3.9	4	2.9	5.2	--	3.5	3.1	6.8	2.8
Copper	mg/kg	41	110	17	6.4	--	26	7.6	8	4.8	10	--	5.8	6.3	11	4.2
Lead	mg/kg	--	--	1.1	1.2	--	6.1	3.3	11 J	3.3	18 J	--	3.1	9.4 J	6.1	2.2
Mercury	mg/kg	--	--	0.1 U	0.1 U	--	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	--	0.13	0.1 U
Molybdenum	mg/kg	--	--	1.1 U	1.1 U	--	1 U	1.1 U	1.3	1 U	1.9	1.1 U	1.1 U	--	1 U	1 U
Nickel	mg/kg	8.8	5.8	20	8	--	6.5	7.8	9.2 J	6.2	16 J	--	5.7	5.8	14	4.6
Selenium	mg/kg	--	--	1.1 U	1.1 U	--	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1 UJ	1 U
Silver	mg/kg	--	--	1.1 U	1.1 U	--	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1 U	1 U
Thallium	mg/kg	--	--	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 UJ	2.1 U
Vanadium	mg/kg	--	--	34	28	--	15	16	21 J	19	26 J	--	19	18	30	15
Zinc	mg/kg	120	170	23	28	--	18	18	28 J	18	46 J	--	17	22 J	53	16
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	3700	4200	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	21000	20000	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	0.21 UJ	0.22 UJ	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	7100	8100	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	3800	4100	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	140	150	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	2 B-Tower	3 B-Tower	AOC13-1	AOC13-1	AOC13-1	AOC13-10	AOC13-10	AOC13-11	AOC13-11	AOC13-11	AOC13-12	AOC13-12	AOC13-12	AOC13-13	AOC13-13
	SAMPLE	2 B-Tower	3 B-Tower	AOC13-1-17000	AOC13-1-17002	AOC13-1-17001	AOC13-10-17003	AOC13-10-17004	AOC13-11-17005	AOC13-11-17007	AOC13-11-17006	AOC13-12-17008	AOC13-12-17010	AOC13-12-17009	AOC13-13-17011	AOC13-13-17012
	DATE	4/13/1999	4/13/1999	12/5/2015	12/5/2015	12/5/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	1/5/2016	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		0	0	0	2	0	0	2	0	2	0.5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	1	3	1	0.5	3	0.5	3	1	1	3	1	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0.5	3	0.5	0.5	3	0.5	3	1	0.5	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate					Field Duplicate			Field Duplicate		
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	880	1100	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	170	170	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U
Aroclor 1221	ug/kg	--	--	35 U	35 U	--	34 U	35 U	34 U	34 U	35 U	34 U	35 U	--	35 U	34 U
Aroclor 1232	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U
Aroclor 1242	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U
Aroclor 1248	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U
Aroclor 1254	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	98	17 U
Aroclor 1260	ug/kg	--	--	17 U	17 U	--	17 U	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	17 U	18 U	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	17 U	18 U	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	34 U	34 U	--	34 U	36 U	34 U	34 U	34 U	34 U	34 U	--	124	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	16	19	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
2-Methyl naphthalene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	13	18	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
Acenaphthene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	5.2 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
Acenaphthylene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	5.2 U	13	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
Anthracene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	5.2 U	24	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
B(a)P Equivalent	ug/kg	--	--	59 U	6.1 U	--	57 U	60 U	59	65	59 U	6 U	6.1 U	--	58	6 U
Benzo (a) anthracene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	13	27	5.3 U	5.2 U	5.3 U	--	5.2	5.2 U
Benzo (a) pyrene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	52 U	53 U	5.2 U	5.3 U	--	52 U	5.2 U
Benzo (b) fluoranthene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	52 U	53 U	5.2 U	5.3 U	--	52 U	5.2 U
Benzo (ghi) perylene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	310	53 U	5.2 U	5.3 U	--	52 U	5.2 U
Benzo (k) fluoranthene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	52 U	53 U	5.2 U	5.3 U	--	52 U	5.2 U
Chrysene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	22 J	170	5.3 UJ	5.2 U	5.3 U	--	14	5.2 U
Dibenzo (a,h) anthracene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	52 U	53 U	5.2 U	5.3 U	--	52 U	5.2 U
Fluoranthene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	38 J	5.2 U	5.3 UJ	5.2 U	5.3 U	--	22	5.2 U
Fluorene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	5.2 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.2 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	53 U	5.3 U	--	51 U	54 U	52 U	76	53 U	5.2 U	5.3 U	--	52 U	5.2 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	2 B-Tower	3 B-Tower	AOC13-1	AOC13-1	AOC13-1	AOC13-10	AOC13-10	AOC13-11	AOC13-11	AOC13-11	AOC13-12	AOC13-12	AOC13-12	AOC13-13	AOC13-13
	SAMPLE	2 B-Tower	3 B-Tower	AOC13-1-17000	AOC13-1-17002	AOC13-1-17001	AOC13-10-17003	AOC13-10-17004	AOC13-11-17005	AOC13-11-17007	AOC13-11-17006	AOC13-12-17008	AOC13-12-17010	AOC13-12-17009	AOC13-13-17011	AOC13-13-17012
	DATE	4/13/1999	4/13/1999	12/5/2015	12/5/2015	12/5/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	1/5/2016	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		0	0	0	2	0	0	2	0	2	0.5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	1	3	1	0.5	3	0.5	3	1	1	3	1	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0.5	3	0.5	0.5	3	0.5	3	1	0.5	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate					Field Duplicate			Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	5.2 U	5.2 U	5.3 U	5.2 U	4.9 U	--	5.2 U	5.2 U
PAH High molecular weight	ug/kg	--	--	0	0	--	0	0	107	583	0	0	0	--	58.2	0
PAH Low molecular weight	ug/kg	--	--	0	0	--	0	0	43	74	0	0	0	--	7.3	0
Phenanthrene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	14	5.2 U	5.3 U	5.2 U	5.3 U	--	7.3	5.2 U
Pyrene	ug/kg	--	--	5.3 U	5.3 U	--	5.1 U	5.4 U	34 J	5.2 U	5.3 UJ	5.2 U	5.3 U	--	17	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	720 UJ	750 U	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	720 UJ	750 UJ	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2-Chlorophenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2-Methylphenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2-Nitroaniline	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
2-Nitrophenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	720 UJ	750 UJ	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2,4-Dinitrophenol	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2,6-Dinitrotoluene	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
3-Nitroaniline	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	--	700 U	700 U	--	680 UJ	710 U	690 U	690 U	690 UJ	690 UJ	700 U	--	690 U	680 U
4-Bromophenyl phenyl ether	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
4-Chloro-3-methylphenol	ug/kg	--	--	700 U	700 U	--	680 U	710 U	690 U	690 U	690 U	690 U	700 U	--	690 U	680 U
4-Chloroaniline	ug/kg	--	--	700 U	700 U	--	680 U	710 U	690 U	690 U	690 UJ	690 UJ	700 U	--	690 U	680 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
4-Methylphenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
4-Nitroaniline	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
4-Nitrophenol	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	1700 U	1700 U	--	1700 UJ	1800 U	1700 U	1700 U	1700 UJ	1700 UJ	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	720 UJ	750 UJ	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	720 UJ	750 U	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	720 UJ	750 UJ	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 UJ	1700 U	--	1700 U	1700 U
Benzyl alcohol	ug/kg	--	--	700 U	700 U	--	680 U	710 U	690 U	690 U	690 U	690 U	700 U	--	690 U	680 U
bis (2-chloroethoxy) methane	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Butylbenzylphthalate	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	340 UJ	350 UJ	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Di-n-octyl phthalate	ug/kg	--	--	3500 U	350 U	--	3400 U	3500 U	350 U	340 U	350 U	--	350 U	380 U	3500 U	340 U
Dibenzofuran	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Diethyl phthalate	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Dimethyl phthalate	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Hexachlorobenzene	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Hexachloroethane	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
N-nitrosodiphenylamine	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Pentachlorophenol	ug/kg	--	--	1700 U	1700 U	--	1700 U	1800 U	1700 U	1700 U	1700 U	1700 UJ	1700 U	--	1700 U	1700 U
Phenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	11 U	120 J	82	39	15	10 U	12	18	11 U	--	31	10 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	2 B-Tower	3 B-Tower	AOC13-1	AOC13-1	AOC13-1	AOC13-10	AOC13-10	AOC13-11	AOC13-11	AOC13-11	AOC13-12	AOC13-12	AOC13-12	AOC13-13	AOC13-13
	SAMPLE	2 B-Tower	3 B-Tower	AOC13-1-17000	AOC13-1-17002	AOC13-1-17001	AOC13-10-17003	AOC13-10-17004	AOC13-11-17005	AOC13-11-17007	AOC13-11-17006	AOC13-12-17008	AOC13-12-17010	AOC13-12-17009	AOC13-13-17011	AOC13-13-17012
	DATE	4/13/1999	4/13/1999	12/5/2015	12/5/2015	12/5/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	1/5/2016	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		0	0	0	2	0	0	2	0	2	0.5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	1	3	1	0.5	3	0.5	3	1	1	3	1	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0.5	3	0.5	0.5	3	0.5	3	1	0.5	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate					Field Duplicate			Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	1.2 U	--	1.2 U	--	1.2 U	--	--	1 U	--	--	1.3 U
TPH as motor oil		mg/kg	--	--	--	11 U	230 J	490	310	140	10 U	85	160	19	--	12
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1-Dichloroethene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1-Dichloropropene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1,1-Trichloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1,2-Trichloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2-Dibromoethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2-Dichlorobenzene	ug/kg	--	--	350 U	7.8 U	--	340 U	5.6 U	350 U	5.8 U	350 U	350 U	4.9 U	--	350 U	6.6 U
1,2-Dichloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2-Dichloropropane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2,3-Trichloropropane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,2,4-Trichlorobenzene	ug/kg	--	--	350 U	7.8 U	--	340 U	5.6 U	350 U	5.8 U	350 U	350 U	4.9 U	--	350 U	6.6 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,3-Dichlorobenzene	ug/kg	--	--	350 U	7.8 U	--	340 U	5.6 U	350 U	5.8 U	350 U	350 U	4.9 U	--	350 U	6.6 U
1,3-Dichloropropane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
1,4-Dichlorobenzene	ug/kg	--	--	350 U	7.8 U	--	340 U	5.6 U	350 U	5.8 U	350 U	350 U	4.9 U	--	350 U	6.6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	340 UJ	350 U	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	56 U	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
2,4,5-Trichlorophenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
2,4,6-Trichlorophenol	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
4-Isopropyltoluene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Acetone	ug/kg	--	--	--	78 U	--	--	2200 J	--	58 U	--	--	49 U	--	--	66 UJ
Acrolein	ug/kg	--	--	--	160 U	--	--	110 U	--	120 U	--	--	98 U	--	--	130 U
Acrylonitrile	ug/kg	--	--	--	78 U	--	--	56 U	--	58 U	--	--	49 U	--	--	66 U
Benzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
bis (2-chloroethyl) ether	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Bromobenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Bromochloromethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Bromodichloromethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Bromoform	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Bromomethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Carbon disulfide	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Carbon tetrachloride	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Chloro methane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Chlorobenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Chloroethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Chloroform	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	7.8 U	--	--	5.6 UJ	--	5.8 U	--	--	4.9 U	--	--	6.6 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	5.6 U	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	2 B-Tower	3 B-Tower	AOC13-1	AOC13-1	AOC13-1	AOC13-10	AOC13-10	AOC13-11	AOC13-11	AOC13-11	AOC13-12	AOC13-12	AOC13-12	AOC13-13	AOC13-13
	SAMPLE	2 B-Tower	3 B-Tower	AOC13-1-17000	AOC13-1-17002	AOC13-1-17001	AOC13-10-17003	AOC13-10-17004	AOC13-11-17005	AOC13-11-17007	AOC13-11-17006	AOC13-12-17008	AOC13-12-17010	AOC13-12-17009	AOC13-13-17011	AOC13-13-17012
	DATE	4/13/1999	4/13/1999	12/5/2015	12/5/2015	12/5/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	1/5/2016	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		0	0	0	2	0	0	2	0	2	0.5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	1	3	1	0.5	3	0.5	3	1	1	3	1	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0.5	3	0.5	0.5	3	0.5	3	1	0.5	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate					Field Duplicate			Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Dichlorodifluoromethane	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Ethyl- benzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Hexachlorobutadiene	ug/kg	--	--	700 U	7.8 U	--	680 U	5.6 U	690 U	5.8 U	690 U	690 U	4.9 U	--	690 U	6.6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	680 UJ	710 UJ	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
Isopropylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	5.6 U	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	78 U	--	--	56 U	--	58 U	--	--	49 U	--	--	66 U
Methyl isobutyl ketone	ug/kg	--	--	--	78 U	--	--	56 U	--	58 U	--	--	49 U	--	--	66 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	5.6 U	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
N-Butylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
N-Propylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Nitrobenzene	ug/kg	--	--	350 U	350 U	--	340 U	350 U	350 U	340 U	350 U	350 U	350 U	--	350 U	340 U
p-Chlorotoluene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
sec-Butylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Styrene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
tert-Butylbenzene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Tetrachloroethene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Toluene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Trichloroethene	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Vinyl chloride	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Xylene, m,p-	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Xylene, o-	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U
Xylenes, total	ug/kg	--	--	--	7.8 U	--	--	5.6 U	--	5.8 U	--	--	4.9 U	--	--	6.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-14	AOC13-14	AOC13-15	AOC13-15	AOC13-15	AOC13-16	AOC13-16	AOC13-17	AOC13-17	AOC13-18	AOC13-18	AOC13-18	AOC13-19	AOC13-19	AOC13-2
	SAMPLE	AOC13-14-17013	AOC13-14-17014	AOC13-15-17015	AOC13-15-17016	AOC13-15-17017	AOC13-16-17019	AOC13-16-17020	AOC13-17-17021	AOC13-17-17022	AOC13-18-17023	AOC13-18-17024	AOC13-18-17025	AOC13-19-17026	AOC13-19-17027	AOC13-2-17028
	DATE	12/14/2015	12/14/2015	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	12/8/2015	12/8/2015	1/6/2016	1/6/2016	1/6/2016	1/8/2016	1/8/2016	12/5/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	5	0	2	0	2	0	0.5	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	6	1	3	0.5	3	0.5	1	3	0.5	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	6	0.5	3	0.5	3	0.5	1	3	0.5	3	0.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	170 J	2.5 UJ	2.7 J	3.5 J	11 J	5500 J	3400 J	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	17 J	0.61 UJ	1.1 UJ	0.52 U	2 J	730 J	570 J	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	2.2 J	0.17 UJ	0.71 J	0.15 U	0.13 U	19 J	29 J	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	1.4 J	0.41 UJ	0.68 UJ	0.055 U	0.17 U	23 J	26 J	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	0.87 UJ	0.14 UJ	0.84 UJ	0.083 U	0.28 U	48 J	34 J	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	5.3 J	0.2 UJ	1.1 UJ	0.22 U	0.56 U	120 J	120 J	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	1.9 J	0.39 UJ	0.65 UJ	0.051 U	0.16 U	18 J	38 J	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	1 UJ	0.21 UJ	0.73 UJ	0.052 U	0.063 U	12 J	19 J	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	0.5 UJ	0.38 UJ	1.2 J	0.11 U	0.22 U	4.8 J	4.9 J	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	3.3 UJ	0.17 UJ	0.72 UJ	0.057 U	0.12 U	38 J	53 J	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	0.37 UJ	0.47 UJ	0.78 UJ	0.16 U	0.2 U	7.1 J	7.1 J	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	13 UJ	3.3 UJ	3.3 UJ	0.68 U	13 U	920 UJ	600 UJ	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	0.83 J	0.98 UJ	1.7 J	0.12 U	0.24 U	5.6 UJ	7.4 J	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	0.11 UJ	0.09 UJ	0.36 J	0.07 U	0.063 U	1.7 J	1.9 UJ	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	0.67 J	0.14 UJ	0.34 UJ	0.55 U	0.25 U	3.9 J	1.4 J	--	--	--	--	--	--
OCDD	ng/kg	--	--	1400 J	27 U	--	48	81	60000 J	31000 J	--	--	--	--	--	--
OCDF	ng/kg	--	--	18 J	0.22 UJ	2.1 J	0.78 U	9.1 J	2100 J	730 J	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	3.9	0.98 U	3.1	0.47	1	97	87	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	5.1	0.59 U	1.8	0.23	0.99	160	130	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	5.1	0.59 U	1.8	0.23	0.99	160	130	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2.1 U	2.1 UJ	2 U	2 U	2.1 UJ	2.1 U	2.1 U	2.2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	2.8	2.7	3.4	2.4	2.5	4.1	4.1	2.7	1.8	3.4	3.2	3.3	4.2	4	2.9
Barium	mg/kg	90	74	110	64	64	100	100	89	89	85	90	85	78	68	170
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Cadmium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Chromium, Hexavalent	mg/kg	1.5	0.29	0.96	0.2 U	0.2 U	0.21 U	0.21 U	0.76	1.4	0.21 U	0.2 U	0.21 U	0.21 U	0.2 U	0.21 U
Chromium, total	mg/kg	23	8.8	35	9.5	7.6	7.2	6.9	27	38	26	24	24	14	14	34
Cobalt	mg/kg	3	3.1	9.8	3.2	2.8	3.2	2.9	8	6.9	8.2	8.6	9.7	6.4	6.8	7.1
Copper	mg/kg	6.9	5	22	4.7	4.3	4.8	4.3	16	12	10	12	12	7.6	8.4	14
Lead	mg/kg	7.6	2.7	37 J	2.8	2.1	4.1	3	8.7	7.8	5.6	5.6	3.4	3	4	3.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.19	0.11 U	0.1 U	0.1 U	0.1 U	0.17	0.12	0.11 U
Molybdenum	mg/kg	1 U	1 U	1.4	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Nickel	mg/kg	6.3	7.8	23	6.9	6.1	5.7	4.8	16	15	17	17	16	12	14	23
Selenium	mg/kg	1 U	1 U	1.1 UJ	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Silver	mg/kg	1 U	1 U	1.1 UJ	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Thallium	mg/kg	2 U	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	13	14	32	13	12	18	17	28	25	40	39	43	28	23	30
Zinc	mg/kg	20	13	59	13	12	18	15	37	37	52	52	47	34	25	29
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-14	AOC13-14	AOC13-15	AOC13-15	AOC13-15	AOC13-16	AOC13-16	AOC13-17	AOC13-17	AOC13-18	AOC13-18	AOC13-18	AOC13-19	AOC13-19	AOC13-2
	SAMPLE	AOC13-14-17013	AOC13-14-17014	AOC13-15-17015	AOC13-15-17016	AOC13-15-17017	AOC13-16-17019	AOC13-16-17020	AOC13-17-17021	AOC13-17-17022	AOC13-18-17023	AOC13-18-17024	AOC13-18-17025	AOC13-19-17026	AOC13-19-17027	AOC13-2-17028
	DATE	12/14/2015	12/14/2015	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	12/8/2015	12/8/2015	1/6/2016	1/6/2016	1/6/2016	1/8/2016	1/8/2016	12/5/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	5	0	2	0	2	0	0.5	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	6	1	3	0.5	3	0.5	1	3	0.5	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	6	0.5	3	0.5	3	0.5	1	3	0.5	3	0.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1221	ug/kg	34 U	34 U	35 U	34 U	33 U	35 U	35 U	35 U	36 U	34 U	34 U	34 U	35 U	34 U	35 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1254	ug/kg	17 U	17 U	23	17 U	17 U	17 U	17 U	52	89	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	17 U	17 U	17 U	17 U	17 U	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	48.5	34 U	34 U	34 U	34 U	79	116	34 U	34 U	34 U	34 U	34 U	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
Acenaphthene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
Acenaphthylene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
Anthracene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
B(a)P Equivalent	ug/kg	57 U	5.9 U	39	5.9 U	5.9 U	56 U	7.8	600	38	16	37	6 U	6.6	5.9 U	60 U
Benzo (a) anthracene	ug/kg	5.1 U	5.1 U	16	5.1 U	5.1 U	5 U	6.6	54 U	14	11	28	5.2 U	5.3 U	5.1 U	5.4 U
Benzo (a) pyrene	ug/kg	51 U	5.1 U	27	5.1 U	5.1 U	50 U	5.2 U	540 U	27	9.9	26	5.2 U	5.3 U	5.1 U	54 U
Benzo (b) fluoranthene	ug/kg	51 U	5.1 U	64	5.1 U	5.1 U	50 U	16	540 U	57	19 J	46 J	5.2 U	7.7	5.1 U	54 U
Benzo (ghi) perylene	ug/kg	51 U	5.1 U	12	5.1 U	5.1 U	50 U	5.2 U	540 U	7.9	5.1 U	9.9	5.2 U	5.3 U	5.1 U	54 U
Benzo (k) fluoranthene	ug/kg	51 U	5.1 U	14	5.1 U	5.1 U	50 U	5.2 U	540 U	17	5.5	16	5.2 U	5.3 U	5.1 U	54 U
Chrysene	ug/kg	5.1 U	5.1 U	28	5.1 U	5.1 U	5 U	14	54 U	24	14 J	38 J	5.2 U	5.3 U	5.1 U	5.4 U
Dibenzo (a,h) anthracene	ug/kg	51 U	5.1 U	5.3 U	5.1 U	5.1 U	50 U	5.2 U	540 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	54 U
Fluoranthene	ug/kg	5.1 U	5.1 U	45	5.1 U	5.1 U	5 U	8.7	15 J	29	28 J	83 J	5.2 U	7	5.1 U	5.4 U
Fluorene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
Indeno (1,2,3-cd) pyrene	ug/kg	51 U	5.1 U	13	5.1 U	5.1 U	50 U	5.2 U	540 U	8.2	5.1 U	10	5.2 U	5.3 U	5.1 U	54 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-14	AOC13-14	AOC13-15	AOC13-15	AOC13-15	AOC13-16	AOC13-16	AOC13-17	AOC13-17	AOC13-18	AOC13-18	AOC13-18	AOC13-19	AOC13-19	AOC13-2
	SAMPLE	AOC13-14-17013	AOC13-14-17014	AOC13-15-17015	AOC13-15-17016	AOC13-15-17017	AOC13-16-17019	AOC13-16-17020	AOC13-17-17021	AOC13-17-17022	AOC13-18-17023	AOC13-18-17024	AOC13-18-17025	AOC13-19-17026	AOC13-19-17027	AOC13-2-17028
	DATE	12/14/2015	12/14/2015	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	12/8/2015	12/8/2015	1/6/2016	1/6/2016	1/6/2016	1/8/2016	1/8/2016	12/5/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	5	0	2	0	2	0	0.5	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	6	1	3	0.5	3	0.5	1	3	0.5	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	6	0.5	3	0.5	3	0.5	1	3	0.5	3	0.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.4 U
PAH High molecular weight	ug/kg	0	0	260	0	0	0	53.7	28	214	109	315	0	21	0	0
PAH Low molecular weight	ug/kg	0	0	14	0	0	0	0	0	0	13	37	0	0	0	0
Phenanthrene	ug/kg	5.1 U	5.1 U	14	5.1 U	5.1 U	5 U	5.2 U	5.4 U	5.4 U	13 J	37 J	5.2 U	5.3 U	5.1 U	5.4 U
Pyrene	ug/kg	5.1 U	5.1 U	41	5.1 U	5.1 U	5 U	8.4	13 J	30	22 J	58 J	5.2 U	6.3	5.1 U	5.4 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2-Chlorophenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2-Methylphenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
2-Nitrophenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
2,4-Dimethylphenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
2,4-Dinitrotoluene	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2,6-Dinitrotoluene	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
3,3-Dichlorobenzidene	ug/kg	670 U	680 U	690 U	670 U	670 U	690 U	690 U	710 U	690 U	680 U	680 U	680 U	700 U	680 U	7100 U
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
4-Chloro-3-methylphenol	ug/kg	670 U	680 U	690 U	670 U	670 U	690 U	690 U	710 U	710 U	680 U	680 U	680 U	700 U	680 U	710 U
4-Chloroaniline	ug/kg	670 U	680 U	690 U	670 U	670 U	690 U	690 U	710 U	710 U	680 U	680 U	680 U	700 U	680 U	710 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
4-Methylphenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
Benzyl alcohol	ug/kg	670 U	680 U	690 U	670 U	670 U	690 U	690 U	710 U	710 U	680 U	680 U	680 U	700 U	680 U	710 U
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	3500 U	350 U	340 U	340 U	340 U	350 U	340 U	3500 U
Butylbenzylphthalate	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	3500 U	350 U	340 U	340 U	340 U	350 U	340 U	3500 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Di-n-octyl phthalate	ug/kg	3400 U	340 U	3500 U	340 U	330 U	350 U	350 U	3500 U	3500 U	340 U	340 U	340 U	350 U	340 U	3500 U
Dibenzofuran	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Diethyl phthalate	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Dimethyl phthalate	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Hexachlorobenzene	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Hexachloroethane	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
N-nitrosodiphenylamine	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U
Phenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	58	10 U	13	10 U	10 U	11 U	10 U	16	19	10 U	10 U	10 U	11 U	10 U	58

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-14	AOC13-14	AOC13-15	AOC13-15	AOC13-15	AOC13-16	AOC13-16	AOC13-17	AOC13-17	AOC13-18	AOC13-18	AOC13-18	AOC13-19	AOC13-19	AOC13-2
	SAMPLE	AOC13-14-17013	AOC13-14-17014	AOC13-15-17015	AOC13-15-17016	AOC13-15-17017	AOC13-16-17019	AOC13-16-17020	AOC13-17-17021	AOC13-17-17022	AOC13-18-17023	AOC13-18-17024	AOC13-18-17025	AOC13-19-17026	AOC13-19-17027	AOC13-2-17028
	DATE	12/14/2015	12/14/2015	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	12/8/2015	12/8/2015	1/6/2016	1/6/2016	1/6/2016	1/8/2016	1/8/2016	12/5/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	5	0	2	0	2	0	0.5	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	6	1	3	0.5	3	0.5	1	3	0.5	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	6	0.5	3	0.5	3	0.5	1	3	0.5	3	0.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	1.1 U	--	1.1 U	1.1 U	--	1.3 U	--	0.98 U	--	--	1.2 U	--	1.2 U	--
TPH as motor oil	mg/kg	320	15	77	13	10 U	22	10 U	160	110	24	24	10 U	12	10 U	220
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1-Dichloroethene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1-Dichloropropene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1,1-Trichloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1,2-Trichloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2-Dibromoethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2-Dichlorobenzene	ug/kg	340 U	6.1 U	350 U	5.6 U	5.8 U	350 U	5.4 U	350 U	5 U	340 U	340 U	5.6 U	350 U	5.9 U	350 U
1,2-Dichloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2-Dichloropropane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2,3-Trichlorobenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2,3-Trichloropropane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,2,4-Trichlorobenzene	ug/kg	340 U	6.1 U	350 U	5.6 U	5.8 U	350 U	5.4 U	350 U	5 U	340 U	340 U	5.6 U	350 U	5.9 U	350 U
1,2,4-Trimethylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,3-Dichlorobenzene	ug/kg	340 U	6.1 U	350 U	5.6 U	5.8 U	350 U	5.4 U	350 U	5 U	340 U	340 U	5.6 U	350 U	5.9 U	350 U
1,3-Dichloropropane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,3,5-Trimethylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
1,4-Dichlorobenzene	ug/kg	340 U	6.1 U	350 U	5.6 U	5.8 U	350 U	5.4 U	350 U	5 U	340 U	340 U	5.6 U	350 U	5.9 U	350 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
4-Isopropyltoluene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Acetone	ug/kg	--	61 U	--	56 U	58 U	--	54 U	--	50 U	--	--	56 U	--	59 UJ	--
Acrolein	ug/kg	--	120 U	--	110 U	120 U	--	110 U	--	100 U	--	--	110 U	--	120 U	--
Acrylonitrile	ug/kg	--	61 U	--	56 U	58 U	--	54 U	--	50 U	--	--	56 U	--	59 U	--
Benzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Bromobenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Bromochloromethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Bromodichloromethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Bromoform	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Bromomethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Carbon disulfide	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Carbon tetrachloride	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Chloro methane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Chlorobenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Chloroethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Chloroform	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
cis-1,2-Dichloroethene	ug/kg	--	6.1 UJ	--	5.6 UJ	5.8 UJ	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
cis-1,3-Dichloropropene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-14	AOC13-14	AOC13-15	AOC13-15	AOC13-15	AOC13-16	AOC13-16	AOC13-17	AOC13-17	AOC13-18	AOC13-18	AOC13-18	AOC13-19	AOC13-19	AOC13-2
	SAMPLE	AOC13-14-17013	AOC13-14-17014	AOC13-15-17015	AOC13-15-17016	AOC13-15-17017	AOC13-16-17019	AOC13-16-17020	AOC13-17-17021	AOC13-17-17022	AOC13-18-17023	AOC13-18-17024	AOC13-18-17025	AOC13-19-17026	AOC13-19-17027	AOC13-2-17028
	DATE	12/14/2015	12/14/2015	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016	12/8/2015	12/8/2015	1/6/2016	1/6/2016	1/6/2016	1/8/2016	1/8/2016	12/5/2015
SAMPLE TOP DEPTH (FT)		0	2	0	2	5	0	2	0	2	0	0.5	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	6	1	3	0.5	3	0.5	1	3	0.5	3	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	6	0.5	3	0.5	3	0.5	1	3	0.5	3	0.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Dichlorodifluoromethane	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Ethyl- benzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Hexachlorobutadiene	ug/kg	670 U	6.1 U	690 U	5.6 U	5.8 U	690 U	5.4 U	710 U	5 U	680 U	680 U	5.6 U	700 U	5.9 U	710 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
Isopropylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	61 U	--	56 U	58 U	--	54 U	--	50 U	--	--	56 U	--	59 UJ	--
Methyl isobutyl ketone	ug/kg	--	61 U	--	56 U	58 U	--	54 U	--	50 U	--	--	56 U	--	59 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
N-Butylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
N-Propylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Nitrobenzene	ug/kg	340 U	340 U	350 U	340 U	330 U	350 U	350 U	350 U	350 U	340 U	340 U	340 U	350 U	340 U	350 U
p-Chlorotoluene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
sec-Butylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Styrene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
tert-Butylbenzene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Tetrachloroethene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Toluene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
trans-1,2-Dichloroethene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
trans-1,3-Dichloropropene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Trichloroethene	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Vinyl chloride	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Xylene, m,p-	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Xylene, o-	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--
Xylenes, total	ug/kg	--	6.1 U	--	5.6 U	5.8 U	--	5.4 U	--	5 U	--	--	5.6 U	--	5.9 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-2	AOC13-20	AOC13-20	AOC13-21	AOC13-21	AOC13-21	AOC13-22	AOC13-22	AOC13-23	AOC13-23	AOC13-24	AOC13-24	AOC13-24	AOC13-25	AOC13-25
	SAMPLE	AOC13-2-17029	AOC13-20-17030	AOC13-20-17031	AOC13-21-17032	AOC13-21-17034	AOC13-21-17033	AOC13-22-17035	AOC13-22-17036	AOC13-23-17037	AOC13-23-17038	AOC13-24-17039	AOC13-24-17041	AOC13-24-17040	AOC13-25-17042	AOC13-25-17043
	DATE	12/5/2015	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	0	0	2	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE						Field Duplicate							Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	410 J	400 J	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	18 J	17 J	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	1.7 UJ	2.3 UJ	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	1.3 UJ	0.82 UJ	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	0.75 UJ	1.2 J	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	7.1 J	8.9 J	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	1.9 UJ	1.7 J	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	1.2 UJ	1.3 UJ	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	1.3 UJ	0.7 UJ	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	2.7 UJ	2.2 UJ	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	0.77 UJ	0.95 UJ	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	25 UJ	28 UJ	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	1.4 UJ	0.73 UJ	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	0.3 UJ	1 UJ	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	0.33 UJ	0.5 UJ	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	3400 J	3300 J	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	35 J	37 J	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	4.3	4.6	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	8.7	9.3	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	8.7	9.3	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.2 U	2.1 U	2.2 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	--	2.1 U	2.1 U
Arsenic	mg/kg	3	4	6.3	--	4.6	4.5	5.6	4.2	4.1	4.2	--	4.7	5	3.9	3.8
Barium	mg/kg	300	110	120	210	110	--	200	140	140	150	180	160	--	160	140
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U
Cadmium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.21 U	0.21 U	0.2 U	0.2 U	--	0.21	0.55	0.39	0.31	0.21 U	0.21 U	--	0.21 U	0.21 U
Chromium, total	mg/kg	20	18	21	12	15	--	20	19	16	27	8.5 J	12	--	18	17
Cobalt	mg/kg	6.1	7.1	8.1	4.6	6.6	--	6.9	6.9	6.8	6.5	--	3.7	5	9.2	6.3
Copper	mg/kg	6.1	10	13	8.9	11	--	14	11	12	11	--	7	9.8	12	12
Lead	mg/kg	1.3	6	6.9	--	5.6	4.3	8.3	--	9.5	12	--	13	4.5 J	6.1	6.4
Mercury	mg/kg	0.11 U	0.38	0.28	--	0.18	0.13	0.13	0.13	0.24	0.29	0.12	0.1 U	--	0.14	0.18
Molybdenum	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U
Nickel	mg/kg	9.9	14	17	--	15	8.9 J	18	13	15	15	7.3 J	6.3	--	14	13
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	--	1.1 U	1 U	--	1.1 U	1 U
Silver	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	--	1.1 U	1 U
Thallium	mg/kg	2.2 U	2.1 U	2.2 U	2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	--	2.1 U	2.1 U
Vanadium	mg/kg	25	26	33	18	27	--	27	26	25	29	--	18	22	26	26
Zinc	mg/kg	30	36	49	29	41	--	51	41	33	34	--	28	31 J	33	32
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	9700	7000	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	31000	23000	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	0.042 U	0.041 U	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	19000	15000	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	8100	6200	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	260	220	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-2	AOC13-20	AOC13-20	AOC13-21	AOC13-21	AOC13-21	AOC13-22	AOC13-22	AOC13-23	AOC13-23	AOC13-24	AOC13-24	AOC13-24	AOC13-25	AOC13-25
	SAMPLE	AOC13-2-17029	AOC13-20-17030	AOC13-20-17031	AOC13-21-17032	AOC13-21-17034	AOC13-21-17033	AOC13-22-17035	AOC13-22-17036	AOC13-23-17037	AOC13-23-17038	AOC13-24-17039	AOC13-24-17041	AOC13-24-17040	AOC13-25-17042	AOC13-25-17043
	DATE	12/5/2015	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	0	0	2	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE						Field Duplicate							Field Duplicate		
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	1900 J	1600	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	970 J	740	--	--	--	--	--	--	--
Pesticides																
4,4-DDD		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016		ug/kg	18 U	18 U	18 U	17 U	17 U	--	17 U	17 U	18 U	18 U	17 U	17 U	--	17 U
Aroclor 1221		ug/kg	36 U	35 U	35 U	34 U	34 U	--	35 U	34 U	36 U	36 U	34 U	34 U	--	35 U
Aroclor 1232		ug/kg	18 U	18 U	18 U	17 U	17 U	--	17 U	17 U	18 U	18 U	17 U	17 U	--	17 U
Aroclor 1242		ug/kg	18 U	18 U	18 U	17 U	17 U	--	18 U	17 U	18 U	18 U	17 U	17 U	--	17 U
Aroclor 1248		ug/kg	18 U	18 U	18 U	17 U	17 U	--	17 U	17 U	18 U	18 U	17 U	17 U	--	17 U
Aroclor 1254		ug/kg	18 U	45	47	17 U	17 U	--	30	17 U	31	29	17 U	17 U	--	56
Aroclor 1260		ug/kg	18 U	18 U	18 U	17 U	17 U	--	36	17	45	41	17 U	17 U	--	42
Aroclor 1262		ug/kg	--	--	--	--	--	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1268		ug/kg	--	--	--	--	--	--	17 U	17 U	--	--	--	--	--	--
Total PCBs		ug/kg	36 U	72	74	34 U	34 U	--	83	42.5	94	88	34 U	34 U	--	115
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
2-Methyl naphthalene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
Acenaphthene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
Acenaphthylene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
Anthracene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	6.1	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
B(a)P Equivalent		ug/kg	6.4 U	60	6.7	64	59	--	60	160	60	61	59	5.9 U	--	59
Benzo (a) anthracene		ug/kg	5.5 U	13	5.4 U	24	51 U	--	16	63	7.9	5.5 U	--	5.1 U	5.2	7.4
Benzo (a) pyrene		ug/kg	5.5 U	53 U	5.4 U	51 U	51 U	--	53 U	110	54 U	55 U	52 U	5.1 U	--	53 U
Benzo (b) fluoranthene		ug/kg	5.5 U	53 U	7.5	74	51 U	--	53 U	180	54 U	55 U	52 U	5.1 U	--	53 U
Benzo (ghi) perylene		ug/kg	5.5 U	53 U	5.4 U	51 U	51 U	--	53 U	51 U	54 U	55 U	52 U	5.1 U	--	53 U
Benzo (k) fluoranthene		ug/kg	5.5 U	53 U	5.4 U	51 U	51 U	--	53 U	100	54 U	55 U	52 U	5.1 U	--	53 U
Chrysene		ug/kg	5.5 U	22	5.4 U	46	51 U	--	24	120	12	6.5	--	5.1 U	9.4	7.4
Dibenzo (a,h) anthracene		ug/kg	5.5 U	53 U	5.4 U	51 U	51 U	--	53 U	51 U	54 U	55 U	52 U	5.1 U	--	53 U
Fluoranthene		ug/kg	5.5 U	36	5.4 U	65 J	6.9 J	--	410	170	18	11	28	5.1 U	--	12
Fluorene		ug/kg	5.5 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U
Indeno (1,2,3-cd) pyrene		ug/kg	5.5 U	53 U	5.4 U	51 U	51 U	--	53 U	51 U	54 U	55 U	52 U	5.1 U	--	53 U

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PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-2	AOC13-20	AOC13-20	AOC13-21	AOC13-21	AOC13-21	AOC13-22	AOC13-22	AOC13-23	AOC13-23	AOC13-24	AOC13-24	AOC13-24	AOC13-25	AOC13-25
	SAMPLE	AOC13-2-17029	AOC13-20-17030	AOC13-20-17031	AOC13-21-17032	AOC13-21-17034	AOC13-21-17033	AOC13-22-17035	AOC13-22-17036	AOC13-23-17037	AOC13-23-17038	AOC13-24-17039	AOC13-24-17041	AOC13-24-17040	AOC13-25-17042	AOC13-25-17043
	DATE	12/5/2015	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	0	0	2	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE						Field Duplicate							Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.3 U	5.4 U	5.1 U	5.1 U	--	5.3 U	5.1 U	5.4 U	5.5 U	5.2 U	5.1 U	--	5.3 U	5.2 U
PAH High molecular weight	ug/kg	0	104	7.5	269	15.5	--	870	893	55.9	28.5	87	0	--	38.8	18
PAH Low molecular weight	ug/kg	0	8.8	0	26	0	--	10	55.1	7.9	0	11	0	--	0	0
Phenanthrene	ug/kg	5.5 U	8.8	5.4 U	--	5.1 U	9.5 J	10	49	7.9	5.5 U	11	5.1 U	--	5.3 U	5.2 U
Pyrene	ug/kg	5.5 U	33	5.4 U	60 J	8.6 J	--	420	150	18	11	29	5.1 U	--	12	9 J
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	740 U	720 U	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	740 U	720 U	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2-Chlorophenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2-Methylphenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2-Nitroaniline	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
2-Nitrophenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	740 UJ	720 UJ	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2,4-Dinitrophenol	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1800 U	1700 UJ	1700 U	--	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2,6-Dinitrotoluene	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
3-Nitroaniline	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
3,3'-Dichlorobenzidene	ug/kg	730 U	700 U	710 U	6700 U	680 U	--	7000 U	6800 U	710 U	7200 U	690 U	680 U	--	690 U	690 U
4-Bromophenyl phenyl ether	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
4-Chloro-3-methylphenol	ug/kg	730 U	700 U	710 U	670 U	680 U	--	700 U	680 U	710 U	720 U	690 U	680 U	--	690 U	690 U
4-Chloroaniline	ug/kg	730 U	700 U	710 U	670 U	680 U	--	700 U	680 U	710 U	720 U	690 U	680 U	--	690 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
4-Methylphenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
4-Nitroaniline	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
4-Nitrophenol	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 UJ	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	740 UJ	720 UJ	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	740 U	720 U	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	740 UJ	720 UJ	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
Benzyl alcohol	ug/kg	730 U	700 U	710 U	670 U	680 U	--	700 U	680 U	710 U	720 U	690 U	680 U	--	690 U	690 U
bis (2-chloroethoxy) methane	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	360 U	350 U	360 U	3400 U	340 U	--	3500 U	3400 U	360 U	3600 U	340 U	340 U	--	350 U	340 U
Butylbenzylphthalate	ug/kg	360 U	350 U	360 U	3400 U	340 U	--	3500 U	3400 U	360 U	3600 U	340 U	340 U	--	350 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	350 U	340 U	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	350 U	340 U	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Di-n-octyl phthalate	ug/kg	360 U	350 U	360 U	340 U	3400 U	--	3500 U	340 U	3600 U	360 U	340 U	340 U	--	3500 U	3400 U
Dibenzofuran	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Diethyl phthalate	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Dimethyl phthalate	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Hexachlorobenzene	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Hexachloroethane	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 UJ	340 U	--	350 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
N-nitrosodiphenylamine	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Pentachlorophenol	ug/kg	1800 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	--	1700 U	1700 U
Phenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	11 U	11 U	10 U	10 U	--	11 U	23	27	32	10 U	10	--	11 U	36

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Needles, California

	LOCATION	AOC13-2	AOC13-20	AOC13-20	AOC13-21	AOC13-21	AOC13-21	AOC13-22	AOC13-22	AOC13-23	AOC13-23	AOC13-24	AOC13-24	AOC13-24	AOC13-25	AOC13-25
	SAMPLE	AOC13-2-17029	AOC13-20-17030	AOC13-20-17031	AOC13-21-17032	AOC13-21-17034	AOC13-21-17033	AOC13-22-17035	AOC13-22-17036	AOC13-23-17037	AOC13-23-17038	AOC13-24-17039	AOC13-24-17041	AOC13-24-17040	AOC13-25-17042	AOC13-25-17043
	DATE	12/5/2015	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	0	0	2	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE						Field Duplicate							Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1 U	--	1.4 U	--	1.2 U	--	--	1.1 U	--	1.2 U	--	1.2 U	--	1.3 U
TPH as motor oil		mg/kg	11 U	77	30	81	60	--	48	190	94	120	--	68	83	420
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1-Dichloroethene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1-Dichloropropene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1,1-Trichloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1,1,2-Tetrachloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1,2-Trichloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,1,2,2-Tetrachloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2-Dibromo-3-chloropropane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2-Dibromoethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2-Dichlorobenzene	ug/kg	5.2 U	350 U	7 U	340 U	6.3 U	--	350 U	5.8 U	360 U	6.1 U	340 UJ	6.3 U	--	350 U	6.4 U
1,2-Dichloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2-Dichloropropane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2,3-Trichlorobenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2,3-Trichloropropane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,2,4-Trichlorobenzene	ug/kg	5.2 U	350 U	7 U	340 U	6.3 U	--	350 U	5.8 U	360 U	6.1 U	340 U	6.3 U	--	350 U	6.4 U
1,2,4-Trimethylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,3-Dichlorobenzene	ug/kg	5.2 U	350 U	7 U	340 U	6.3 U	--	350 U	5.8 U	360 U	6.1 U	340 UJ	6.3 U	--	350 U	6.4 U
1,3-Dichloropropane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,3,5-Trimethylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
1,4-Dichlorobenzene	ug/kg	5.2 U	350 U	7 U	340 U	6.3 U	--	350 U	5.8 U	360 U	6.1 U	340 U	6.3 U	--	350 U	6.4 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	350 U	340 U	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	58 U	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
2,4,5-Trichlorophenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
2,4,6-Trichlorophenol	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
4-Isopropyltoluene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Acetone	ug/kg	52 U	--	70 UJ	--	63 UJ	--	--	58 UJ	--	61 UJ	--	63 UJ	--	--	64 UJ
Acrolein	ug/kg	100 U	--	140 U	--	130 U	--	--	120 U	--	120 U	--	130 U	--	--	130 U
Acrylonitrile	ug/kg	52 U	--	70 U	--	63 U	--	--	58 U	--	61 U	--	63 U	--	--	64 U
Benzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
bis (2-chloroethyl) ether	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Bromobenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Bromochloromethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Bromodichloromethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Bromoform	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Bromomethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Carbon disulfide	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Carbon tetrachloride	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Chloro methane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Chlorobenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Chloroethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Chloroform	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
cis-1,2-Dichloroethene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
cis-1,3-Dichloropropene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	5.8 U	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-2	AOC13-20	AOC13-20	AOC13-21	AOC13-21	AOC13-21	AOC13-22	AOC13-22	AOC13-23	AOC13-23	AOC13-24	AOC13-24	AOC13-24	AOC13-25	AOC13-25
	SAMPLE	AOC13-2-17029	AOC13-20-17030	AOC13-20-17031	AOC13-21-17032	AOC13-21-17034	AOC13-21-17033	AOC13-22-17035	AOC13-22-17036	AOC13-23-17037	AOC13-23-17038	AOC13-24-17039	AOC13-24-17041	AOC13-24-17040	AOC13-25-17042	AOC13-25-17043
	DATE	12/5/2015	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/8/2016	1/9/2016	1/9/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	0	0	2	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE						Field Duplicate							Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Dichlorodifluoromethane	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Ethyl- benzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Hexachlorobutadiene	ug/kg	5.2 U	700 U	7 U	670 U	6.3 U	--	700 U	5.8 U	710 U	6.1 U	690 U	6.3 U	--	690 U	6.4 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	700 U	680 U	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 U	340 U	--	350 U	340 U
Isopropylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	5.8 U	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	52 U	--	70 UJ	--	63 UJ	--	--	58 UJ	--	61 UJ	--	63 UJ	--	--	64 U
Methyl isobutyl ketone	ug/kg	52 U	--	70 U	--	63 U	--	--	58 U	--	61 U	--	63 U	--	--	64 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	5.8 U	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
N-Butylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
N-Propylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Nitrobenzene	ug/kg	360 U	350 U	360 U	340 U	340 U	--	350 U	340 U	360 U	360 U	340 UJ	340 U	--	350 U	340 U
p-Chlorotoluene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
sec-Butylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Styrene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
tert-Butylbenzene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Tetrachloroethene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Toluene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
trans-1,2-Dichloroethene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
trans-1,3-Dichloropropene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Trichloroethene	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Vinyl chloride	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Xylene, m,p-	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Xylene, o-	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U
Xylenes, total	ug/kg	5.2 U	--	7 U	--	6.3 U	--	--	5.8 U	--	6.1 U	--	6.3 U	--	--	6.4 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-26	AOC13-26	AOC13-26	AOC13-27	AOC13-27	AOC13-28	AOC13-28	AOC13-29	AOC13-29	AOC13-29	AOC13-3	AOC13-3	AOC13-30	AOC13-30	AOC13-31
	SAMPLE	AOC13-26-17044	AOC13-26-17045	AOC13-26-17046	AOC13-27-17047	AOC13-27-17048	AOC13-28-17049	AOC13-28-17050	AOC13-29-17051	AOC13-29-17053	AOC13-29-17052	AOC13-3-17054	AOC13-3-17055	AOC13-30-17056	AOC13-30-17057	AOC13-31-17058
	DATE	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	12/14/2015	12/14/2015	1/7/2016	1/7/2016	1/7/2016
SAMPLE TOP DEPTH (FT)		0	2	2	0	2	0	2	0	2	0	0	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate							Field Duplicate					
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	14000 J	380 J	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	1100 J	44 J	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	40 J	1.8 UJ	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	62 J	2.2 UJ	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	93 J	3.7 J	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	290 J	11 J	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	27 J	2.7 J	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	20 J	1.2 J	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	11 J	0.66 UJ	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	76 J	3.2 J	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	22 J	0.44 UJ	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	3000 UJ	77 UJ	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	21 J	0.74 UJ	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.7 UJ	0.16 UJ	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	3.1 UJ	0.17 UJ	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	130000 J	4400 J	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	3700 J	95 J	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	260	7.8	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	420	13	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	420	13	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	--	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U
Arsenic	mg/kg	4.3	4.1	--	4.7	4.1	4.3	4.6	4	4.5	--	4.3	4	3.8	4	4.1
Barium	mg/kg	120	150 J	--	140	200	130	160	--	140	160 J	200	250	79	200	--
Beryllium	mg/kg	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Cadmium	mg/kg	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.56	--	0.35	0.78	0.29	0.21 U	0.21 U	0.21 U	--	0.29	0.22 U	0.82	0.28	--
Chromium, total	mg/kg	15	21 J	--	26	24	26	16	--	23	35 J	17	11	37	16	16
Cobalt	mg/kg	6.5	5.5	--	7.4	6.2	5.5	6.1	--	8.2	9.2	6.1	5	7.4	6.8	--
Copper	mg/kg	18	9.3	--	12	10	22	9.1	13	16	--	14	11	13	11	7.7
Lead	mg/kg	7.9	37	--	5.4	8.7	6.2	5.2	--	6.7	3.6	28	7	7.2	4.1	--
Mercury	mg/kg	0.11 U	0.12	--	0.14	0.12	0.13	0.15	0.16	0.14	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.1 U	--	1.2	1.1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Nickel	mg/kg	12	12	--	18	15	12	14	--	20	25	11	8.6	15	11	9.1
Selenium	mg/kg	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Silver	mg/kg	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	--	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.3 U	2.2 U	2.1 U	2.2 U
Vanadium	mg/kg	24	25	--	33	27	24	27	--	31	38	25	20	34	32	--
Zinc	mg/kg	39	37	--	37	35	40	32	--	34	33	38	28	53	39	--
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-26	AOC13-26	AOC13-26	AOC13-27	AOC13-27	AOC13-28	AOC13-28	AOC13-29	AOC13-29	AOC13-29	AOC13-3	AOC13-3	AOC13-30	AOC13-30	AOC13-31
	SAMPLE	AOC13-26-17044	AOC13-26-17045	AOC13-26-17046	AOC13-27-17047	AOC13-27-17048	AOC13-28-17049	AOC13-28-17050	AOC13-29-17051	AOC13-29-17053	AOC13-29-17052	AOC13-3-17054	AOC13-3-17055	AOC13-30-17056	AOC13-30-17057	AOC13-31-17058
	DATE	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	12/14/2015	12/14/2015	1/7/2016	1/7/2016	1/7/2016
SAMPLE TOP DEPTH (FT)		0	2	2	0	2	0	2	0	2	0	0	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate							Field Duplicate					
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	19 U	18 U	18 U	18 U
Aroclor 1221	ug/kg	35 U	35 U	--	36 U	35 U	34 U	35 U	34 U	35 U	--	35 U	37 U	36 U	35 U	36 U
Aroclor 1232	ug/kg	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	19 U	18 U	18 U	18 U
Aroclor 1242	ug/kg	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	19 U	18 U	18 U	18 U
Aroclor 1248	ug/kg	17 U	17 U	--	18 U	17 U	17 U	17 U	17 U	17 U	--	17 U	19 U	18 U	18 U	18 U
Aroclor 1254	ug/kg	17 U	--	20	38	140	58	17 U	17 U	17 U	--	37	19 U	260	110	18 U
Aroclor 1260	ug/kg	17 U	--	19	18 U	60	17 U	17 U	17 U	23	--	17 U	19 U	170	53	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	--	56	65	217	83.5	34 U	34 U	48.5	--	62.5	38 U	448	181	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	18	5.6 U	5.4 U	5.3 U	5.4 U
2-Methyl naphthalene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	11	5.6 U	5.4 U	5.3 U	5.4 U
Acenaphthene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.3 U	5.6 U	5.4 U	5.3 U	5.4 U
Acenaphthylene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.3 U	5.6 U	5.4 U	5.3 U	5.4 U
Anthracene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	9.1	5.2 U	5.3 U	--	5.3 U	5.6 U	6.9	5.3 U	5.4 U
B(a)P Equivalent	ug/kg	59	--	60	61	61	60	69	6 U	59	--	59	6.5 U	120	6.1 U	61
Benzo (a) anthracene	ug/kg	5.6	52 U	--	5.5 U	53 U	52 U	56	5.2 U	5.3	--	5.3 U	5.6 U	78	5.3 U	--
Benzo (a) pyrene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	53 U	5.2 U	53 U	--	53 U	5.6 U	88	5.3 U	54 U
Benzo (b) fluoranthene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	70	5.2 U	53 U	--	53 U	5.6 U	160	5.3 U	54 U
Benzo (ghi) perylene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	53 U	5.2 U	53 U	--	53 U	5.6 U	23	5.3 U	54 U
Benzo (k) fluoranthene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	53 U	5.2 U	53 U	--	53 U	5.6 U	56	5.3 U	54 U
Chrysene	ug/kg	9.5	52 U	--	5.5 U	53 U	52 U	82	5.2 U	9.5	--	5.3	5.6 U	80	5.3 U	23
Dibenzo (a,h) anthracene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	53 U	5.2 U	53 U	--	53 U	5.6 U	5.4 U	5.3 U	54 U
Fluoranthene	ug/kg	19	--	15 J	5.9	9.9 J	27 J	60	5.2 U	12	--	7	5.6 U	150	5.3 U	34
Fluorene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.3 U	5.6 U	5.4 U	5.3 U	5.4 U
Indeno (1,2,3-cd) pyrene	ug/kg	53 U	52 U	--	55 U	53 U	52 U	53 U	5.2 U	53 U	--	53 U	5.6 U	25	5.3 U	54 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-26	AOC13-26	AOC13-26	AOC13-27	AOC13-27	AOC13-28	AOC13-28	AOC13-29	AOC13-29	AOC13-29	AOC13-3	AOC13-3	AOC13-30	AOC13-30	AOC13-31
	SAMPLE	AOC13-26-17044	AOC13-26-17045	AOC13-26-17046	AOC13-27-17047	AOC13-27-17048	AOC13-28-17049	AOC13-28-17050	AOC13-29-17051	AOC13-29-17053	AOC13-29-17052	AOC13-3-17054	AOC13-3-17055	AOC13-30-17056	AOC13-30-17057	AOC13-31-17058
	DATE	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	12/14/2015	12/14/2015	1/7/2016	1/7/2016	1/7/2016
SAMPLE TOP DEPTH (FT)		0	2	2	0	2	0	2	0	2	0	0	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate							Field Duplicate					
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	--	5.3 U	5.6 U	5.4 U	5.3 U	5.4 U
PAH High molecular weight	ug/kg	50.1	--	28	11.8	17.3	48	332	0	38.8	--	19.7	0	790	0	102
PAH Low molecular weight	ug/kg	0	0	--	0	0	7.9	22.1	0	0	--	29	0	65.9	0	12
Phenanthrene	ug/kg	5.3 U	--	5.2 U	5.5 U	5.3 U	7.9 J	13	5.2 U	5.3 U	--	5.3 U	5.6 U	59	5.3 U	--
Pyrene	ug/kg	16	--	13 J	5.9	7.4 J	21 J	64	5.2 U	12	--	7.4	5.6 U	130	5.3 U	32
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2-Chlorophenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2-Methylphenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2-Nitroaniline	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
2-Nitrophenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
2,4-Dimethylphenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2,4-Dinitrophenol	ug/kg	1800 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
2,4-Dinitrotoluene	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
2,6-Dinitrotoluene	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
3-Nitroaniline	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
3,3'-Dichlorobenzidene	ug/kg	700 U	6900 U	--	730 U	700 U	680 U	700 U	730 U	--	680 U	700 U	740 U	720 U	700 U	--
4-Bromophenyl phenyl ether	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
4-Chloro-3-methylphenol	ug/kg	700 U	690 U	--	730 U	700 U	680 U	700 U	--	690 U	680 U	700 U	740 U	720 U	700 U	--
4-Chloroaniline	ug/kg	700 U	690 U	--	730 U	700 U	680 U	700 U	--	690 U	680 U	700 U	740 U	720 U	700 U	--
4-Chlorophenyl phenyl ether	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
4-Methylphenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
4-Nitroaniline	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
4-Nitrophenol	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
Benzyl alcohol	ug/kg	700 U	690 U	--	730 U	700 U	680 U	700 U	--	690 U	680 U	700 U	740 U	720 U	700 U	--
bis (2-chloroethoxy) methane	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	3500 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Butylbenzylphthalate	ug/kg	350 U	3500 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Di-n-octyl phthalate	ug/kg	3500 U	3500 U	--	3600 U	3500 U	3400 U	350 U	340 U	3500 U	--	3500 U	370 U	3600 U	350 U	3600 U
Dibenzofuran	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Diethyl phthalate	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Dimethyl phthalate	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Hexachlorobenzene	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Hexachloroethane	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
N-nitrosodiphenylamine	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Pentachlorophenol	ug/kg	1700 U	1700 U	--	1800 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1900 U	1800 U	1800 U	1800 U
Phenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	--	44	11 U	75	10 U	11 U	10 U	11 U	--	16	11 U	11 U	11 U	11 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-26	AOC13-26	AOC13-26	AOC13-27	AOC13-27	AOC13-28	AOC13-28	AOC13-29	AOC13-29	AOC13-29	AOC13-3	AOC13-3	AOC13-30	AOC13-30	AOC13-31	
	SAMPLE	AOC13-26-17044	AOC13-26-17045	AOC13-26-17046	AOC13-27-17047	AOC13-27-17048	AOC13-28-17049	AOC13-28-17050	AOC13-29-17051	AOC13-29-17053	AOC13-29-17052	AOC13-3-17054	AOC13-3-17055	AOC13-30-17056	AOC13-30-17057	AOC13-31-17058	
	DATE	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	12/14/2015	12/14/2015	1/7/2016	1/7/2016	1/7/2016	
SAMPLE TOP DEPTH (FT)		0	2	2	0	2	0	2	0	2	0	0	2	0	2	0	
SAMPLE BOTTOM DEPTH (FT)		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5	
	SAMPLE TYPE			Field Duplicate							Field Duplicate						
ANALYTE		UNITS															
TPH as gasoline		mg/kg	--	--	1.2 U	--	1.3 U	--	1.4 U	--	1.2 U	--	--	1.4 U	--	1.3 U	--
TPH as motor oil		mg/kg	120	--	550 J	28	770	47	17	13	34	--	77	11 U	21	44	71
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1-Dichloroethene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1-Dichloropropene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1,1-Trichloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1,1,2-Tetrachloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1,2-Trichloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,1,2,2-Tetrachloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2-Dibromo-3-chloropropane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2-Dibromoethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2-Dichlorobenzene	ug/kg	350 U	6 U	--	360 U	6.5 U	340 U	6.9 U	340 U	6.2 U	--	350 U	6.2 U	360 U	6.4 U	360 U	
1,2-Dichloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2-Dichloropropane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2,3-Trichlorobenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2,3-Trichloropropane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,2,4-Trichlorobenzene	ug/kg	350 U	6 U	--	360 U	6.5 U	340 U	6.9 U	340 U	6.2 U	--	350 U	6.2 U	360 U	6.4 U	360 U	
1,2,4-Trimethylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,3-Dichlorobenzene	ug/kg	350 U	6 U	--	360 U	6.5 U	340 U	6.9 U	340 U	6.2 U	--	350 U	6.2 U	360 U	6.4 U	360 U	
1,3-Dichloropropane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,3,5-Trimethylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
1,4-Dichlorobenzene	ug/kg	350 U	6 U	--	360 U	6.5 U	340 U	6.9 U	340 U	6.2 U	--	350 U	6.2 U	360 U	6.4 U	360 U	
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Chlorotoluene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,2-Dichloropropane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
2,4,5-Trichlorophenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U	
2,4,6-Trichlorophenol	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U	
4-Isopropyltoluene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Acetone	ug/kg	--	60 UJ	--	--	65 UJ	--	69 UJ	--	62 UJ	--	--	62 U	--	64 UJ	--	
Acrolein	ug/kg	--	120 U	--	--	130 U	--	140 U	--	120 U	--	--	120 U	--	130 U	--	
Acrylonitrile	ug/kg	--	60 U	--	--	65 U	--	69 U	--	62 U	--	--	62 U	--	64 U	--	
Benzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
bis (2-chloroethyl) ether	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U	
bis (2-chloroisopropyl) ether	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U	
Bromobenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Bromochloromethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Bromodichloromethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Bromoform	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Bromomethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Carbon disulfide	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Carbon tetrachloride	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Chloro methane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Chlorobenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Chloroethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Chloroform	ug/kg	--	6 U	--	--	12	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
cis-1,2-Dichloroethene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 UJ	--	6.4 U	--	
cis-1,3-Dichloropropene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dibromochloromethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--	

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-26	AOC13-26	AOC13-26	AOC13-27	AOC13-27	AOC13-28	AOC13-28	AOC13-29	AOC13-29	AOC13-29	AOC13-3	AOC13-3	AOC13-30	AOC13-30	AOC13-31
	SAMPLE	AOC13-26-17044	AOC13-26-17045	AOC13-26-17046	AOC13-27-17047	AOC13-27-17048	AOC13-28-17049	AOC13-28-17050	AOC13-29-17051	AOC13-29-17053	AOC13-29-17052	AOC13-3-17054	AOC13-3-17055	AOC13-30-17056	AOC13-30-17057	AOC13-31-17058
	DATE	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	1/9/2016	12/14/2015	12/14/2015	1/7/2016	1/7/2016	1/7/2016
SAMPLE TOP DEPTH (FT)		0	2	2	0	2	0	2	0	2	0	0	2	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	3	0.5	3	0.5	3	0.5	3	0.5	0.5	3	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate							Field Duplicate					
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Dichlorodifluoromethane	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Ethyl- benzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Hexachlorobutadiene	ug/kg	700 U	6 U	--	730 U	6.5 U	680 U	6.9 U	--	6.2 U	680 U	700 U	6.2 U	720 U	6.4 U	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
Isopropylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	60 U	--	--	65 U	--	69 U	--	62 U	--	--	62 U	--	64 U	--
Methyl isobutyl ketone	ug/kg	--	60 U	--	--	65 U	--	69 U	--	62 U	--	--	62 U	--	64 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
N-Butylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
N-Propylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Nitrobenzene	ug/kg	350 U	350 U	--	360 U	350 U	340 U	350 U	340 U	350 U	--	350 U	370 U	360 U	350 U	360 U
p-Chlorotoluene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
sec-Butylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Styrene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
tert-Butylbenzene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Tetrachloroethene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Toluene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
trans-1,2-Dichloroethene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
trans-1,3-Dichloropropene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Trichloroethene	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Vinyl chloride	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Xylene, m,p-	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Xylene, o-	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--
Xylenes, total	ug/kg	--	6 U	--	--	6.5 U	--	6.9 U	--	6.2 U	--	--	6.2 U	--	6.4 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-31	AOC13-31	AOC13-32	AOC13-32	AOC13-33	AOC13-33	AOC13-33	AOC13-34	AOC13-34	AOC13-34	AOC13-4	AOC13-4	AOC13-4	AOC13-5	AOC13-5
	SAMPLE	AOC13-31-17060	AOC13-31-17059	AOC13-32-17061	AOC13-32-17062	AOC13-33-17077	AOC13-33-17079	AOC13-33-17078	AOC13-34-17080	AOC13-34-17081	AOC13-34-17082	AOC13-4-17063	AOC13-4-17065	AOC13-4-17064	AOC13-5-17066	AOC13-5-17067
	DATE	1/7/2016	1/7/2016	12/4/2015	12/4/2015	2/15/2017	2/15/2017	2/15/2017	1/21/2017	1/21/2017	1/21/2017	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)		2	0	0	2	0	2	0	0	2	5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
	SAMPLE TYPE		Field Duplicate					Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	62000	18000	--	--	--	--	6 J	3.2 J	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	4900	1900	--	--	--	--	1.1 UJ	0.18 UJ	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	380	88	--	--	--	--	0.15 UJ	0.077 UJ	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	420	110 J	--	--	--	--	0.38 UJ	0.058 UJ	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	460	150 J	--	--	--	--	0.37 UJ	0.22 UJ	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	1900	400	--	--	--	--	0.25 UJ	0.077 UJ	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	75	300	--	--	--	0.37 UJ	0.056 UJ	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	48	340	--	--	--	0.23 UJ	0.086 UJ	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	69	14 U	--	--	--	--	0.22 UJ	0.077 UJ	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	760	160 J	--	--	--	--	0.15 UJ	0.075 UJ	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	96	24	--	--	--	--	0.44 UJ	0.067 UJ	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	11000 U	2500 U	--	--	--	--	2.1 UJ	0.6 UJ	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	26 U	130	--	--	--	0.23 UJ	0.18 UJ	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	69	0.3 U	--	--	--	--	0.066 UJ	0.062 UJ	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	19	15	--	--	--	--	0.13 UJ	0.05 UJ	--	--	--
OCDD	ng/kg	--	--	--	--	680000 J	140000	--	--	--	--	56 J	32 U	--	--	--
OCDF	ng/kg	--	--	--	--	--	5700	9700	--	--	--	0.55 UJ	0.93 J	--	--	--
TEQ Avian	ng/kg	--	--	--	--	1500	300	--	--	--	--	0.53	0.24	--	--	--
TEQ Human	ng/kg	--	--	--	--	2200	510	--	--	--	--	0.47	0.19	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	2200	510	--	--	--	--	0.47	0.19	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	--	2 U	2 U	--	2.1 U	2.7	2.1 U	2.1 U	2 U	2 U	2 U	--	2.2 U	2.1 U
Arsenic	mg/kg	3.6	--	4	3.3	--	2.9	6.2	3.2	2.3	2.1	--	3.4	3.7	3.4	3
Barium	mg/kg	110	82	79	82	--	84	210 J	68	46	23	--	110	96 J	120	86
Beryllium	mg/kg	1.1 U	--	1 U	1 U	1 U	1 U	--	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U
Cadmium	mg/kg	1.1 U	--	1 U	1 U	--	1 UJ	1.9	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.49	0.28	0.2 U	0.2 U	--	2.1	6.4 J	--	--	--	--	0.2 U	0.31	0.22 U	0.21 U
Chromium, total	mg/kg	14	--	12	8.2	--	61	230 J	8.5	5.4	3.9	9.4	10	--	17	7.7
Cobalt	mg/kg	5.8	5.1	4.9	2.7	--	4.4 J	7 J	2.5	2.3	1.3	--	4	3.8	4.3	2.7
Copper	mg/kg	9	--	7.6	4.5	170 J	15	--	4.3	3.3	2 U	--	7	7.8	7.6	4.5
Lead	mg/kg	5.7	9.7 J	3	4.9	--	22 J	580 J	3.2	2.2	1.1	--	2.9	8 J	6	3
Mercury	mg/kg	0.11 U	--	0.1 U	0.1 U	--	0.1 U	0.7	0.2	0.1 U	0.1 U	0.1 U	0.1 U	--	0.11 U	0.1 U
Molybdenum	mg/kg	1.1 U	--	1 U	1 U	--	1 U	2.9	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U
Nickel	mg/kg	9.7	--	10	5.1	--	9.5	13 J	4.5	3.6	1.9	--	7.5	7.7	8.6	5.6
Selenium	mg/kg	1.1 U	--	1 U	1 U	1 UJ	1 UJ	--	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U
Silver	mg/kg	1.1 U	--	1 U	1 U	1 UJ	1 UJ	--	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1 U
Thallium	mg/kg	2.1 U	--	2 U	2 U	--	2.1 UJ	2 UJ	2.4	2.3	2.3	2 U	2 U	--	2.2 U	2.1 U
Vanadium	mg/kg	24	26	23	15	--	19	20	13	9.8	7.3	--	19	19	23	16
Zinc	mg/kg	34	35	29	17	--	55 J	480 J	15	15	6.8	--	19	22 J	22	16
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	2700	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	19000	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	0.22 UJ	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	6200	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	3900	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	130	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-31	AOC13-31	AOC13-32	AOC13-32	AOC13-33	AOC13-33	AOC13-33	AOC13-34	AOC13-34	AOC13-34	AOC13-4	AOC13-4	AOC13-4	AOC13-5	AOC13-5
	SAMPLE	AOC13-31-17060	AOC13-31-17059	AOC13-32-17061	AOC13-32-17062	AOC13-33-17077	AOC13-33-17079	AOC13-33-17078	AOC13-34-17080	AOC13-34-17081	AOC13-34-17082	AOC13-4-17063	AOC13-4-17065	AOC13-4-17064	AOC13-5-17066	AOC13-5-17067
	DATE	1/7/2016	1/7/2016	12/4/2015	12/4/2015	2/15/2017	2/15/2017	2/15/2017	1/21/2017	1/21/2017	1/21/2017	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)		2	0	0	2	0	2	0	0	2	5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
	SAMPLE TYPE		Field Duplicate					Field Duplicate						Field Duplicate		
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	710 J	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	270 J	--	--	--	--	--	--	--
Pesticides																
4,4-DDD		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
4,4-DDE		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
4,4-DDT		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Aldrin		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
alpha-BHC		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
alpha-Chlordane		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
beta-BHC		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
delta-BHC		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
Dieldrin		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Endo sulfan I		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
Endo sulfan II		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Endosulfan sulfate		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Endrin		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Endrin aldehyde		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
Endrin ketone		ug/kg	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
gamma-BHC		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
gamma-Chlordane		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
Heptachlor		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
Heptachlor Epoxide		ug/kg	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--	--
Methoxy chlor		ug/kg	--	--	--	--	--	--	5.3 U	--	--	--	--	--	--	--
Toxaphene		ug/kg	--	--	--	--	--	--	53 U	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016		ug/kg	17 U	--	17 U	17 U	17 U	--	--	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1221		ug/kg	35 U	--	34 U	34 U	--	34 U	33 U	--	--	33 U	34 U	--	36 U	35 U
Aroclor 1232		ug/kg	17 U	--	17 U	17 U	17 U	--	--	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1242		ug/kg	17 U	--	17 U	17 U	17 U	--	17 U	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1248		ug/kg	17 U	--	17 U	17 U	17 U	--	--	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1254		ug/kg	53	--	17 U	17 U	2600 J	650	--	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1260		ug/kg	17 U	--	17 U	17 U	920	17 U	--	--	--	17 U	17 U	--	18 U	17 U
Aroclor 1262		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268		ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs		ug/kg	78.5	--	34 U	34 U	3540	676	--	--	--	34 U	34 U	--	36 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene		ug/kg	5.3 U	--	5.1 U	5.1 U	5.1 U	5.2 U	--	--	--	5 U	5.1 U	--	5.4 U	5.3 U
2-Methyl naphthalene		ug/kg	5.3 U	--	5.1 U	5.1 U	--	5.2 U	5.1	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Acenaphthene		ug/kg	5.3 U	--	5.1 U	5.1 U	--	5.2 U	34 J	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Acenaphthylene		ug/kg	5.3 U	--	5.1 U	5.1 U	--	5.2 U	7.1	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Anthracene		ug/kg	5.3 U	--	5.1 U	5.1 U	9.3 J	6.5	--	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
B(a)P Equivalent		ug/kg	60	--	5.9 U	5.9 U	--	50	510	400 U	--	5.8 U	5.9 U	--	60 U	6.1 U
Benzo (a) anthracene		ug/kg	18 J	9 J	5.1 U	5.1 U	89 J	62	--	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Benzo (a) pyrene		ug/kg	53 U	--	5.1 U	5.1 U	64	33 J	--	350 U	--	5 U	5.1 U	--	54 U	5.3 U
Benzo (b) fluoranthene		ug/kg	53 U	--	5.1 U	5.1 U	--	69	800 J	350 U	--	5 U	5.1 U	--	54 U	5.3 U
Benzo (ghi) perylene		ug/kg	53 U	--	5.1 U	5.1 U	33	5.9 J	--	350 U	--	5 U	5.1 U	--	54 U	5.3 U
Benzo (k) fluoranthene		ug/kg	53 U	--	5.1 U	5.1 U	33	34 J	--	350 U	--	5 U	5.1 U	--	54 U	5.3 U
Chrysene		ug/kg	28 J	--	5.1 U	5.1 U	96 J	57	--	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Dibenzo (a,h) anthracene		ug/kg	53 U	--	5.1 U	5.1 U	5.1 U	5.2 UJ	--	350 U	--	5 U	5.1 U	--	54 U	5.3 U
Fluoranthene		ug/kg	35 J	--	5.1 U	5.1 U	200 J	120 J	--	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Fluorene		ug/kg	5.3 U	--	5.1 U	5.1 U	--	5.2 U	28 J	350 U	--	5 U	5.1 U	--	5.4 U	5.3 U
Indeno (1,2,3-cd) pyrene		ug/kg	53 U	--	5.1 U	5.1 U	27	6.9 J	--	350 U	--	5 U	5.1 U	--	54 U	5.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-31	AOC13-31	AOC13-32	AOC13-32	AOC13-33	AOC13-33	AOC13-33	AOC13-34	AOC13-34	AOC13-34	AOC13-4	AOC13-4	AOC13-4	AOC13-5	AOC13-5
	SAMPLE	AOC13-31-17060	AOC13-31-17059	AOC13-32-17061	AOC13-32-17062	AOC13-33-17077	AOC13-33-17079	AOC13-33-17078	AOC13-34-17080	AOC13-34-17081	AOC13-34-17082	AOC13-4-17063	AOC13-4-17065	AOC13-4-17064	AOC13-5-17066	AOC13-5-17067
	DATE	1/7/2016	1/7/2016	12/4/2015	12/4/2015	2/15/2017	2/15/2017	2/15/2017	1/21/2017	1/21/2017	1/21/2017	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)		2	0	0	2	0	2	0	0	2	5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
	SAMPLE TYPE		Field Duplicate					Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 U	--	5.1 U	5.1 U	--	5.2 U	13	350 U	--	--	5 U	5.1 U	--	5.4 U	5.3 U
PAH High molecular weight	ug/kg	116	--	0	0	--	481	5730	0	--	--	0	0	--	0	0
PAH Low molecular weight	ug/kg	8.1	--	0	0	--	80.5	1130	0	--	--	0	0	--	0	0
Phenanthrene	ug/kg	8.1 J	7.5 J	5.1 U	5.1 U	--	74	980 J	350 U	--	--	5 U	5.1 U	--	5.4 U	5.3 U
Pyrene	ug/kg	35 J	--	5.1 U	5.1 U	170 J	93	--	350 U	--	--	5 U	5.1 U	--	5.4 U	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2-Chlorophenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2-Methylphenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
2-Nitrophenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
2,4-Dimethylphenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2,4-Dinitrophenol	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2,6-Dinitrotoluene	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
3-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
3,3-Dichlorobenzidene	ug/kg	700 U	710 U	670 U	670 U	--	--	--	660 U	--	--	660 U	670 U	--	720 U	690 U
4-Bromophenyl phenyl ether	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
4-Chloro-3-methylphenol	ug/kg	700 U	710 U	670 U	670 U	--	--	--	710 U	--	--	660 U	670 U	--	720 U	690 U
4-Chloroaniline	ug/kg	700 U	710 U	670 U	670 U	--	--	--	710 U	--	--	660 U	670 U	--	720 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
4-Methylphenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
4-Nitroaniline	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
4-Nitrophenol	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	750 U	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
Benzyl alcohol	ug/kg	700 U	710 U	670 U	670 U	--	--	--	710 U	--	--	660 U	670 U	--	720 U	690 U
bis (2-chloroethoxy) methane	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Butylbenzylphthalate	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Di-n-octyl phthalate	ug/kg	3500 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Dibenzofuran	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Diethyl phthalate	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Dimethyl phthalate	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Hexachlorobenzene	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Hexachloroethane	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
N-nitrosodiphenylamine	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Pentachlorophenol	ug/kg	1700 U	--	1700 U	1700 U	--	--	--	1800 U	--	--	1700 U	1700 U	--	1800 U	1700 U
Phenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	14	--	10 U	22	--	--	--	--	--	--	11	10 U	--	11 U	11 U

Table ICS-A1.1
Dataset for ICS HHRA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-31	AOC13-31	AOC13-32	AOC13-32	AOC13-33	AOC13-33	AOC13-33	AOC13-34	AOC13-34	AOC13-34	AOC13-4	AOC13-4	AOC13-4	AOC13-5	AOC13-5
	SAMPLE	AOC13-31-17060	AOC13-31-17059	AOC13-32-17061	AOC13-32-17062	AOC13-33-17077	AOC13-33-17079	AOC13-33-17078	AOC13-34-17080	AOC13-34-17081	AOC13-34-17082	AOC13-4-17063	AOC13-4-17065	AOC13-4-17064	AOC13-5-17066	AOC13-5-17067
	DATE	1/7/2016	1/7/2016	12/4/2015	12/4/2015	2/15/2017	2/15/2017	2/15/2017	1/21/2017	1/21/2017	1/21/2017	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)		2	0	0	2	0	2	0	0	2	5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
	SAMPLE TYPE		Field Duplicate					Field Duplicate						Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1.3 U	--	--	1 U	--	--	--	--	--	--	1.1 U	--	--	1.3 U
TPH as motor oil		mg/kg	72	--	10 U	260	--	--	--	--	--	58	10 U	--	240	11 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1-Dichloroethene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1-Dichloropropene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1,1-Trichloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1,1,2-Tetrachloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1,2-Trichloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,1,2,2-Tetrachloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2-Dibromo-3-chloropropane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2-Dibromoethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2-Dichlorobenzene	ug/kg	5.9 U	--	340 U	5.8 U	--	--	--	350 U	--	--	330 U	5.3 U	--	360 U	6.8 U
1,2-Dichloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2-Dichloropropane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2,3-Trichlorobenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2,3-Trichloropropane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,2,4-Trichlorobenzene	ug/kg	5.9 U	--	340 U	5.8 U	--	--	--	350 U	--	--	330 U	5.3 U	--	360 U	6.8 U
1,2,4-Trimethylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,3-Dichlorobenzene	ug/kg	5.9 U	--	340 U	5.8 U	--	--	--	350 U	--	--	330 U	5.3 U	--	360 U	6.8 U
1,3-Dichloropropane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,3,5-Trimethylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
1,4-Dichlorobenzene	ug/kg	5.9 U	--	340 U	5.8 U	--	--	--	350 U	--	--	330 U	5.3 U	--	360 U	6.8 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
2,4,5-Trichlorophenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
2,4,6-Trichlorophenol	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
4-Isopropyltoluene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Acetone	ug/kg	59 UJ	--	--	58 U	--	--	--	--	--	--	--	53 U	--	--	68 U
Acrolein	ug/kg	120 U	--	--	120 U	--	--	--	--	--	--	--	110 U	--	--	140 U
Acrylonitrile	ug/kg	59 U	--	--	58 U	--	--	--	--	--	--	--	53 U	--	--	68 U
Benzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
bis (2-chloroethyl) ether	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Bromobenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Bromochloromethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Bromodichloromethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Bromoform	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Bromomethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Carbon disulfide	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Carbon tetrachloride	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Chloro methane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Chlorobenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Chloroethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Chloroform	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
cis-1,2-Dichloroethene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 UJ	--	--	6.8 U
cis-1,3-Dichloropropene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-31	AOC13-31	AOC13-32	AOC13-32	AOC13-33	AOC13-33	AOC13-33	AOC13-34	AOC13-34	AOC13-34	AOC13-4	AOC13-4	AOC13-4	AOC13-5	AOC13-5
	SAMPLE	AOC13-31-17060	AOC13-31-17059	AOC13-32-17061	AOC13-32-17062	AOC13-33-17077	AOC13-33-17079	AOC13-33-17078	AOC13-34-17080	AOC13-34-17081	AOC13-34-17082	AOC13-4-17063	AOC13-4-17065	AOC13-4-17064	AOC13-5-17066	AOC13-5-17067
	DATE	1/7/2016	1/7/2016	12/4/2015	12/4/2015	2/15/2017	2/15/2017	2/15/2017	1/21/2017	1/21/2017	1/21/2017	12/14/2015	12/14/2015	12/14/2015	1/5/2016	1/5/2016
SAMPLE TOP DEPTH (FT)		2	0	0	2	0	2	0	0	2	5	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	0.5	3	0.5	3	0.5	0.5	3	6	0.5	3	0.5	0.5	3
	SAMPLE TYPE		Field Duplicate					Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Dichlorodifluoromethane	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Ethyl- benzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Hexachlorobutadiene	ug/kg	5.9 U	710 U	670 U	5.8 U	--	--	--	710 U	--	--	660 U	5.3 U	--	720 U	6.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	710 U	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
Isopropylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	59 U	--	--	58 U	--	--	--	--	--	--	--	53 U	--	--	68 U
Methyl isobutyl ketone	ug/kg	59 U	--	--	58 U	--	--	--	--	--	--	--	53 U	--	--	68 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
N-Butylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
N-Propylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Nitrobenzene	ug/kg	350 U	--	340 U	340 U	--	--	--	350 U	--	--	330 U	340 U	--	360 U	350 U
p-Chlorotoluene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
sec-Butylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Styrene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
tert-Butylbenzene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Tetrachloroethene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Toluene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
trans-1,2-Dichloroethene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
trans-1,3-Dichloropropene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Trichloroethene	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Vinyl chloride	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Xylene, m,p-	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Xylene, o-	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U
Xylenes, total	ug/kg	5.9 U	--	--	5.8 U	--	--	--	--	--	--	--	5.3 U	--	--	6.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-6	AOC13-6	AOC13-7	AOC13-7	AOC13-8	AOC13-8	AOC13-8	AOC13-9	AOC13-9	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS2	AOC13-GrabOS2
	SAMPLE	AOC13-6-17068	AOC13-6-17069	AOC13-7-17070	AOC13-7-17071	AOC13-8-17072	AOC13-8-17074	AOC13-8-17073	AOC13-9-17075	AOC13-9-17076	AOC13-Grab1-2001	AOC13-Grab1-2002	AOC13-Grab1-2003	AOC13-Grab3-2007	AOC13-Grab2-2004	AOC13-Grab2-2005
	DATE	1/5/2016	1/5/2016	12/14/2015	12/14/2015	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016	5/13/2008	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	0	2	1	3	5.5	5.5	1	3
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	1	3	1	0.5	3	1	3	5.5	5.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	0.5	3	1	3	5.5	5.5	1	3
	SAMPLE TYPE							Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	300 J	7.4 J	--	--	--	3100 J	9.6 UJ	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	35 J	1.6 J	--	--	--	260 J	2.8 UJ	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	3.8 J	0.45 UJ	--	--	--	10 J	0.19 UJ	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	0.68 UJ	0.57 UJ	--	--	--	16 J	0.67 UJ	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	3.6 J	0.52 UJ	--	--	--	22 J	0.38 UJ	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	10 J	0.23 UJ	--	--	--	68 J	0.18 UJ	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	4.4 UJ	0.54 UJ	--	--	--	5 UJ	0.62 UJ	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	2.2 UJ	0.41 UJ	--	--	--	4.4 UJ	0.33 UJ	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	2.9 UJ	0.86 J	--	--	--	1.6 UJ	0.43 UJ	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	6.2 UJ	0.22 UJ	--	--	--	16 J	0.15 UJ	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	0.79 UJ	0.66 UJ	--	--	--	7 J	0.77 UJ	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	27 UJ	1.7 UJ	--	--	--	430 UJ	3.9 UJ	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	2.3 UJ	1.1 J	--	--	--	4.9 J	1.2 UJ	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	0.27 UJ	0.17 UJ	--	--	--	0.8 UJ	0.2 UJ	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	0.39 UJ	0.17 UJ	--	--	--	0.62 UJ	0.35 UJ	--	--	--	--	--	--
OCDD	ng/kg	--	--	2700 J	69 J	--	--	--	32000 J	110 J	--	--	--	--	--	--
OCDF	ng/kg	--	--	40 J	2.3 UJ	--	--	--	710 J	8.8 J	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	5.9	1.8	--	--	--	44	1.4	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	9.2	0.99	--	--	--	81	0.89	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	9.2	0.99	--	--	--	81	0.89	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2 U	3.4	0.41 U	0.41 U	--	0.77	0.41 U
Arsenic	mg/kg	3.2	2.9	4.8	2.7	3.2	3.1	--	5.4	3.7	4.2	4.1	4.5	--	4.4	3.9
Barium	mg/kg	44	60	290	110	--	29	98 J	150	110	160	62	85 J	--	89	53
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Cadmium	mg/kg	1 U	1 U	1.1	1 U	1 U	1 U	--	1 U	1 U	0.23	0.1 U	0.1 U	--	0.29	0.1 U
Chromium, Hexavalent	mg/kg	0.45	0.2 U	2.1	0.52	0.21 U	0.21 U	--	0.66	0.2 U	5.7	0.41 U	--	0.41 U	10.6	0.41 U
Chromium, total	mg/kg	10	8.5	71	12	--	4.5	8.4 J	66	6.5	190	4.5	3.1	--	44	3.9
Cobalt	mg/kg	2.2	2.8	27	2.6	3.5	1.9	--	5.3	3.5	2.5	1.4	2.4	--	4.1	1.2
Copper	mg/kg	8.4	4.7	30	4.6	5.6	2.5	--	14	5	760	4.1	1.7	--	21	1.7
Lead	mg/kg	6.4	1.9	400	17	3.6	1.7	--	8.9	3.2	39	2.6	2.4	--	330	2.3
Mercury	mg/kg	0.12	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	--	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.19	0.1 U
Molybdenum	mg/kg	1 U	1 U	120	2.7	1 U	1 U	--	1 U	1 U	2.8	2.1	1.3	--	1.9	0.6
Nickel	mg/kg	3.8	6.6	17	5	7.4	3.8	--	10	5	5.9	2	2.2	--	8.3	1.8
Selenium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	3	--	2.9	1 U	2.6
Silver	mg/kg	1 U	1 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	0.26 U	0.25 U	0.26 U	--	0.25 U	0.26 U
Thallium	mg/kg	2 U	2 U	2.2 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2 U	1 U	1 U	1 U	--	1 U	1 U
Vanadium	mg/kg	14	17	22	13	19 J	9.2	--	25	16	13	7.2	7.9	--	18	8.4
Zinc	mg/kg	12	13	210	17	20 J	10	--	63	16	170	4.6	3.4	--	53	4.3
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-6	AOC13-6	AOC13-7	AOC13-7	AOC13-8	AOC13-8	AOC13-8	AOC13-9	AOC13-9	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS2	AOC13-GrabOS2
	SAMPLE	AOC13-6-17068	AOC13-6-17069	AOC13-7-17070	AOC13-7-17071	AOC13-8-17072	AOC13-8-17074	AOC13-8-17073	AOC13-9-17075	AOC13-9-17076	AOC13-Grab1-2001	AOC13-Grab1-2002	AOC13-Grab1-2003	AOC13-Grab3-2007	AOC13-Grab2-2004	AOC13-Grab2-2005
	DATE	1/5/2016	1/5/2016	12/14/2015	12/14/2015	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016	5/13/2008	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	0	2	1	3	5.5	5.5	1	3
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	1	3	1	0.5	3	1	3	5.5	5.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	0.5	3	1	3	5.5	5.5	1	3
	SAMPLE TYPE							Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	33 U	36 U	35 U	34 U	34 U	--	35 U	34 U	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	17 U	18 U	17 U	17 U	17 U	--	250	17 U	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	120	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	147	34 U	34 U	34 U	--	276	34 U	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5.4 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5 U	5.1 U	5.4 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	--	5.1 U	5.1 U
Acenaphthene	ug/kg	5 U	5.1 U	11 J	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	10	5.1 U	5.1 U	--	5.1 U	5.1 U
Acenaphthylene	ug/kg	5 U	5.1 U	5.4 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	--	5.1 U	5.1 U
Anthracene	ug/kg	5 U	5.1 U	23 J	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	17	5.1 U	5.1 U	--	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	56 U	57 U	180	58 U	60	6 U	--	59	6.5	200	6.4	5.9 U	--	44	5.9 U
Benzo (a) anthracene	ug/kg	5 U	5.1 U	120 J	5.2 U	52 U	5.2 U	--	13	5.1 U	160	5.1 U	5.1 U	--	15	5.1 U
Benzo (a) pyrene	ug/kg	50 U	51 U	120	52 U	52 U	5.2 U	--	52 U	5.1 U	120	5.1 U	5.1 U	--	29	5.1 U
Benzo (b) fluoranthene	ug/kg	50 U	51 U	220	52 U	52 U	5.2 U	--	52 U	8.8	350	7.7	5.1 U	--	48	5.1 U
Benzo (ghi) perylene	ug/kg	50 U	51 U	54 U	52 U	52 U	5.2 U	--	52 U	5.1 U	87	5.1 U	5.1 U	--	27	5.1 U
Benzo (k) fluoranthene	ug/kg	50 U	51 U	100	52 U	52 U	5.2 U	--	52 U	5.1 U	90	5.1 U	5.1 U	--	18	5.1 U
Chrysene	ug/kg	5 U	5.1 U	150 J	5.2 U	52 U	5.2 U	--	19	5.1 U	160	5.1	5.1 U	--	31	5.1 U
Dibenzo (a,h) anthracene	ug/kg	50 U	51 U	54 U	52 U	52 U	5.2 U	--	52 U	5.1 U	21	5.1 U	5.1 U	--	6	5.1 U
Fluoranthene	ug/kg	5 U	5.1 U	230 J	5.2 U	17 J	5.2 U	--	38	5.1 U	590	8.7	5.1 U	--	39	5.1 U
Fluorene	ug/kg	5 U	5.1 U	9.1 J	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	--	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	50 U	51 U	54 U	52 U	52 U	5.2 U	--	52 U	5.1 U	78	5.1 U	5.1 U	--	23	5.1 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-6	AOC13-6	AOC13-7	AOC13-7	AOC13-8	AOC13-8	AOC13-8	AOC13-9	AOC13-9	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS2	AOC13-GrabOS2
	SAMPLE	AOC13-6-17068	AOC13-6-17069	AOC13-7-17070	AOC13-7-17071	AOC13-8-17072	AOC13-8-17074	AOC13-8-17073	AOC13-9-17075	AOC13-9-17076	AOC13-Grab1-2001	AOC13-Grab1-2002	AOC13-Grab1-2003	AOC13-Grab3-2007	AOC13-Grab2-2004	AOC13-Grab2-2005
	DATE	1/5/2016	1/5/2016	12/14/2015	12/14/2015	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016	5/13/2008	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	0	2	1	3	5.5	5.5	1	3
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	1	3	1	0.5	3	1	3	5.5	5.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	0.5	3	1	3	5.5	5.5	1	3
	SAMPLE TYPE							Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5.1 U	5.4 U	5.2 U	5.2 U	5.2 U	--	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	--	5.1 U	5.1 U
PAH High molecular weight	ug/kg	0	0	1120	0	36	0	--	97	8.8	2150	28.8	0	--	274	0
PAH Low molecular weight	ug/kg	0	0	163	0	0	0	--	9.4	0	177	0	0	--	9.7	0
Phenanthrene	ug/kg	5 U	5.1 U	120 J	5.2 U	5.2 U	5.2 U	--	9.4	5.1 U	150	5.1 U	5.1 U	--	9.7	5.1 U
Pyrene	ug/kg	5 U	5.1 U	180 J	5.2 U	19 J	5.2 U	--	27	5.1 U	490	7.3	5.1 U	--	38	5.1 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2-Chlorophenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2-Methylphenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
2-Nitrophenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	340 U	340 U	340 U	--	340 U	340 U
2,4-Dimethylphenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
2,4-Dinitrotoluene	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
2,6-Dinitrotoluene	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
3,3'-Dichlorobenzidene	ug/kg	660 U	670 U	7200 U	690 U	6900 U	680 U	--	690 U	690 U	340 U	340 U	340 U	--	340 U	340 U
4-Bromophenyl phenyl ether	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	720 U	690 U	6900 U	680 U	--	690 U	670 U	680 U	670 U	680 U	--	670 U	680 U
4-Chloroaniline	ug/kg	660 U	670 U	720 U	690 U	6900 U	680 U	--	690 U	670 U	340 U	340 U	340 U	--	340 U	340 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
4-Methylphenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	--	--	--	--	--	--
Benzyl alcohol	ug/kg	660 U	670 U	720 U	690 U	6900 U	680 U	--	690 U	670 U	680 U	670 U	680 U	--	670 U	680 U
bis (2-chloroethoxy) methane	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	340 U	3600 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Butylbenzylphthalate	ug/kg	330 U	340 U	3600 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Di-n-octyl phthalate	ug/kg	3300 U	340 U	3600 U	3500 U	34000 U	340 U	--	3500 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Dibenzofuran	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Diethyl phthalate	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Dimethyl phthalate	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Hexachlorobenzene	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Hexachloroethane	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
N-nitrosodiphenylamine	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1800 U	1700 U	17000 U	1700 U	--	1700 U	1700 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
Phenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	31	10 U	150	20	--	10 U	93	10 U	33	120	10 U	10 U	--	51	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-6	AOC13-6	AOC13-7	AOC13-7	AOC13-8	AOC13-8	AOC13-8	AOC13-9	AOC13-9	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS2	AOC13-GrabOS2
	SAMPLE	AOC13-6-17068	AOC13-6-17069	AOC13-7-17070	AOC13-7-17071	AOC13-8-17072	AOC13-8-17074	AOC13-8-17073	AOC13-9-17075	AOC13-9-17076	AOC13-Grab1-2001	AOC13-Grab1-2002	AOC13-Grab1-2003	AOC13-Grab3-2007	AOC13-Grab2-2004	AOC13-Grab2-2005
	DATE	1/5/2016	1/5/2016	12/14/2015	12/14/2015	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016	5/13/2008	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	0	2	1	3	5.5	5.5	1	3
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	1	3	1	0.5	3	1	3	5.5	5.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	0.5	3	1	3	5.5	5.5	1	3
	SAMPLE TYPE							Field Duplicate						Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	1.2 U	--	1.2 U	--	1 U	--	--	1.3 U	--	1.1 U	1.1 U	--	1.1 U
TPH as motor oil		mg/kg	200	14	680	90	430	10 U	--	52	130	310	17	--	16	17
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1-Dichloroethene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1-Dichloropropene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1,1-Trichloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1,1,2-Tetrachloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1,2-Trichloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,1,2,2-Tetrachloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2-Dibromo-3-chloropropane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2-Dibromoethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2-Dichlorobenzene	ug/kg	330 U	5.9 U	360 U	5.8 U	3400 U	5.2 U	--	350 U	6 U	340 U	5.5 U	--	5.4 U	340 U	5.6 U
1,2-Dichloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2-Dichloropropane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2,3-Trichlorobenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2,3-Trichloropropane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,2,4-Trichlorobenzene	ug/kg	330 U	5.9 U	360 U	5.8 U	3400 U	5.2 U	--	350 U	6 U	340 U	5.5 U	--	5.4 U	340 U	5.6 U
1,2,4-Trimethylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,3-Dichlorobenzene	ug/kg	330 U	5.9 U	360 U	5.8 U	3400 U	5.2 U	--	350 U	6 U	340 U	5.5 U	--	5.4 U	340 U	5.6 U
1,3-Dichloropropane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,3,5-Trimethylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
1,4-Dichlorobenzene	ug/kg	330 U	5.9 U	360 U	5.8 U	3400 U	5.2 U	--	350 U	6 U	340 U	5.5 U	--	5.4 U	340 U	5.6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
2,4,5-Trichlorophenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	1700 U	1600 U	1600 U	--	1600 U	1600 U
2,4,6-Trichlorophenol	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
4-Isopropyltoluene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Acetone	ug/kg	--	59 U	--	58 U	--	52 U	--	--	60 U	--	55 U	--	54 U	--	56 U
Acrolein	ug/kg	--	120 U	--	120 U	--	100 U	--	--	120 U	--	110 U	110 U	--	--	110 U
Acrylonitrile	ug/kg	--	59 U	--	58 U	--	52 U	--	--	60 U	--	55 U	--	54 U	--	56 U
Benzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
bis (2-chloroethyl) ether	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Bromobenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Bromochloromethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Bromodichloromethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Bromoform	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Bromomethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Carbon disulfide	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Carbon tetrachloride	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Chloro methane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Chlorobenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Chloroethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Chloroform	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.8	--	5.4 U	--	5.6 U
cis-1,2-Dichloroethene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
cis-1,3-Dichloropropene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-6	AOC13-6	AOC13-7	AOC13-7	AOC13-8	AOC13-8	AOC13-8	AOC13-9	AOC13-9	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS1	AOC13-GrabOS2	AOC13-GrabOS2
	SAMPLE	AOC13-6-17068	AOC13-6-17069	AOC13-7-17070	AOC13-7-17071	AOC13-8-17072	AOC13-8-17074	AOC13-8-17073	AOC13-9-17075	AOC13-9-17076	AOC13-Grab1-2001	AOC13-Grab1-2002	AOC13-Grab1-2003	AOC13-Grab3-2007	AOC13-Grab2-2004	AOC13-Grab2-2005
	DATE	1/5/2016	1/5/2016	12/14/2015	12/14/2015	12/5/2015	12/5/2015	12/5/2015	1/9/2016	1/9/2016	5/13/2008	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	0	2	1	3	5.5	5.5	1	3
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	1	3	1	0.5	3	1	3	5.5	5.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	0.5	3	1	3	5.5	5.5	1	3
	SAMPLE TYPE							Field Duplicate						Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Dichlorodifluoromethane	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Ethyl- benzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Hexachlorobutadiene	ug/kg	660 U	5.9 U	720 U	5.8 U	6900 U	5.2 U	--	690 U	6 U	340 U	5.5 U	--	5.4 U	340 U	5.6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
Isopropylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	59 U	--	58 U	--	52 U	--	--	60 U	--	55 U	--	54 U	--	56 U
Methyl isobutyl ketone	ug/kg	--	59 U	--	58 U	--	52 U	--	--	60 U	--	55 U	--	54 U	--	56 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	5.7	--	--	5.6 U
N-Butylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
N-Propylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Nitrobenzene	ug/kg	330 U	340 U	360 U	350 U	3400 U	340 U	--	350 U	340 U	340 U	340 U	340 U	--	340 U	340 U
p-Chlorotoluene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
sec-Butylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Styrene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
tert-Butylbenzene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Tetrachloroethene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Toluene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
trans-1,2-Dichloroethene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
trans-1,3-Dichloropropene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Trichloroethene	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Vinyl chloride	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Xylene, m,p-	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Xylene, o-	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U
Xylenes, total	ug/kg	--	5.9 U	--	5.8 U	--	5.2 U	--	--	6 U	--	5.5 U	--	5.4 U	--	5.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-GrabOS2	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS11	AOC13-OS11	AOC13-OS11	AOC13-OS12	AOC13-OS12	AOC13-OS12	AOC13-OS13	AOC13-OS13	AOC13-OS14	AOC13-OS14
	SAMPLE	AOC13-Grab2-2006	300b-41-1100	300b-41-1101	300b-41-1102	300b-41-1103	AOC13-OS11-D1	AOC13-OS11-D2	AOC13-OS11-D3	AOC13-OS98-D2	AOC13-OS12-D1	AOC13-OS12-D2	AOC13-OS13-D1	AOC13-OS13-D2	AOC13-OS14-D1	AOC13-OS99-D2
	DATE	5/13/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	7/25/2013	7/25/2013
SAMPLE TOP DEPTH (FT)		4	0	2.5	5.5	9	0	2	5	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						Field Duplicate
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	8.7	8.3	8.3	9.6	8	8.3	8.5	8.6	--	--	8	8	8.8	8.8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	0.82 U	--	--	--	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	--
Arsenic	mg/kg	4.8	--	--	--	2.4	3.1	3.4	3	--	5.5	3.5	3.2	3.6	2.8	3.8
Barium	mg/kg	81	--	--	--	47	140	160	110	--	350	130	120	130	93	96 J
Beryllium	mg/kg	0.1 U	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Cadmium	mg/kg	0.1 U	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Chromium, Hexavalent	mg/kg	0.54	--	--	--	0.4 UJ	0.4 U	0.4 U	0.4 U	--	0.48	0.4 U	0.4 U	0.4 U	0.4 U	--
Chromium, total	mg/kg	8.3	--	--	--	4.2	15	18	6.7	--	16	15	9.2	9.2	14	12
Cobalt	mg/kg	1.4	--	--	--	1.9	4.9	4.8	3	--	5.9	5.3	5.3	5.4	4	4.5
Copper	mg/kg	4	--	--	--	2 U	9.5	9.4	5.9	--	27	7.7	9.9	8.5	13	--
Lead	mg/kg	5.6	--	--	--	2.7	7.1	5.5	5.8	--	120	5.5	10	5.6	7.2	--
Mercury	mg/kg	0.1 U	--	--	--	0.1 UJ	0.099 U	0.1 U	0.099 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--
Molybdenum	mg/kg	0.81	--	--	--	2	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Nickel	mg/kg	2.4	--	--	--	4.2	11	11	5.6	--	13	11	13	13	8.6	8.5
Selenium	mg/kg	2.3	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Silver	mg/kg	0.26 U	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--
Thallium	mg/kg	1 U	--	--	--	2 U	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	--
Vanadium	mg/kg	9.7	--	--	--	13	23	24	15	--	25	22	20	20	21	26
Zinc	mg/kg	8.8	--	--	--	9.3	28	29	18	--	36	28	23	21	22	26
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-GrabOS2	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS11	AOC13-OS11	AOC13-OS11	AOC13-OS12	AOC13-OS12	AOC13-OS12	AOC13-OS13	AOC13-OS13	AOC13-OS14	AOC13-OS14
	SAMPLE	AOC13-Grab2-2006	300b-41-1100	300b-41-1101	300b-41-1102	300b-41-1103	AOC13-OS11-D1	AOC13-OS11-D2	AOC13-OS11-D3	AOC13-OS98-D2	AOC13-OS12-D1	AOC13-OS12-D2	AOC13-OS13-D1	AOC13-OS13-D2	AOC13-OS14-D1	AOC13-OS99-D2
	DATE	5/13/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	7/25/2013	7/25/2013
SAMPLE TOP DEPTH (FT)		4	0	2.5	5.5	9	0	2	5	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						Field Duplicate
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--
Aroclor 1221	ug/kg	--	--	--	--	--	33 U	33 U	33 U	--	33 U	33 U	34 U	33 U	33 U	--
Aroclor 1232	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--
Aroclor 1242	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--
Aroclor 1248	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	--
Aroclor 1254	ug/kg	--	--	--	--	--	120	80	19	--	53	40	19	17 U	17 U	--
Aroclor 1260	ug/kg	--	--	--	--	--	17 U	17 U	17 U	--	60	17 U	18	17 U	17 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	146	106	44.5	--	130	65.5	54	34 U	34 U	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
2-Methyl naphthalene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Acenaphthene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Acenaphthylene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Anthracene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
B(a)P Equivalent	ug/kg	6.5	--	--	--	--	58 U	58 U	88	--	61	58 U	59 U	59 U	6.4	6.2
Benzo (a) anthracene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Benzo (a) pyrene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50	--	50 U	50 U	51 U	51 U	5 U	--
Benzo (b) fluoranthene	ug/kg	7.6	--	--	--	--	50 U	50 U	77	--	57	50 U	51 U	51 U	9	5.8
Benzo (ghi) perylene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	54	--	50 U	50 U	51 U	51 U	5 U	--
Benzo (k) fluoranthene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Chrysene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	54	--	50 U	50 U	51 U	51 U	5 U	--
Dibenzo (a,h) anthracene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Fluoranthene	ug/kg	5.4	--	--	--	--	50 U	50 U	67	--	50 U	50 U	51 U	51 U	5.7	--
Fluorene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-GrabOS2	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS11	AOC13-OS11	AOC13-OS11	AOC13-OS12	AOC13-OS12	AOC13-OS12	AOC13-OS13	AOC13-OS13	AOC13-OS14	AOC13-OS14
	SAMPLE	AOC13-Grab2-2006	300b-41-1100	300b-41-1101	300b-41-1102	300b-41-1103	AOC13-OS11-D1	AOC13-OS11-D2	AOC13-OS11-D3	AOC13-OS98-D2	AOC13-OS12-D1	AOC13-OS12-D2	AOC13-OS13-D1	AOC13-OS13-D2	AOC13-OS14-D1	AOC13-OS99-D2
	DATE	5/13/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	7/25/2013	7/25/2013
SAMPLE TOP DEPTH (FT)		4	0	2.5	5.5	9	0	2	5	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						Field Duplicate
ANALYTE	UNITS															
Naphthalene	ug/kg	4.8 U	--	--	--	--	50 U	6.7 U	6.5 U	6.4 U	--	--	51 U	6.5 U	5 U	--
PAH High molecular weight	ug/kg	18.3	--	--	--	--	0	0	373	--	57	0	0	0	19.7	5.8
PAH Low molecular weight	ug/kg	0	--	--	--	--	0	0	0	--	0	0	0	0	0	--
Phenanthrene	ug/kg	5.2 U	--	--	--	--	50 U	50 U	50 U	--	50 U	50 U	51 U	51 U	5 U	--
Pyrene	ug/kg	5.3	--	--	--	--	50 U	50 U	71	--	50 U	50 U	51 U	51 U	5	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2-Chlorophenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2-Methylphenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2-Nitroaniline	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
2-Nitrophenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	340 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
2,4-Dimethylphenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2,4-Dinitrophenol	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
2,4-Dinitrotoluene	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2,6-Dinitrotoluene	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
3-Nitroaniline	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
3,3-Dichlorobenzidene	ug/kg	340 U	--	--	--	--	660 U	670 U	670 U	--	660 U	670 U	670 U	670 U	670 U	--
4-Bromophenyl phenyl ether	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
4-Chloro-3-methylphenol	ug/kg	680 U	--	--	--	--	660 U	670 U	670 U	--	660 U	670 U	670 U	670 U	660 U	--
4-Chloroaniline	ug/kg	340 U	--	--	--	--	660 U	670 U	670 U	--	660 U	670 U	670 U	670 U	660 U	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
4-Methylphenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
4-Nitroaniline	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
4-Nitrophenol	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
Benzyl alcohol	ug/kg	680 U	--	--	--	--	660 U	670 U	670 U	--	660 U	670 U	670 U	670 U	660 U	--
bis (2-chloroethoxy) methane	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Butylbenzylphthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Di-n-octyl phthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Dibenzofuran	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Diethyl phthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Dimethyl phthalate	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Hexachlorobenzene	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Hexachloroethane	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
N-nitrosodiphenylamine	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Pentachlorophenol	ug/kg	1600 U	--	--	--	--	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--
Phenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	23	--	--	--	--	11	10 U	10 U	--	12	10 U	16	62	10 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-GrabOS2	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS11	AOC13-OS11	AOC13-OS11	AOC13-OS12	AOC13-OS12	AOC13-OS12	AOC13-OS13	AOC13-OS13	AOC13-OS14	AOC13-OS14
	SAMPLE	AOC13-Grab2-2006	300b-41-1100	300b-41-1101	300b-41-1102	300b-41-1103	AOC13-OS11-D1	AOC13-OS11-D2	AOC13-OS11-D3	AOC13-OS98-D2	AOC13-OS12-D1	AOC13-OS12-D2	AOC13-OS13-D1	AOC13-OS13-D2	AOC13-OS14-D1	AOC13-OS99-D2
	DATE	5/13/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	7/25/2013	7/25/2013
SAMPLE TOP DEPTH (FT)		4	0	2.5	5.5	9	0	2	5	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						Field Duplicate
ANALYTE		UNITS														
TPH as gasoline		mg/kg	0.92 U	--	--	--	--	1.3 U	1.3 U	1.3 U	--	--	--	1.8 U	--	1.5 U
TPH as motor oil		mg/kg	51	--	--	--	--	88	68	17	47	70	--	52	79	12 J
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1-Dichloroethene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1-Dichloropropene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1,1-Trichloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1,1,2-Tetrachloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1,2-Trichloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,1,2,2-Tetrachloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2-Dibromo-3-chloropropane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2-Dibromoethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2-Dichlorobenzene	ug/kg	4.8 U	--	--	--	--	330 U	6.7 U	6.5 U	6.4 U	--	--	330 U	6.5 U	330 U	7.8 U
1,2-Dichloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2-Dichloropropane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2,3-Trichlorobenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2,3-Trichloropropane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,2,4-Trichlorobenzene	ug/kg	4.8 U	--	--	--	--	330 U	6.7 U	6.5 U	6.4 U	--	--	330 U	6.5 U	330 U	7.8 U
1,2,4-Trimethylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,3-Dichlorobenzene	ug/kg	4.8 U	--	--	--	--	330 U	6.7 U	6.5 U	6.4 U	--	--	330 U	6.5 U	330 U	7.8 U
1,3-Dichloropropane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,3,5-Trimethylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
1,4-Dichlorobenzene	ug/kg	4.8 U	--	--	--	--	330 U	6.7 U	6.5 U	6.4 U	--	--	330 U	6.5 U	330 U	7.8 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
2,4,5-Trichlorophenol	ug/kg	1600 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
2,4,6-Trichlorophenol	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
4-Isopropyltoluene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Acetone	ug/kg	48 U	--	--	--	--	--	67 U	65 U	64 U	--	--	--	65 U	--	78 U
Acrolein	ug/kg	96 U	--	--	--	--	--	130 U	130 U	130 U	--	--	--	130 U	--	--
Acrylonitrile	ug/kg	48 U	--	--	--	--	--	67 U	65 U	64 U	--	--	--	65 U	--	78 U
Benzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
bis (2-chloroethyl) ether	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Bromobenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Bromochloromethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Bromodichloromethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Bromoform	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Bromomethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Carbon disulfide	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Carbon tetrachloride	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Chloro methane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Chlorobenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Chloroethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Chloroform	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
cis-1,2-Dichloroethene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
cis-1,3-Dichloropropene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-GrabOS2	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS1	AOC13-OS11	AOC13-OS11	AOC13-OS11	AOC13-OS12	AOC13-OS12	AOC13-OS12	AOC13-OS13	AOC13-OS13	AOC13-OS14	AOC13-OS14
	SAMPLE	AOC13-Grab2-2006	300b-41-1100	300b-41-1101	300b-41-1102	300b-41-1103	AOC13-OS11-D1	AOC13-OS11-D2	AOC13-OS11-D3	AOC13-OS98-D2	AOC13-OS12-D1	AOC13-OS12-D2	AOC13-OS13-D1	AOC13-OS13-D2	AOC13-OS14-D1	AOC13-OS99-D2
	DATE	5/13/2008	4/6/2011	4/6/2011	4/6/2011	4/6/2011	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	6/26/2013	7/25/2013	7/25/2013
SAMPLE TOP DEPTH (FT)		4	0	2.5	5.5	9	0	2	5	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		4.5	0.5	3	6	9.5	0.5	3	6	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						Field Duplicate
ANALYTE	UNITS															
Dibromomethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Dichlorodifluoromethane	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Ethyl- benzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Hexachlorobutadiene	ug/kg	4.8 U	--	--	--	--	660 U	6.7 U	6.5 U	6.4 U	--	--	670 U	6.5 U	660 U	7.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
Isopropylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	48 U	--	--	--	--	--	67 U	65 U	64 U	--	--	--	65 U	--	78 U
Methyl isobutyl ketone	ug/kg	48 U	--	--	--	--	--	67 U	65 U	64 U	--	--	--	65 U	--	78 U
Methyl tert-butyl ether (MTBE)	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.6	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
N-Butylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
N-Propylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Nitrobenzene	ug/kg	340 U	--	--	--	--	330 U	330 U	330 U	--	330 U	330 U	330 U	330 U	330 U	--
p-Chlorotoluene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
sec-Butylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Styrene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
tert-Butylbenzene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Tetrachloroethene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Toluene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
trans-1,2-Dichloroethene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
trans-1,3-Dichloropropene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Trichloroethene	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Vinyl chloride	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Xylene, m,p-	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Xylene, o-	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U
Xylenes, total	ug/kg	4.8 U	--	--	--	--	--	6.7 U	6.5 U	6.4 U	--	--	--	6.5 U	--	7.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS14	AOC13-OS14	AOC13-OS15	AOC13-OS16	AOC13-OS17	AOC13-OS18	AOC13-OS19	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS3
	SAMPLE	AOC13-OS14-D3	AOC13-OS14-D2	AOC13-OS15-1001	AOC13-OS16-1002	AOC13-OS17-1003	AOC13-OS18-1004	AOC13-OS19-1005	300a-02-001.110811	300a-02-002.110811	300a-02-003.110811	300a-02-102.110811	300a-02-002.111511	300a-02-003.111511	300a-02-102.111511	300a-01-001.110811
	DATE	7/25/2013	7/25/2013	4/25/2017	4/25/2017	4/26/2017	4/25/2017	4/26/2017	11/8/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	11/8/2011
SAMPLE TOP DEPTH (FT)		5	2	3	2.8	3.8	3.8	4.4	0	2	5	2	2	5	2	0
SAMPLE BOTTOM DEPTH (FT)		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	31 U	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	5.3 U	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	11 U	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	13 U	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	9.9 U	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	11 U	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	12 U	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	14 U	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	6 U	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	11 U	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	15 U	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	13 U	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	6.2 U	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	6.5 U	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	7.1 U	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	200 UJ	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	33 U	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	21 U	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	16 U	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	16 U	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	8.2	--	--	--	--	--	--	8.5	7.9	7.6	--	--	--	--	8.7
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	2.1 U
Arsenic	mg/kg	2.8	--	--	--	--	--	--	3.3	4.2	3.4	--	--	--	--	4.7
Barium	mg/kg	84	--	--	--	--	--	--	130	150	170	--	--	--	--	170
Beryllium	mg/kg	1 U	1 U	--	--	--	--	--	1 U	1 U	1 U	--	--	--	--	1 U
Cadmium	mg/kg	1 U	1 U	--	--	--	--	--	1 U	1 U	1 U	--	--	--	--	1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.4 U	--	--	--	--	--	1.5	0.41 U	0.42 U	--	--	--	--	0.42 U
Chromium, total	mg/kg	11	--	--	--	--	--	--	17	--	30	25	--	--	--	21
Cobalt	mg/kg	6.8	--	--	--	--	--	--	5.6	--	8.2	7.3	--	--	--	7.4
Copper	mg/kg	10	6.7	--	--	--	--	--	14	17	41	--	--	--	--	22
Lead	mg/kg	3.1	4.9	--	--	--	--	--	8.9	7.9	7.3	--	--	--	--	15
Mercury	mg/kg	0.1 U	0.1 U	--	--	--	--	--	0.1 U	--	0.1 U	0.33	--	--	--	0.1 U
Molybdenum	mg/kg	1 U	1 U	--	--	--	--	--	1 U	1 U	1 U	--	--	--	--	1 U
Nickel	mg/kg	17	--	--	--	--	--	--	13	--	25	16	--	--	--	18
Selenium	mg/kg	1 U	1 U	--	--	--	--	--	1 U	1 U	1 U	--	--	--	--	1 U
Silver	mg/kg	1 U	1 U	--	--	--	--	--	1 U	1 U	1 U	--	--	--	--	1 U
Thallium	mg/kg	2 U	2 U	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	2.1 U
Vanadium	mg/kg	31	--	--	--	--	--	--	26	--	36	37	--	--	--	36
Zinc	mg/kg	23	--	--	--	--	--	--	37	48	61	--	--	--	--	39
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	7200	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	24000	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	1 U	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	13000	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	5800	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	220	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS14	AOC13-OS14	AOC13-OS15	AOC13-OS16	AOC13-OS17	AOC13-OS18	AOC13-OS19	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS3
	SAMPLE	AOC13-OS14-D3	AOC13-OS14-D2	AOC13-OS15-1001	AOC13-OS16-1002	AOC13-OS17-1003	AOC13-OS18-1004	AOC13-OS19-1005	300a-02-001.110811	300a-02-002.110811	300a-02-003.110811	300a-02-102.110811	300a-02-002.111511	300a-02-003.111511	300a-02-102.111511	300a-01-001.110811
	DATE	7/25/2013	7/25/2013	4/25/2017	4/25/2017	4/26/2017	4/25/2017	4/26/2017	11/8/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	11/8/2011
SAMPLE TOP DEPTH (FT)		5	2	3	2.8	3.8	3.8	4.4	0	2	5	2	2	5	2	0
SAMPLE BOTTOM DEPTH (FT)		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	1300	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	110	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	2.1 U	2 U	2.1 U	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	1 U	1 U	1.1 U	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	5.2 U	5.1 U	5.3 U	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	52 U	51 U	53 U	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	34 UJ	18 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	34 U	35 U	69 U	36 U	34 U	35 U	34 U	34 U	35 U	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	18 U	34 U	18 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	18 U	34 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	18 U	34 U	18 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	17 U	18 U	34 U	18 U	17 U	17 U	150	--	67	58	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	46	34 U	170	200	52	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	73	68 U	197	226	77.5	176	--	92.5	83.5	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.1 UJ	27 U	1000	5.4 U	5.1 U	130 U	5.2 U	5.1 U	5.3 U	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.1 U	5.1 UJ	27 U	1000	5.4 U	5.1 U	130 U	6.9	5.1 U	5.3 U	--	--	--	--	--
Acenaphthene	ug/kg	5.1 U	5.1 UJ	30 J	520 U	5.4 U	5.1 U	130 U	5.2 U	5.1 U	5.3 U	--	--	--	--	--
Acenaphthylene	ug/kg	5.1 U	5.1 UJ	27 U	2000	5.4 U	5.1 U	130 U	5.2 U	5.1 U	5.3 U	--	--	--	--	--
Anthracene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	6.6	5.1 U	5.3 U	--	--	--	--	--
B(a)P Equivalent	ug/kg	6.1	--	34	650	7.8	5.9 U	150	100	6.8	20	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5.1 U	5.1 UJ	43 J	730 J	18 J	5.1 U	130 U	67	5.1 U	15	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	69	5.1 U	12	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5.1	--	27 U	520 U	5.4 U	5.1 U	130 U	130	12	33	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	33	5.1 U	7	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	41	5.1 U	9.1	--	--	--	--	--
Chrysene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	67	5.8	18	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	10	5.1 U	5.3 U	--	--	--	--	--
Fluoranthene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	110	7.8	28	--	--	--	--	--
Fluorene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	5.2 U	5.1 U	5.3 U	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	33	5.1 U	6.7	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS14	AOC13-OS14	AOC13-OS15	AOC13-OS16	AOC13-OS17	AOC13-OS18	AOC13-OS19	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS3
	SAMPLE	AOC13-OS14-D3	AOC13-OS14-D2	AOC13-OS15-1001	AOC13-OS16-1002	AOC13-OS17-1003	AOC13-OS18-1004	AOC13-OS19-1005	300a-02-001.110811	300a-02-002.110811	300a-02-003.110811	300a-02-102.110811	300a-02-002.111511	300a-02-003.111511	300a-02-102.111511	300a-01-001.110811
	DATE	7/25/2013	7/25/2013	4/25/2017	4/25/2017	4/26/2017	4/25/2017	4/26/2017	11/8/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	11/8/2011
SAMPLE TOP DEPTH (FT)		5	2	3	2.8	3.8	3.8	4.4	0	2	5	2	2	5	2	0
SAMPLE BOTTOM DEPTH (FT)		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.1 UJ	27 U	520 U	5.4 U	5.1 U	130 U	5.2 U	5.1 U	5.3 U	--	--	--	--	--
PAH High molecular weight	ug/kg	5.1	--	84	28700	18	0	2000	655	32.7	153	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	0	30	33000	0	0	0	56.5	0	12	--	--	--	--	--
Phenanthrene	ug/kg	5.1 U	5.1 UJ	27 U	29000	5.4 U	5.1 U	130 U	43	5.1 U	12	--	--	--	--	--
Pyrene	ug/kg	5.1 U	5.1 UJ	41 J	28000	5.4 U	5.1 U	2000	95	--	24	7.2	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2-Chlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2-Methylphenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
2-Nitrophenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	670 U	670 U	--	--	--	--	--	690 U	670 U	690 U	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	670 U	670 U	--	--	--	--	--	690 U	670 U	690 U	--	--	--	--	--
4-Chloroaniline	ug/kg	670 U	670 U	--	--	--	--	--	690 U	670 U	690 U	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
4-Methylphenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	730 U	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
Benzyl alcohol	ug/kg	670 U	670 U	--	--	--	--	--	690 U	670 U	690 U	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Dibenzofuran	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Diethyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Hexachloroethane	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	1700 U	1700 U	1700 U	--	--	--	--	--
Phenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	10 U	6900	7100	900	300	3500	16	--	23	31	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS14	AOC13-OS14	AOC13-OS15	AOC13-OS16	AOC13-OS17	AOC13-OS18	AOC13-OS19	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS3
	SAMPLE	AOC13-OS14-D3	AOC13-OS14-D2	AOC13-OS15-1001	AOC13-OS16-1002	AOC13-OS17-1003	AOC13-OS18-1004	AOC13-OS19-1005	300a-02-001.110811	300a-02-002.110811	300a-02-003.110811	300a-02-102.110811	300a-02-002.111511	300a-02-003.111511	300a-02-102.111511	300a-01-001.110811
	DATE	7/25/2013	7/25/2013	4/25/2017	4/25/2017	4/26/2017	4/25/2017	4/26/2017	11/8/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	11/8/2011
SAMPLE TOP DEPTH (FT)		5	2	3	2.8	3.8	3.8	4.4	0	2	5	2	2	5	2	0
SAMPLE BOTTOM DEPTH (FT)		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.6 U	--	1.3 UJ	1.2 UJ	1.1 U	1.1 U	1.2 UJ	--	--	--	--	2.5 U	2.9 U	--	--
TPH as motor oil	mg/kg	10 U	10 U	21000	21000	1100	420	11000	87	--	130	180	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1-Dichloroethene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1-Dichloropropene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1,1-Trichloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1,2-Trichloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2-Dibromoethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2-Dichlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	340 U	--	--	--	10 U	13 U	--	--
1,2-Dichloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2-Dichloropropane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2,3-Trichlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2,3-Trichloropropane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,2,4-Trichlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	340 U	--	--	--	10 U	13 U	--	--
1,2,4-Trimethylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,3-Dichlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	340 U	--	--	--	10 U	13 U	--	--
1,3-Dichloropropane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,3,5-Trimethylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
1,4-Dichlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	340 U	--	--	--	10 U	13 U	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	340 U	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	100 U	--	--	--
2,2-Dichloropropane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
4-Isopropyltoluene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Acetone	ug/kg	89 U	--	--	--	--	--	--	--	--	--	--	100 U	130 U	--	--
Acrolein	ug/kg	180 U	160 U	--	--	--	--	--	--	--	--	--	200 U	260 U	--	--
Acrylonitrile	ug/kg	89 U	--	--	--	--	--	--	--	--	--	--	100 U	130 U	--	--
Benzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Bromobenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Bromochloromethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Bromodichloromethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Bromoform	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Bromomethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Carbon disulfide	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Carbon tetrachloride	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Chloro methane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Chlorobenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Chloroethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Chloroform	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
cis-1,2-Dichloroethene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
cis-1,3-Dichloropropene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	11 U	--	--	--
Dibromochloromethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS14	AOC13-OS14	AOC13-OS15	AOC13-OS16	AOC13-OS17	AOC13-OS18	AOC13-OS19	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS2	AOC13-OS3
	SAMPLE	AOC13-OS14-D3	AOC13-OS14-D2	AOC13-OS15-1001	AOC13-OS16-1002	AOC13-OS17-1003	AOC13-OS18-1004	AOC13-OS19-1005	300a-02-001.110811	300a-02-002.110811	300a-02-003.110811	300a-02-102.110811	300a-02-002.111511	300a-02-003.111511	300a-02-102.111511	300a-01-001.110811
	DATE	7/25/2013	7/25/2013	4/25/2017	4/25/2017	4/26/2017	4/25/2017	4/26/2017	11/8/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	11/8/2011
SAMPLE TOP DEPTH (FT)		5	2	3	2.8	3.8	3.8	4.4	0	2	5	2	2	5	2	0
SAMPLE BOTTOM DEPTH (FT)		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	3	3.1	2.9	3.9	3.9	4.5	0.5	3	6	3	3	6	3	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Dichlorodifluoromethane	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Ethyl- benzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Hexachlorobutadiene	ug/kg	8.9 U	--	--	--	--	--	--	690 U	--	--	--	10 U	13 U	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	690 U	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
Isopropylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1800 J	--
Methyl ethyl ketone	ug/kg	89 U	--	--	--	--	--	--	--	--	--	--	100 U	130 U	--	--
Methyl isobutyl ketone	ug/kg	89 U	--	--	--	--	--	--	--	--	--	--	100 U	130 U	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	11 U	--	--	--
Methylene chloride	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
N-Butylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
N-Propylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Nitrobenzene	ug/kg	340 U	340 U	--	--	--	--	--	340 U	340 U	350 U	--	--	--	--	--
p-Chlorotoluene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
sec-Butylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Styrene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
tert-Butylbenzene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Tetrachloroethene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Toluene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
trans-1,2-Dichloroethene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
trans-1,3-Dichloropropene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Trichloroethene	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Vinyl chloride	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Xylene, m,p-	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Xylene, o-	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--
Xylenes, total	ug/kg	8.9 U	--	--	--	--	--	--	--	--	--	--	10 U	13 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS3	AOC13-OS3	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10
	SAMPLE	300a-01-002.110811	300a-01-002.111511	300a-03-001.110811	300a-03-002.110811	300a-03-003.110811	300a-03-002.111511	300a-03-003.111511	AOC13-Pit1-0001	AOC13-Pit1-0002	AOC13-Pit1-0004	AOC13-Pit1-1001	AOC13-Pit10-0001	AOC13-Pit10-0002	AOC13-Pit10-0003	AOC13-Pit10-0004
	DATE	11/8/2011	11/15/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		2	2	0	2	5	2	5	0	2	9	0	0	2	5	7
SAMPLE BOTTOM DEPTH (FT)		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	7.8	--	7.9	8.2	8.4	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	--	2.1 U	2.1 U	2.1 U	--	--	2 U	2 UJ	2 U	--	2 U	2 U	2 U	2 U
Arsenic	mg/kg	4.4	--	3.7	4	3.5	--	--	2.4	3.3	2.6	--	4.2	2.8	2.8	2.4
Barium	mg/kg	99	--	160	150	150	--	--	91	140	110	--	140	150	170	100
Beryllium	mg/kg	1 U	--	1.1 U	1 U	1.1 U	--	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	--	1.1 U	1 U	1.1 U	--	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.42 U	--	0.42 U	0.41 U	0.43 U	--	--	2.6	0.4 U	0.41 U	--	0.16 U	0.29	0.16 U	0.16 U
Chromium, total	mg/kg	22	--	24	20	27	--	--	54	21	19	--	15	19	18	12
Cobalt	mg/kg	8.1	--	6.4	6	7.8	--	--	4.8	6.7	5.2	--	5.7	6.1	6.8	6.2
Copper	mg/kg	20	--	18	14	32	--	--	15	11	9.3	--	9.1	17	12	12
Lead	mg/kg	4.1	--	7.5	5	6	--	--	89 J	6.7	4.9	--	3.9	7.1	4.5	3.7
Mercury	mg/kg	0.1 U	--	0.1 U	0.1 U	0.11 U	--	--	0.1 U	0.1 U	0.1 U	--	0.1 U	0.099 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	--	1.1 U	1 U	1.1 U	--	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Nickel	mg/kg	15	--	15	14	20	--	--	--	14	12	10	9.1	11	11	8.4
Selenium	mg/kg	1.2	--	1.1 U	1 U	1.1 U	--	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	--	1.1 U	1 U	1.1 U	--	--	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	--	2.1 U	2.1 U	2.1 U	--	--	2 U	2 UJ	2 U	--	2 U	2 U	2 U	2 U
Vanadium	mg/kg	41	--	33	29	37	--	--	19	31	26	--	34	31	36	26
Zinc	mg/kg	44	--	66	30	38	--	--	63	31 J	29 J	--	27 J	35 J	33 J	25 J
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	7900	--	--	--	9500	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	15000	--	--	--	28000	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	5 J	0.25 U	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	12000	--	--	--	17000	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	3800	--	--	--	5700	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	160	--	--	--	250	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS3	AOC13-OS3	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10
	SAMPLE	300a-01-002.110811	300a-01-002.111511	300a-03-001.110811	300a-03-002.110811	300a-03-003.110811	300a-03-002.111511	300a-03-003.111511	AOC13-Pit1-0001	AOC13-Pit1-0002	AOC13-Pit1-0004	AOC13-Pit1-1001	AOC13-Pit10-0001	AOC13-Pit10-0002	AOC13-Pit10-0003	AOC13-Pit10-0004
	DATE	11/8/2011	11/15/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		2	2	0	2	5	2	5	0	2	9	0	0	2	5	7
SAMPLE BOTTOM DEPTH (FT)		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	1000	--	--	--	1900	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	93	--	--	--	110	--	--	--
Pesticides																
4,4-DDD	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
4,4-DDE	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
4,4-DDT	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Aldrin	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
alpha-BHC	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
alpha-Chlordane	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
beta-BHC	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
delta-BHC	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
Dieldrin	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Endo sulfan I	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
Endo sulfan II	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Endosulfan sulfate	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Endrin	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Endrin aldehyde	ug/kg	2.1 U	--	--	2.1 U	2.1 U	--	--	2 U	--	--	--	2 U	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	2 U	--	--	--	2 U	--	--	--
gamma-BHC	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
gamma-Chlordane	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
Heptachlor	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
Heptachlor Epoxide	ug/kg	1 U	--	--	1 U	1.1 U	--	--	1 U	--	--	--	1 U	--	--	--
Methoxy chlor	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	5 U	--	--	--	5 U	--	--	--
Toxaphene	ug/kg	52 U	--	--	51 U	53 U	--	--	50 U	--	--	--	50 U	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1221	ug/kg	34 U	--	--	34 U	35 U	--	--	33 U	33 U	34 U	--	33 U	33 U	33 U	33 U
Aroclor 1232	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	--	--	30	170	--	--	2400 J	74	17 U	--	17 U	110	17 U	17 U
Aroclor 1260	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1262	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Aroclor 1268	ug/kg	17 U	--	--	17 U	17 U	--	--	16 U	17 U	17 U	--	17 U	16 U	17 U	17 U
Total PCBs	ug/kg	34 U	--	--	55.5	196	--	--	2420	99.5	34 U	--	34 U	134	34 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	5 U	5 U	51 U	--	5 U	5 U	5 U	5 U
2-Methyl naphthalene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	7.3	5 U	51 U	--	5 U	5 U	5 U	5 U
Acenaphthene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	9	5 U	51 U	--	5 U	5 U	5 U	5 U
Acenaphthylene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	5 U	5 U	51 U	--	5 U	5 U	5 U	5 U
Anthracene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	30 J	5 U	51 U	--	5 U	5 U	5 U	5 U
B(a)P Equivalent	ug/kg	6 U	--	--	6.4	6.1 U	--	--	420	23	69	--	5.8 U	36	15	6.9
Benzo (a) anthracene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	260	11	51 U	--	5 U	19	10	5.7
Benzo (a) pyrene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	320 J	15	51 U	--	5 U	25	9.4	5 U
Benzo (b) fluoranthene	ug/kg	5.2 U	--	--	7.9	5.3 U	--	--	600	26	130	--	5 U	51	17	11
Benzo (ghi) perylene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	--	18	58	140 J	5 U	13	7.4	5 U
Benzo (k) fluoranthene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	430	9	51 U	--	5 U	20	7	5 U
Chrysene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	310	5 UJ	51 UJ	--	5 UJ	21	5 UJ	5 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	5 U	5 U	51 U	--	5 U	5 U	5 U	5 U
Fluoranthene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	760	19	100	--	5 U	41	22	7.7
Fluorene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	7.3	5 U	51 U	--	5 U	5 U	5 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	--	14	51 U	130	5 U	12	6.7	5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS3	AOC13-OS3	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10
	SAMPLE	300a-01-002.110811	300a-01-002.111511	300a-03-001.110811	300a-03-002.110811	300a-03-003.110811	300a-03-002.111511	300a-03-003.111511	AOC13-Pit1-0001	AOC13-Pit1-0002	AOC13-Pit1-0004	AOC13-Pit1-1001	AOC13-Pit10-0001	AOC13-Pit10-0002	AOC13-Pit10-0003	AOC13-Pit10-0004
	DATE	11/8/2011	11/15/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		2	2	0	2	5	2	5	0	2	9	0	0	2	5	7
SAMPLE BOTTOM DEPTH (FT)		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	5 U	5 U	10 U	--	5 U	5 U	5 U	5 U
PAH High molecular weight	ug/kg	0	--	--	7.9	0	--	--	3410	130	376	--	0	239	98.5	31.4
PAH Low molecular weight	ug/kg	0	--	--	0	0	--	--	314	0	0	--	0	11	0	0
Phenanthrene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	260	5 U	51 U	--	5 U	11	5 U	5 U
Pyrene	ug/kg	5.2 U	--	--	5.1 U	5.3 U	--	--	580	18	88	--	5 U	37	19	7
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 UJ	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 UJ	--	--	--
2-Chloro naphthalene	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 UJ	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	690 U	--	--	680 U	700 U	--	--	660 U	660 U	670 U	--	660 U	660 U	660 U	660 U
4-Bromophenyl phenyl ether	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	690 U	--	--	680 U	700 U	--	--	660 U	660 U	670 U	--	660 U	660 U	660 U	660 U
4-Chloroaniline	ug/kg	690 U	--	--	680 U	700 U	--	--	660 U	660 U	670 U	--	660 U	660 U	660 U	660 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 UJ	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 U	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	700 U	--	--	--	700 UJ	--	--	--
Benzoic acid	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 UJ	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	690 U	--	--	680 U	700 U	--	--	660 U	660 UJ	670 UJ	--	660 U	660 U	660 U	660 U
bis (2-chloroethoxy) methane	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	330 U	--	--	--	330 UJ	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	330 U	--	--	--	330 U	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Dibenzofuran	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1700 U	--	--	1700 U	1800 U	--	--	1600 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	--	--	11	11	--	--	16	10 U	56	--	10 U	23	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS3	AOC13-OS3	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10
	SAMPLE	300a-01-002.110811	300a-01-002.111511	300a-03-001.110811	300a-03-002.110811	300a-03-003.110811	300a-03-002.111511	300a-03-003.111511	300a-03-003.111511	AOC13-Pit1-0001	AOC13-Pit1-0002	AOC13-Pit1-0004	AOC13-Pit1-1001	AOC13-Pit10-0001	AOC13-Pit10-0002	AOC13-Pit10-0003	AOC13-Pit10-0004
	DATE	11/8/2011	11/15/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	11/15/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		2	2	0	2	5	2	5	5	0	2	9	0	0	2	5	7
SAMPLE BOTTOM DEPTH (FT)		3	3	0.5	3	6	3	6	6	0.5	3	9.5	0.5	0.5	3	6	7.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	3	6	6	0.5	3	9.5	0.5	0.5	3	6	7.5
	SAMPLE TYPE												Field Duplicate				
ANALYTE	UNITS																
TPH as gasoline	mg/kg	--	2.7 U	--	--	--	2.4 U	3.4 U	--	--	1.8 U	2 U	--	--	1.8 U	1.6 U	1.4 U
TPH as motor oil	mg/kg	10 U	--	--	40	50	--	--	--	--	15	190	68	10 U	100	11	26
Volatile Organic Compounds																	
1,1-Dichloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1-Dichloroethene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1-Dichloropropene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1,1-Trichloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1,1,2-Tetrachloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1,2-Trichloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,1,2,2-Tetrachloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2-Dibromo-3-chloropropane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2-Dibromoethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2-Dichlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	330 U	--	8.7 U	10 U	--	330 UJ	9.6 U	8.3 U	7.3 U
1,2-Dichloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2-Dichloropropane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2,3-Trichlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2,3-Trichloropropane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,2,4-Trichlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	330 U	--	8.7 U	10 U	--	330 UJ	9.6 U	8.3 U	7.3 U
1,2,4-Trimethylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,3-Dichlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	330 U	--	8.7 U	10 U	--	330 U	9.6 U	8.3 U	7.3 U
1,3-Dichloropropane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,3,5-Trimethylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
1,4-Dichlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	330 U	--	8.7 U	10 U	--	330 U	9.6 U	8.3 U	7.3 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	330 U	--	--	--	--	330 U	--	--	--
2-Chlorotoluene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	87 U	100 U	--	--	96 U	83 U	73 U
2,2-Dichloropropane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
2,4,5-Trichlorophenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	--	330 U	340 U	--	330 U	330 U	330 U	330 U
2,4,6-Trichlorophenol	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	--	330 U	340 U	--	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Acetone	ug/kg	--	140 U	--	--	--	120 U	150 U	--	--	87 UJ	100 U	--	--	96 U	83 U	73 UJ
Acrolein	ug/kg	--	280 U	--	--	--	230 U	290 U	--	--	170 U	210 U	--	--	190 U	170 U	150 U
Acrylonitrile	ug/kg	--	140 U	--	--	--	120 U	150 U	--	--	87 U	100 U	--	--	96 U	83 U	73 U
Benzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
bis (2-chloroethyl) ether	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	--	330 U	340 U	--	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	--	330 U	340 U	--	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Bromochloromethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Bromodichloromethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Bromoform	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Bromomethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 UJ	10 U	--	--	9.6 U	8.3 U	7.3 UJ
Carbon disulfide	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Carbon tetrachloride	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Chloro methane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Chlorobenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Chloroethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Chloroform	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
cis-1,2-Dichloroethene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
cis-1,3-Dichloropropene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	9 U	9.6 U	--	--	9.2 U	8.4 U	7.8 U
Dibromochloromethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-OS3	AOC13-OS3	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-OS4	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS1	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10	AOC13-PITOS10
	SAMPLE	300a-01-002.110811	300a-01-002.111511	300a-03-001.110811	300a-03-002.110811	300a-03-003.110811	300a-03-002.111511	300a-03-003.111511	AOC13-Pit1-0001	AOC13-Pit1-0002	AOC13-Pit1-0004	AOC13-Pit1-1001	AOC13-Pit10-0001	AOC13-Pit10-0002	AOC13-Pit10-0003	AOC13-Pit10-0004
	DATE	11/8/2011	11/15/2011	11/8/2011	11/8/2011	11/8/2011	11/15/2011	11/15/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		2	2	0	2	5	2	5	0	2	9	0	0	2	5	7
SAMPLE BOTTOM DEPTH (FT)		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	3	0.5	3	6	3	6	0.5	3	9.5	0.5	0.5	3	6	7.5
	SAMPLE TYPE											Field Duplicate				
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Dichlorodifluoromethane	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Ethyl- benzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Hexachlorobutadiene	ug/kg	--	14 U	--	--	--	12 U	15 U	660 U	8.7 U	10 U	--	660 U	9.6 U	8.3 U	7.3 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	660 U	--	--	--	660 U	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	9 U	9.6 U	--	--	9.2 U	25	7.8 U
Methyl ethyl ketone	ug/kg	--	140 U	--	--	--	120 U	150 U	--	87 U	100 U	--	--	96 U	83 U	73 U
Methyl isobutyl ketone	ug/kg	--	140 U	--	--	--	120 U	150 U	--	87 U	100 U	--	--	96 U	83 U	73 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	9 U	9.6 U	--	--	--	9.2 U	8.4 U	7.8 U
Methylene chloride	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
N-Butylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
N-Propylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Nitrobenzene	ug/kg	340 U	--	--	340 U	350 U	--	--	330 U	330 U	340 U	--	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
sec-Butylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Styrene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
tert-Butylbenzene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Tetrachloroethene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Toluene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
trans-1,2-Dichloroethene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
trans-1,3-Dichloropropene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Trichloroethene	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Vinyl chloride	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Xylene, m,p-	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Xylene, o-	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U
Xylenes, total	ug/kg	--	14 U	--	--	--	12 U	15 U	--	8.7 U	10 U	--	--	9.6 U	8.3 U	7.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13
	SAMPLE	AOC13-Pit11-0001	AOC13-Pit11-0002	AOC13-Pit11-0003	AOC13-Pit11-0004	AOC13-Pit11-1002	AOC13-PIT12-0001	AOC13-PIT12-0002	AOC13-PIT12-0003	AOC13-PIT12-0004	AOC13-PIT12-0005	AOC26-Pit4-1001	AOC26-Pit4-0001	AOC26-Pit4-0002	AOC26-Pit4-0003	AOC26-Pit4-0004
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	5	7.5	2	0	2	5	9	11	0	0	2	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	--	2 U	2 UJ	2 U	2 U
Arsenic	mg/kg	2.8	2.6	2.2	2.3	--	3.6	4.6	2.9	3.8	1.8	2.9	--	2.5	2.8	1 U
Barium	mg/kg	130	--	130	110	87	250 J	250	170	240	89	--	140	130	170	130
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.4 U	0.4 U	0.4 U	0.16 U	--	0.41 U	0.41 U	0.41 U	0.4 U	0.4 U	0.44	--	0.4 U	0.4 U	0.4 U
Chromium, total	mg/kg	13	--	11	11	9.9	14	15	18	13	8.7	--	13	17	21	16
Cobalt	mg/kg	6	3.5	6.6	5.4	--	5.4	5.9	5.9	4.9	3.1	--	4	5.4	6.2	8
Copper	mg/kg	9.3	5.5	10	20	--	15	9.4	10	8.7	15	--	12	11	12	9.6
Lead	mg/kg	11	3.8	4.6	12	--	25 J	6.2	6.4	5.1	3.3	21 J	--	12 J	8.5	4.3
Mercury	mg/kg	0.1 U	0.099 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1	--	1 U	1 U	1 U
Nickel	mg/kg	9.5	6.9	15	12	--	10	10	11	8.5	6.5	6.9	--	9.8	11	10
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 U	2 U	2 U	2 U	--	2 U	2.1 U	2 U	2 U	2 U	--	2 U	2 UJ	2 U	2 U
Vanadium	mg/kg	26	22	30	24	--	25 J	28	29	27	16	24	--	28	32	40
Zinc	mg/kg	28 J	18 J	24 J	23 J	--	60	35	34	25	16	--	25 J	30	35	34
Metals CLP																
Aluminum	mg/kg	8100	--	--	--	--	8200 J	--	--	--	--	6900	--	--	--	--
Calcium	mg/kg	21000	--	--	--	--	33000	--	--	--	--	25000	--	--	--	--
Cyanide	mg/kg	0.25 U	--	--	--	--	0.25 U	--	--	--	--	1.9 J	--	--	--	--
Iron	mg/kg	14000	--	--	--	--	14000	--	--	--	--	13000	--	--	--	--
Magnesium	mg/kg	5200	--	--	--	--	6000 J	--	--	--	--	4500	--	--	--	--
Manganese	mg/kg	240	--	--	--	--	260	--	--	--	--	220	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13
	SAMPLE	AOC13-Pit11-0001	AOC13-Pit11-0002	AOC13-Pit11-0003	AOC13-Pit11-0004	AOC13-Pit11-1002	AOC13-PIT12-0001	AOC13-PIT12-0002	AOC13-PIT12-0003	AOC13-PIT12-0004	AOC13-PIT12-0005	AOC26-Pit4-1001	AOC26-Pit4-0001	AOC26-Pit4-0002	AOC26-Pit4-0003	AOC26-Pit4-0004
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	5	7.5	2	0	2	5	9	11	0	0	2	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE	UNITS															
Potassium	mg/kg	1300	--	--	--	--	1300	--	--	--	--	--	1100 J	--	--	--
Sodium	mg/kg	310	--	--	--	--	310	--	--	--	--	--	91	--	--	--
Pesticides																
4,4-DDD	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
4,4-DDE	ug/kg	2 U	--	--	--	--	7.2	--	--	--	--	--	--	2 U	--	--
4,4-DDT	ug/kg	2 U	--	--	--	--	6	--	--	--	--	--	--	2 U	--	--
Aldrin	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
alpha-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
alpha-Chlordane	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
beta-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
delta-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
Dieldrin	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
Endo sulfan I	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
Endo sulfan II	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
Endrin	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
Endrin aldehyde	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
Endrin ketone	ug/kg	2 U	--	--	--	--	2 U	--	--	--	--	--	--	2 U	--	--
gamma-BHC	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
gamma-Chlordane	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
Heptachlor	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	1 U	--	--	--	--	--	--	1 U	--	--
Methoxy chlor	ug/kg	5 U	--	--	--	--	5.1 U	--	--	--	--	--	--	5 U	--	--
Toxaphene	ug/kg	50 U	--	--	--	--	51 UJ	--	--	--	--	--	--	50 U	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	16 U	--	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	33 U	34 U	--	34 U	34 U	34 U	33 U	33 U	--	33 U	33 U	33 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	16 U	--	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	16 U	--	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	16 U	--	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	16 U	70	--	62	84	17 U
Aroclor 1260	ug/kg	110	17 U	17 U	30	--	17 U	17 U	17 U	17 U	16 U	--	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	17 U	17 U	17 U	17 U	--	17 UJ	17 UJ	17 UJ	17 UJ	16 UJ	--	17 U	17 U	17 U	17 U
Aroclor 1268	ug/kg	17 U	17 U	17 U	17 U	--	17 UJ	17 UJ	17 UJ	17 UJ	16 UJ	--	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	136	34 U	34 U	55.5	--	34 U	34 U	34 U	34 U	32 U	95.5	--	87.5	110	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
2-Methyl naphthalene	ug/kg	5	5 U	5 U	5.1 U	--	5.1	5.2 U	5.1 U	5 U	6.4	--	5 U	5 U	5 U	5 U
Acenaphthene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
Acenaphthylene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
Anthracene	ug/kg	5 U	5 U	5 U	6.5	--	5.1 U	5.2 U	5.1 U	5 U	6.7	--	5 U	5 U	5 U	5 U
B(a)P Equivalent	ug/kg	6.3	5.8 U	5.8 U	5.9	--	21	23	11	17	33	--	10	18	37	5.8
Benzo (a) anthracene	ug/kg	5 U	5 U	5 U	5.1 U	--	11	11	5.1 U	8.7	30	--	6.7	10 J	21	5 U
Benzo (a) pyrene	ug/kg	5 U	5 U	5 U	5.1 U	--	14	16	6.8	11	27	--	5.3	12 J	26	5 U
Benzo (b) fluoranthene	ug/kg	7.4	5 U	5 U	5.1 U	--	22	20	9.5	14	5 U	--	14	20 J	54	5 U
Benzo (ghi) perylene	ug/kg	5 U	5 U	5 U	5.1 U	--	7.8	12	5.1	9.4	8.4	--	5 U	9.7 J	12	5 U
Benzo (k) fluoranthene	ug/kg	5 U	5 U	5 U	5.1 U	--	14	13	6.5	10	5 U	--	5	9.7 J	21	5 U
Chrysene	ug/kg	6	5 UJ	5 UJ	5.1 U	--	17	17	6.8	11	51	--	5 U	5 UJ	20	5 UJ
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
Fluoranthene	ug/kg	5 U	5 U	5 U	10	--	25	26	10	15	61	--	11	19 J	39	5 U
Fluorene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5 U	5 U	5.1 U	--	7.1	10	5.1 U	8	6.7	--	5 U	8.7 J	11	5 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13
	SAMPLE	AOC13-Pit11-0001	AOC13-Pit11-0002	AOC13-Pit11-0003	AOC13-Pit11-0004	AOC13-Pit11-1002	AOC13-PIT12-0001	AOC13-PIT12-0002	AOC13-PIT12-0003	AOC13-PIT12-0004	AOC13-PIT12-0005	AOC26-Pit4-1001	AOC26-Pit4-0001	AOC26-Pit4-0002	AOC26-Pit4-0003	AOC26-Pit4-0004
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	5	7.5	2	0	2	5	9	11	0	0	2	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5 U	5 U	5.1 U	--	5.1 U	5.2 U	5.1 U	5 U	5 U	--	5 U	5 U	5 U	5 U
PAH High molecular weight	ug/kg	13.4	0	0	18.5	--	140	150	54.7	101	237	--	51.7	107	239	5.7
PAH Low molecular weight	ug/kg	5	0	0	6.5	--	18.1	8.6	0	0	44.1	--	0	5	8.4	0
Phenanthrene	ug/kg	5 U	5 U	5 U	5.1 U	--	13	8.6	5.1 U	5 U	31	--	5 U	5 J	8.4	5 U
Pyrene	ug/kg	5 U	5 U	5 U	8.5	--	22	25	10	14	53	--	9.7	18 J	35	5.7
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	700 UJ	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	700 UJ	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
2-Chlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
2-Methylphenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	700 U	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
2,4-Dinitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	660 U	660 U	660 U	670 U	--	670 UJ	680 U	670 U	660 U	660 U	--	660 U	660 U	670 U	660 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
4-Chloro-3-methylphenol	ug/kg	660 U	660 U	660 U	670 U	--	670 U	680 U	670 U	660 U	660 U	--	660 U	660 U	670 U	660 U
4-Chloroaniline	ug/kg	660 U	660 U	660 U	670 U	--	670 UJ	680 U	670 U	660 U	660 U	--	660 U	660 U	670 U	660 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
4-Methylphenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	700 UJ	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
Atrazine	ug/kg	700 U	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
Benzaldehyde	ug/kg	700 UJ	--	--	--	--	710 UJ	--	--	--	--	--	700 U	--	--	--
Benzoic acid	ug/kg	1700 UJ	1700 U	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U	1700 U	--	1700 UJ	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	660 U	660 U	660 UJ	670 UJ	--	670 UJ	680 U	670 U	660 U	660 U	--	660 U	660 U	670 U	660 U
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	1200	--	330 U	330 U	330 U	330 U
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Caprolactam	ug/kg	330 U	--	--	--	--	340 UJ	--	--	--	--	--	330 U	--	--	--
Carbazole	ug/kg	330 U	--	--	--	--	340 UJ	--	--	--	--	--	330 U	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Dibenzofuran	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
Diethyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Hexachloroethane	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	150	10 U	10 U	36	--	18	10 U	10 U	10 U	160	--	10 U	11	26	11

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13
	SAMPLE	AOC13-Pit11-0001	AOC13-Pit11-0002	AOC13-Pit11-0003	AOC13-Pit11-0004	AOC13-Pit11-1002	AOC13-PIT12-0001	AOC13-PIT12-0002	AOC13-PIT12-0003	AOC13-PIT12-0004	AOC13-PIT12-0005	AOC26-Pit4-1001	AOC26-Pit4-0001	AOC26-Pit4-0002	AOC26-Pit4-0003	AOC26-Pit4-0004
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	5	7.5	2	0	2	5	9	11	0	0	2	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	1.7 U	1.8 U	1.9 U	--	--	2 U	2 U	1.9 U	1.7 U	--	--	2.4 U	1.9 U	1.7 U
TPH as motor oil	mg/kg	110	10 U	10 U	55	--	81	32	23	25	710	--	54	66	170	57
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1-Dichloroethene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1-Dichloropropene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1,1-Trichloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1,1,2-Tetrachloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1,2-Trichloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,1,2,2-Tetrachloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2-Dibromo-3-chloropropane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2-Dibromoethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2-Dichlorobenzene	ug/kg	330 U	9.2 U	9 U	8.8 U	--	340 UJ	11 U	11 U	8.6 U	9.5 U	--	330 U	12 U	9.4 U	8.5 U
1,2-Dichloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2-Dichloropropane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2,3-Trichlorobenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2,3-Trichloropropane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,2,4-Trichlorobenzene	ug/kg	330 U	9.2 U	9 U	8.8 U	--	340 UJ	11 U	11 U	8.6 U	9.5 U	--	330 U	12 U	9.4 U	8.5 U
1,2,4-Trimethylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,3-Dichlorobenzene	ug/kg	330 U	9.2 U	9 U	8.8 U	--	340 UJ	11 U	11 U	8.6 U	9.5 U	--	330 U	12 U	9.4 U	8.5 U
1,3-Dichloropropane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,3,5-Trimethylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
1,4-Dichlorobenzene	ug/kg	330 U	9.2 U	9 U	8.8 U	--	340 UJ	11 U	11 U	8.6 U	9.5 U	--	330 U	12 U	9.4 U	8.5 U
1,4-Dioxane	ug/kg	330 U	--	--	--	--	340 UJ	--	--	--	--	--	330 U	--	--	--
2-Chlorotoluene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
2-Hexanone	ug/kg	--	92 U	90 U	88 U	--	--	110 U	110 U	86 U	95 U	--	--	120 U	94 U	85 U
2,2-Dichloropropane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
2,4,5-Trichlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	340 U	--	340 U	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
4-Isopropyltoluene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Acetone	ug/kg	--	140 J	90 U	88 U	--	--	110 U	110 U	86 U	95 U	--	--	120 U	94 U	85 U
Acrolein	ug/kg	--	180 U	180 U	180 U	--	--	220 U	210 U	170 U	190 U	--	--	240 U	190 U	170 U
Acrylonitrile	ug/kg	--	92 U	90 U	88 U	--	--	110 U	110 U	86 U	95 U	--	--	120 U	94 U	85 U
Benzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Bromobenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Bromochloromethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Bromodichloromethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Bromoform	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Bromomethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Carbon disulfide	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Carbon tetrachloride	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Chloro methane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Chlorobenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Chloroethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Chloroform	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
cis-1,2-Dichloroethene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
cis-1,3-Dichloropropene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Cyclohexane	ug/kg	--	--	8.5 U	9 U	9.4 U	--	11 U	11 U	8.6 U	9.5 U	--	--	11 U	8.4 U	8.2 U
Dibromochloromethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS11	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS12	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13	AOC13-PITOS13
	SAMPLE	AOC13-Pit11-0001	AOC13-Pit11-0002	AOC13-Pit11-0003	AOC13-Pit11-0004	AOC13-Pit11-1002	AOC13-PIT12-0001	AOC13-PIT12-0002	AOC13-PIT12-0003	AOC13-PIT12-0004	AOC13-PIT12-0005	AOC26-Pit4-1001	AOC26-Pit4-0001	AOC26-Pit4-0002	AOC26-Pit4-0003	AOC26-Pit4-0004
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	9/27/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	5	7.5	2	0	2	5	9	11	0	0	2	5	9
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8	3	0.5	3	6	9.5	11.5	0.5	0.5	3	6	9.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Dichlorodifluoromethane	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Ethyl- benzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Hexachlorobutadiene	ug/kg	660 U	9.2 U	9 U	8.8 U	--	670 UJ	11 U	11 U	8.6 U	9.5 U	--	660 U	12 U	9.4 U	8.5 U
Hexachlorocyclopentadiene	ug/kg	660 U	--	--	--	--	670 UJ	--	--	--	--	--	660 U	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 UJ	330 U	330 U	340 U	--	340 UJ	340 U	340 U	330 U	330 U	--	330 U	330 U	330 U	330 U
Isopropylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Methyl acetate	ug/kg	--	--	8.5 U	9 U	9.4 U	--	8.5 U	11 U	11 U	8.6 U	18	--	--	11 U	8.4 U
Methyl ethyl ketone	ug/kg	--	92 U	90 U	88 U	--	--	110 U	110 U	86 U	95 U	--	--	120 U	94 U	85 U
Methyl isobutyl ketone	ug/kg	--	92 U	90 U	88 U	--	--	110 U	110 U	86 U	95 U	--	--	120 U	94 U	85 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Methylcyclohexane	ug/kg	--	--	8.5 U	9 U	9.4 U	--	8.5 U	11 U	11 U	8.6 U	9.5 U	--	--	11 U	8.4 U
Methylene chloride	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
N-Butylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
N-Propylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Nitrobenzene	ug/kg	330 U	330 U	330 U	340 U	--	340 UJ	340 U	340 UJ	330 U	330 U	--	330 U	330 U	330 U	330 U
p-Chlorotoluene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
sec-Butylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Styrene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
tert-Butylbenzene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Tetrachloroethene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Toluene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
trans-1,2-Dichloroethene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
trans-1,3-Dichloropropene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Trichloroethene	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Vinyl chloride	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Xylene, m,p-	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	19	--	--	12 U	9.4 U	8.5 U
Xylene, o-	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	9.5 U	--	--	12 U	9.4 U	8.5 U
Xylenes, total	ug/kg	--	9.2 U	9 U	8.8 U	--	--	11 U	11 U	8.6 U	27	--	--	12 U	9.4 U	8.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS7
	SAMPLE	AOC26-Pit5-0001	AOC26-Pit5-0002	AOC26-Pit5-0003	AOC13-Pit2-0001	AOC13-Pit2-0002	AOC13-Pit2-0003	AOC13-Pit3-0001	AOC13-Pit3-0002	AOC13-Pit3-0003	AOC13-Pit3-1002	AOC13-Pit6-0001	AOC13-Pit6-0002	AOC13-Pit6-0003	AOC13-Pit6-0004	AOC13-Pit7-0001
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	4	0	2	4	0	2	6	2	0	2	5	7	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
	SAMPLE TYPE										Field Duplicate					
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	--	2 UJ	2 U	2.1 U	2 U	2 U
Arsenic	mg/kg	3.3	3.1	2.8	2.9	3.6	3.1	3.2	2.9	2.9	--	2.7	3	2.8	2.1	2.9
Barium	mg/kg	150	170	140	150	170	140	150	--	170	180	160	180	160	180	110
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.16 U	0.36	0.22	0.92	0.4 U	0.4 U	0.4 U	0.4 U	0.42 U	--	0.4 U	0.4 U	0.41 U	0.41 U	0.4 U
Chromium, total	mg/kg	14	23	16	33	22	21	20	--	22	21	20	20	21	22	13
Cobalt	mg/kg	5	6.4	5.4	7	6.1	5.7	6.1	--	6.6	7.5	6.8	6.6	6.6	7.9	5
Copper	mg/kg	8.1	11	9.7	19	11	11	12	11	10	--	12	11	11	13	13
Lead	mg/kg	9.6	7.3	7.3	13	7.4	8.7	7.2	6.4	7	--	7	7.7	7.2	7.1	7.5
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	8.5	13	10	15	13	12	13	--	13	13	12 J	13	13	13	9.7
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 UJ	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	--	2 UJ	2 U	2.1 U	2 U	2 U
Vanadium	mg/kg	25	33	29	31	33	29	30	35	34	--	35	33	35	38	25
Zinc	mg/kg	27 J	34 J	29 J	52 J	34 J	35 J	33 J	36 J	36 J	--	36	32	32	49	28
Metals CLP																
Aluminum	mg/kg	8300	--	--	11000	--	--	9900	--	--	--	12000 J	--	--	--	8300
Calcium	mg/kg	29000	--	--	27000	--	--	32000	--	--	--	32000	--	--	--	20000
Cyanide	mg/kg	0.25 U	--	--	0.25 U	--	--	0.25 U	--	--	--	0.25 UJ	--	--	--	0.73
Iron	mg/kg	14000	--	--	17000	--	--	17000	--	--	--	20000	--	--	--	14000
Magnesium	mg/kg	6200	--	--	7000	--	--	7100	--	--	--	7200	--	--	--	4900
Manganese	mg/kg	240	--	--	270	--	--	270	--	--	--	300	--	--	--	240

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS7
	SAMPLE	AOC26-Pit5-0001	AOC26-Pit5-0002	AOC26-Pit5-0003	AOC13-Pit2-0001	AOC13-Pit2-0002	AOC13-Pit2-0003	AOC13-Pit3-0001	AOC13-Pit3-0002	AOC13-Pit3-0003	AOC13-Pit3-1002	AOC13-Pit6-0001	AOC13-Pit6-0002	AOC13-Pit6-0003	AOC13-Pit6-0004	AOC13-Pit7-0001
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	4	0	2	4	0	2	6	2	0	2	5	7	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
	SAMPLE TYPE										Field Duplicate					
ANALYTE	UNITS															
Potassium	mg/kg	1600	--	--	1900	--	--	1800	--	--	--	2100 J	--	--	--	1400
Sodium	mg/kg	430	--	--	290	--	--	280	--	--	--	290 J	--	--	--	320
Pesticides																
4,4-DDD	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
4,4-DDE	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
4,4-DDT	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Aldrin	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
alpha-BHC	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
alpha-Chlordane	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
beta-BHC	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
delta-BHC	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
Dieldrin	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Endo sulfan I	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
Endo sulfan II	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Endosulfan sulfate	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Endrin	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Endrin aldehyde	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
Endrin ketone	ug/kg	2 U	--	--	2 U	--	--	2 U	--	--	--	2 U	--	--	--	2 U
gamma-BHC	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
gamma-Chlordane	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
Heptachlor	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
Heptachlor Epoxide	ug/kg	1 U	--	--	1 U	--	--	1 U	--	--	--	1 U	--	--	--	1 U
Methoxy chlor	ug/kg	5 U	--	--	5 U	--	--	5 U	--	--	--	5 U	--	--	--	5 U
Toxaphene	ug/kg	50 U	--	--	50 U	--	--	50 U	--	--	--	50 U	--	--	--	50 U
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	33 U	33 U	33 U	33 U	33 U	33 U	35 U	--	33 U	33 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	150	120	370 J	110	73	92	57	58	--	210	370	91	50	17 U
Aroclor 1260	ug/kg	30	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	140
Aroclor 1262	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1268	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	55.5	176	146	396	136	98.5	118	82.5	83.5	--	236	396	117	75.5	166
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	7.4	26	5.1 U	5 U	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
2-Methyl naphthalene	ug/kg	5 U	5.1 U	5.1 U	12	30	6.4	5	5.4	5.2	--	5 U	5 U	5.2 U	5.1 U	5 U
Acenaphthene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
Acenaphthylene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
Anthracene	ug/kg	5 U	5.1 U	5.1 U	12	6.7	7.4	8	6.8	7	--	5 U	5 U	5.2 U	5.1 U	5 U
B(a)P Equivalent	ug/kg	20	14	43	170	15	29	51	--	37	26	27	21	16	75	79
Benzo (a) anthracene	ug/kg	10	7.4	25	90	7	12	28	--	16	14	14	13	10	39	44
Benzo (a) pyrene	ug/kg	13	8.5	30	120	9.4	20	35	--	27	18	18	14	10	55	57
Benzo (b) fluoranthene	ug/kg	27	17	56	260	18	44	57	--	42	33	39	24	18	110	120
Benzo (ghi) perylene	ug/kg	8.7	5.1	27	32	9.7	5.4	27	--	11	11	13	9.4	5.9	22	24
Benzo (k) fluoranthene	ug/kg	8.4	7.1	15	100	7.7	17	21	--	21	13	10	8.7	5.9	24	32
Chrysene	ug/kg	5 UJ	5.1 UJ	22	120	11	19	32	13	22	--	12	5 U	5.2 U	35	58 J
Dibenzo (a,h) anthracene	ug/kg	5 U	5.1 U	5.1 U	10	5 U	5.1 U	5.4	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
Fluoranthene	ug/kg	15	11	51	230	15	31	70	--	33	22	21	17	14	37	93
Fluorene	ug/kg	5 U	5.1 U	5.1 U	5 U	5 U	5.1 U	5 U	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	7.7	5.1 U	22	35	7.4	5.7	22	--	10	10	12	8.7	5.5	22	25

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS7
	SAMPLE	AOC26-Pit5-0001	AOC26-Pit5-0002	AOC26-Pit5-0003	AOC13-Pit2-0001	AOC13-Pit2-0002	AOC13-Pit2-0003	AOC13-Pit3-0001	AOC13-Pit3-0002	AOC13-Pit3-0003	AOC13-Pit3-1002	AOC13-Pit6-0001	AOC13-Pit6-0002	AOC13-Pit6-0003	AOC13-Pit6-0004	AOC13-Pit7-0001
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	4	0	2	4	0	2	6	2	0	2	5	7	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
	SAMPLE TYPE										Field Duplicate					
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5.1 U	5.1 U	5 U	6	5.1 U	5 U	5.1 U	5.2 U	--	5 U	5 U	5.2 U	5.1 U	5 U
PAH High molecular weight	ug/kg	104	67.1	290	1210	99.2	181	356	--	213	151	158	111	82.3	381	538
PAH Low molecular weight	ug/kg	0	0	7.4	106	68.7	21.2	31	12.2	19.9	--	5	0	0	8.8	23
Phenanthrene	ug/kg	5 U	5.1 U	7.4	75	5 U	7.4	18	5.1 U	7.7	--	5	5 U	5.2 U	8.8	23
Pyrene	ug/kg	14	11	42	210	14	27	59	--	31	21	19	16	13	37	85
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	700 UJ	--	--	700 UJ	--	--	700 UJ	--	--	--	700 UJ	--	--	--	700 UJ
1,2,4,5-Tetrachlorobenzene	ug/kg	700 UJ	--	--	700 UJ	--	--	700 UJ	--	--	--	700 UJ	--	--	--	700 UJ
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2-Chlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2-Methylphenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2,3,4,6-Tetrachlorophenol	ug/kg	700 U	--	--	700 U	--	--	700 U	--	--	--	700 UJ	--	--	--	700 U
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2,4-Dinitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
3,3'-Dichlorobenzidene	ug/kg	660 U	670 U	670 U	660 U	670 U	660 U	670 U	660 U	690 U	--	660 U	670 U	680 U	670 U	660 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	670 U	660 U	660 U	670 U	660 U	670 U	690 U	--	660 U	660 U	680 U	670 U	660 U
4-Chloroaniline	ug/kg	660 U	670 U	670 U	660 U	660 U	670 U	660 U	670 U	690 U	--	660 U	660 U	680 U	670 U	660 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
4-Methylphenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	700 UJ	--	--	700 UJ	--	--	700 UJ	--	--	--	700 UJ	--	--	--	700 UJ
Atrazine	ug/kg	700 U	--	--	700 U	--	--	700 U	--	--	--	700 U	--	--	--	700 U
Benzaldehyde	ug/kg	700 UJ	--	--	700 UJ	--	--	700 UJ	--	--	--	700 UJ	--	--	--	700 UJ
Benzoic acid	ug/kg	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ
Benzyl alcohol	ug/kg	660 UJ	670 UJ	670 U	660 UJ	660 U	670 UJ	660 UJ	670 UJ	690 UJ	--	660 U	660 U	680 U	670 U	660 UJ
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	360	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Caprolactam	ug/kg	330 U	--	--	330 U	--	--	330 U	--	--	--	330 U	--	--	--	330 U
Carbazole	ug/kg	330 U	--	--	330 U	--	--	330 U	--	--	--	330 U	--	--	--	330 U
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Dibenzofuran	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Diethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Hexachloroethane	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	12	10 U	20	12	12	12	14	15	--	11	11	10 U	44	12

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS7
	SAMPLE	AOC26-Pit5-0001	AOC26-Pit5-0002	AOC26-Pit5-0003	AOC13-Pit2-0001	AOC13-Pit2-0002	AOC13-Pit2-0003	AOC13-Pit3-0001	AOC13-Pit3-0002	AOC13-Pit3-0003	AOC13-Pit3-1002	AOC13-Pit6-0001	AOC13-Pit6-0002	AOC13-Pit6-0003	AOC13-Pit6-0004	AOC13-Pit7-0001
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	4	0	2	4	0	2	6	2	0	2	5	7	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
	SAMPLE TYPE										Field Duplicate					
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	1.9 U	1.8 U	--	1.9 U	1.7 U	--	1.7 U	2.1 U	--	--	1.8 U	2 U	1.8 U	--
TPH as motor oil	mg/kg	24	45	34	57	48	23	23	--	59	96 J	41	33	37	160	51
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1-Dichloroethene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1-Dichloropropene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1,1-Trichloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1,2-Trichloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2-Dibromoethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2-Dichlorobenzene	ug/kg	330 U	9.1 U	8 U	330 U	9.9 U	9.1 U	330 U	--	11 U	9.1 U	330 U	7.8 U	9.5 U	8.5 U	330 U
1,2-Dichloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2-Dichloropropane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2,3-Trichlorobenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2,3-Trichloropropane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,2,4-Trichlorobenzene	ug/kg	330 U	9.1 U	8 U	330 U	9.9 U	9.1 U	330 U	--	11 U	9.1 U	330 U	7.8 U	9.5 U	8.5 U	330 U
1,2,4-Trimethylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,3-Dichlorobenzene	ug/kg	330 U	9.1 U	8 U	330 U	9.9 U	9.1 U	330 U	--	11 U	9.1 U	330 U	7.8 U	9.5 U	8.5 U	330 U
1,3-Dichloropropane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,3,5-Trimethylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
1,4-Dichlorobenzene	ug/kg	330 U	9.1 U	8 U	330 U	9.9 U	9.1 U	330 U	--	11 U	9.1 U	330 U	7.8 U	9.5 U	8.5 U	330 U
1,4-Dioxane	ug/kg	330 U	--	--	330 U	--	--	330 U	--	--	--	330 U	--	--	--	330 U
2-Chlorotoluene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
2-Hexanone	ug/kg	--	91 U	80 U	--	99 U	91 U	--	--	110 U	91 U	--	78 U	--	--	--
2,2-Dichloropropane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
2,4,5-Trichlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	--	330 U	330 U	340 U	340 U	330 U
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
4-Isopropyltoluene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Acetone	ug/kg	--	91 U	80 U	--	99 U	91 U	--	--	110 U	91 U	--	78 U	95 U	85 U	--
Acrolein	ug/kg	--	180 U	160 U	--	200 U	180 U	--	--	220 U	180 U	--	160 U	190 U	170 U	--
Acrylonitrile	ug/kg	--	91 U	80 U	--	99 U	91 U	--	--	110 U	91 U	--	78 U	95 U	85 U	--
Benzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
Bromobenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Bromochloromethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Bromodichloromethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Bromoform	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Bromomethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Carbon disulfide	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Carbon tetrachloride	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Chloro methane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Chlorobenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Chloroethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Chloroform	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
cis-1,2-Dichloroethene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
cis-1,3-Dichloropropene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Cyclohexane	ug/kg	--	9.4 U	8.4 U	--	10 U	9.5 U	--	8.9 U	12 U	--	--	8.6 U	--	--	--
Dibromochloromethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS14	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS2	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS3	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS6	AOC13-PITOS7
	SAMPLE	AOC26-Pit5-0001	AOC26-Pit5-0002	AOC26-Pit5-0003	AOC13-Pit2-0001	AOC13-Pit2-0002	AOC13-Pit2-0003	AOC13-Pit3-0001	AOC13-Pit3-0002	AOC13-Pit3-0003	AOC13-Pit3-1002	AOC13-Pit6-0001	AOC13-Pit6-0002	AOC13-Pit6-0003	AOC13-Pit6-0004	AOC13-Pit7-0001
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011
SAMPLE TOP DEPTH (FT)		0	2	4	0	2	4	0	2	6	2	0	2	5	7	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	4.5	0.5	3	4.5	0.5	3	6.5	3	0.5	3	6	7.5	0.5
	SAMPLE TYPE										Field Duplicate					
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Dichlorodifluoromethane	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Ethyl- benzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Hexachlorobutadiene	ug/kg	660 U	9.1 U	8 U	660 U	9.9 U	9.1 U	660 U	--	11 U	9.1 U	660 U	7.8 U	9.5 U	8.5 U	660 U
Hexachlorocyclopentadiene	ug/kg	660 U	--	--	660 U	--	--	660 U	--	--	--	660 UJ	--	--	--	660 U
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 UJ	330 U	330 U	330 UJ	330 U	330 U	330 UJ	330 U	340 U	--	330 U	330 U	340 U	340 U	330 UJ
Isopropylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Methyl acetate	ug/kg	--	9.4 U	8.4 U	ug/kg	--	10 U	9.5 U	--	8.9 U	12 U	--	8.6 U	--	--	--
Methyl ethyl ketone	ug/kg	--	91 U	80 U	--	99 U	91 U	--	--	110 U	91 U	--	78 U	95 U	85 U	--
Methyl isobutyl ketone	ug/kg	--	91 U	80 U	--	99 U	91 U	--	--	110 U	91 U	--	78 U	95 U	85 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Methylcyclohexane	ug/kg	--	9.4 U	8.4 U	ug/kg	--	10 U	9.5 U	--	8.9 U	12 U	--	8.6 U	--	--	--
Methylene chloride	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
N-Butylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
N-Propylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Nitrobenzene	ug/kg	330 U	330 U	330 U	330 U	330 U	330 U	330 U	330 U	340 U	--	330 U	330 U	340 U	340 U	330 U
p-Chlorotoluene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
sec-Butylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Styrene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
tert-Butylbenzene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Tetrachloroethene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Toluene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
trans-1,2-Dichloroethene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
trans-1,3-Dichloropropene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Trichloroethene	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Vinyl chloride	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Xylene, m,p-	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Xylene, o-	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--
Xylenes, total	ug/kg	--	9.1 U	8 U	--	9.9 U	9.1 U	--	--	11 U	9.1 U	--	7.8 U	9.5 U	8.5 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC15-1	AOC15-1	AOC15-1
	SAMPLE	AOC13-Pit7-0002	AOC13-Pit7-0003	AOC13-Pit7-0004	AOC13-Pit7-1002	AOC13-Pit8-0001	AOC13-Pit8-0003	AOC13-Pit8-0004	AOC13-Pit8-0005	AOC13-Pit9-0001	AOC13-Pit9-0002	AOC13-Pit9-0003	AOC13-Pit9-1003	AOC15-1-18000	AOC15-1-18001	AOC15-1-18018
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	1/22/2016	1/22/2016	1/19/2017
SAMPLE TOP DEPTH (FT)		2	5	8	2	0	5	9	11	0	2	5	5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
	SAMPLE TYPE				Field Duplicate								Field Duplicate			
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	9.5	9.2	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2.2 U	2.2 U	2.1 U
Arsenic	mg/kg	2.5	1.8	2.1	--	2.8	2.7	1.8	2	2.7	2.3	2.6	--	5.3	4.1	2.6
Barium	mg/kg	--	96	110	95	130	140	110	130	130	110	110	--	140	210	58
Beryllium	mg/kg	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1.1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.4 U	0.4 U	0.4 U	--	0.73	0.41 U	0.4 U	0.4 U	0.4 U	0.41 U	0.4 U	--	43	3.4	1.1
Chromium, total	mg/kg	--	12	15	13	22	14	14	19	23	20	18	--	590	38	33
Cobalt	mg/kg	--	8.6	6.8	8.5	6.5	7.5	9.3	9	5.7	7.7	--	7.7 J	5.9	6.7	5.6
Copper	mg/kg	12	12	11	--	12	11	13	13	11	8.9	--	8.6	17	11	7.2
Lead	mg/kg	4.1	3.3	5.9	--	14	4.6	4	5.4	6.4	5.5	--	4.8	33	2.6	1.7
Mercury	mg/kg	0.099 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.099 U	0.1 U	0.1 U	--	0.11 U	0.11 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	900	190	83
Nickel	mg/kg	19	20	15	--	12	15	21	16	12	11	10	--	14	16	16
Selenium	mg/kg	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1.1 U	1 UJ
Silver	mg/kg	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1.1 U	1.1 U	1 U
Thallium	mg/kg	2 U	2 U	2 U	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2.2 U	2.2 U	2.1 U
Vanadium	mg/kg	--	38	32	38	36	37	43	40	31	30	28	--	23	26	23
Zinc	mg/kg	--	24	26	26	38	27	27	32	37	31	28	--	53	30	19
Metals CLP																
Aluminum	mg/kg	--	--	--	--	12000 J	--	--	--	10000	--	--	--	--	--	6100
Calcium	mg/kg	--	--	--	--	26000	--	--	--	22000	--	--	--	--	--	20000
Cyanide	mg/kg	--	--	--	--	0.38	--	--	--	1	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	19000	--	--	--	17000	--	--	--	--	--	13000
Magnesium	mg/kg	--	--	--	--	6100	--	--	--	5400	--	--	--	--	--	5900
Manganese	mg/kg	--	--	--	--	280	--	--	--	260	--	--	--	--	--	160

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC15-1	AOC15-1	AOC15-1
	SAMPLE	AOC13-Pit7-0002	AOC13-Pit7-0003	AOC13-Pit7-0004	AOC13-Pit7-1002	AOC13-Pit8-0001	AOC13-Pit8-0003	AOC13-Pit8-0004	AOC13-Pit8-0005	AOC13-Pit9-0001	AOC13-Pit9-0002	AOC13-Pit9-0003	AOC13-Pit9-1003	AOC15-1-18000	AOC15-1-18001	AOC15-1-18018
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	1/22/2016	1/22/2016	1/19/2017
SAMPLE TOP DEPTH (FT)		2	5	8	2	0	5	9	11	0	2	5	5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
	SAMPLE TYPE				Field Duplicate								Field Duplicate			
ANALYTE		UNITS														
Potassium	mg/kg	--	--	--	--	1800	--	--	--	1600	--	--	--	--	--	1500 J
Sodium	mg/kg	--	--	--	--	180	--	--	--	10 U	--	--	--	--	--	660 J
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
4,4-DDE	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
4,4-DDT	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Aldrin	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
alpha-BHC	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
alpha-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
beta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
delta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
Dieldrin	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Endo sulfan I	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
Endo sulfan II	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Endosulfan sulfate	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Endrin	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Endrin aldehyde	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
Endrin ketone	ug/kg	--	--	--	--	2 U	--	--	--	2 U	--	--	--	--	--	2.1 U
gamma-BHC	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
gamma-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
Heptachlor	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
Heptachlor Epoxide	ug/kg	--	--	--	--	1 U	--	--	--	1 U	--	--	--	--	--	1 U
Methoxy chlor	ug/kg	--	--	--	--	5 U	--	--	--	5 U	--	--	--	--	--	5.2 U
Toxaphene	ug/kg	--	--	--	--	50 U	--	--	--	50 U	--	--	--	--	--	52 UJ
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 R	18 R	--
Aroclor 1221	ug/kg	33 U	33 U	33 U	--	33 U	34 U	33 U	33 U	33 U	33 U	33 U	--	35 R	36 R	--
Aroclor 1232	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 R	18 R	--
Aroclor 1242	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 R	18 R	--
Aroclor 1248	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 R	18 R	--
Aroclor 1254	ug/kg	17 U	17 U	17 U	--	24	17 U	17 U	17 U	17 U	36	--	28	17 R	18 R	--
Aroclor 1260	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	17 R	18 R	--
Aroclor 1262	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--
Aroclor 1268	ug/kg	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	34 U	--	49.5	34 U	34 U	34 U	34 U	61.5	--	53.5	34 R	36 R	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	--
2-Methyl naphthalene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Acenaphthene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Acenaphthylene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Anthracene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
B(a)P Equivalent	ug/kg	11	5.8 U	45	--	41	5.9 U	5.8 U	5.9 U	9.9	20	12	--	35 JH	6.4 R	390 U
Benzo (a) anthracene	ug/kg	6.7	5 U	29	--	16	5.1 U	5 U	5.1 U	6.3 J	12	8.4	--	58 J	5.5 R	340 U
Benzo (a) pyrene	ug/kg	6	5 U	32	--	22	5.1 U	5 U	5.1 U	5.3 J	13	7.1	--	26 R	5.5 R	340 U
Benzo (b) fluoranthene	ug/kg	11	5 U	57	--	130	5.1 U	5 U	5.1 U	12 J	22	11	--	26 R	5.5 R	340 U
Benzo (ghi) perylene	ug/kg	--	5 U	16	7	19	5.1 U	5 U	5.1 U	5 U	8.1	--	6	26 R	5.5 R	340 U
Benzo (k) fluoranthene	ug/kg	5	5 U	20	--	27	5.1 U	5 U	5.1 U	5 U	9.5	--	5.4	26 R	5.5 R	340 U
Chrysene	ug/kg	5 UJ	5 UJ	29	--	41	5.1 U	5 U	5.1 U	5 UJ	6.1 J	5 UJ	--	26 R	5.5 R	340 U
Dibenzo (a,h) anthracene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Fluoranthene	ug/kg	--	5 U	60	13	30	5.1 U	5 U	5.1 U	8 J	22	11	--	26 R	5.5 R	340 U
Fluorene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	5 U	16	5.4	20	5.1 U	5 U	5.1 U	5 U	7.4	5 U	--	26 R	5.5 R	340 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC15-1	AOC15-1	AOC15-1
	SAMPLE	AOC13-Pit7-0002	AOC13-Pit7-0003	AOC13-Pit7-0004	AOC13-Pit7-1002	AOC13-Pit8-0001	AOC13-Pit8-0003	AOC13-Pit8-0004	AOC13-Pit8-0005	AOC13-Pit9-0001	AOC13-Pit9-0002	AOC13-Pit9-0003	AOC13-Pit9-1003	AOC15-1-18000	AOC15-1-18001	AOC15-1-18018
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	1/22/2016	1/22/2016	1/19/2017
SAMPLE TOP DEPTH (FT)		2	5	8	2	0	5	9	11	0	2	5	5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
	SAMPLE TYPE				Field Duplicate								Field Duplicate			
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5 U	5 U	--	5 U	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
PAH High molecular weight	ug/kg	--	0	311	60.4	333	0	0	0	38.9	120	--	55.2	58	0 R	0
PAH Low molecular weight	ug/kg	0	0	20	--	6.7	0	0	0	0	0	0	--	0	0 R	0
Phenanthrene	ug/kg	5 U	5 U	20	--	6.7	5.1 U	5 U	5.1 U	5 U	5.1 U	5 U	--	26 R	5.5 R	340 U
Pyrene	ug/kg	--	5 U	52	13	28	5.1 U	5 U	5.1 U	7.3 J	20	10	--	26 R	5.5 R	340 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	700 UJ	--	--	--	700 UJ	--	--	--	--	--	730 U
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	700 UJ	--	--	--	700 UJ	--	--	--	--	--	730 U
2-Chloro naphthalene	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
2-Chlorophenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
2-Methylphenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 U
2-Nitrophenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	700 UJ	--	--	--	700 U	--	--	--	--	--	730 UJ
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 UJ
2,4-Dimethylphenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	--	--	1700 UJ
2,4-Dinitrotoluene	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
2,6-Dinitrotoluene	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 U
3,3'-Dichlorobenzidene	ug/kg	660 U	670 U	660 U	--	660 U	670 U	660 U	670 U	660 U	670 U	--	660 U	--	--	690 U
4-Bromophenyl phenyl ether	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
4-Chloro-3-methylphenol	ug/kg	660 U	670 U	660 U	--	660 U	670 U	670 U	670 U	660 U	670 U	--	660 U	--	--	690 UJ
4-Chloroaniline	ug/kg	660 U	670 U	660 U	--	660 U	670 U	670 U	670 U	660 U	670 U	--	660 U	--	--	690 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
4-Methylphenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	--	--	1700 UJ
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 UJ
Acetophenone	ug/kg	--	--	--	--	700 UJ	--	--	--	700 UJ	--	--	--	--	--	730 U
Atrazine	ug/kg	--	--	--	--	700 U	--	--	--	700 U	--	--	--	--	--	730 U
Benzaldehyde	ug/kg	--	--	--	--	700 UJ	--	--	--	700 UJ	--	--	--	--	--	730 U
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 U	1700 U	--	--	--	1700 U
Benzyl alcohol	ug/kg	660 U	670 U	660 U	--	660 U	670 U	670 U	670 U	660 UJ	670 U	--	660 U	--	--	690 UJ
bis (2-chloroethoxy) methane	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Butylbenzylphthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Caprolactam	ug/kg	--	--	--	--	330 U	--	--	--	330 U	--	--	--	--	--	340 U
Carbazole	ug/kg	--	--	--	--	330 U	--	--	--	330 U	--	--	--	--	--	340 U
Di-n-butyl phthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Di-n-octyl phthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Dibenzofuran	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Diethyl phthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Dimethyl phthalate	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Hexachlorobenzene	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Hexachloroethane	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
N-nitrosodiphenylamine	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	--	--	1700 UJ
Phenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	10 U	43	10	11	10 U	10 U	42	10 U	10 U	10 U	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC15-1	AOC15-1	AOC15-1
	SAMPLE	AOC13-Pit7-0002	AOC13-Pit7-0003	AOC13-Pit7-0004	AOC13-Pit7-1002	AOC13-Pit8-0001	AOC13-Pit8-0003	AOC13-Pit8-0004	AOC13-Pit8-0005	AOC13-Pit9-0001	AOC13-Pit9-0002	AOC13-Pit9-0003	AOC13-Pit9-1003	AOC15-1-18000	AOC15-1-18001	AOC15-1-18018
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	1/22/2016	1/22/2016	1/19/2017
SAMPLE TOP DEPTH (FT)		2	5	8	2	0	5	9	11	0	2	5	5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
	SAMPLE TYPE				Field Duplicate								Field Duplicate			
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1.7 U	1.8 U	1.6 U	--	--	1.6 U	1.6 U	2 U	--	1.8 U	--	1.9 U	--	--
TPH as motor oil		mg/kg	--	10 U	120	22	31	17	10 U	93	32	33	38	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1-Dichloroethene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1-Dichloropropene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1,1-Trichloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1,2-Trichloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2-Dibromoethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2-Dichlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	330 U		10 U	8.7 U	8 U	330 U	9.3 U	--	9 U	--	340 U
1,2-Dichloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2-Dichloropropane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2,3-Trichlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2,3-Trichloropropane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,2,4-Trichlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	330 U		10 U	8.7 U	8 U	330 U	9.3 U	--	9 U	--	340 U
1,2,4-Trimethylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,3-Dichlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	330 U		10 U	8.7 U	8 U	330 U	9.3 U	--	9 U	--	340 U
1,3-Dichloropropane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,3,5-Trimethylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
1,4-Dichlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	330 U		10 U	8.7 U	8 U	330 U	9.3 U	--	9 U	--	340 U
1,4-Dioxane	ug/kg	--	--	--	--	330 U	--	--	--	--	330 U	--	--	--	--	340 U
2-Chlorotoluene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
2-Hexanone	ug/kg	84 U	80 U	78 U	--	--		--	--	--	--	93 U	--	90 U	--	--
2,2-Dichloropropane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
2,4,5-Trichlorophenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
2,4,6-Trichlorophenol	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 UJ
4-Isopropyltoluene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Acetone	ug/kg	84 U	80 U	78 U	--	--		100 U	87 U	80 U	--	93 U	--	90 U	--	--
Acrolein	ug/kg	170 U	160 U	160 U	--	--		210 U	170 U	160 U	--	190 U	--	180 U	--	--
Acrylonitrile	ug/kg	84 U	80 U	78 U	--	--		100 U	87 U	80 U	--	93 U	--	90 U	--	--
Benzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
bis (2-chloroethyl) ether	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 U	330 U	330 U	--	--	--	340 U
Bromobenzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Bromochloromethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Bromodichloromethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Bromoform	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Bromomethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Carbon disulfide	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Carbon tetrachloride	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Chloro methane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Chlorobenzene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Chloroethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Chloroform	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
cis-1,2-Dichloroethene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
cis-1,3-Dichloropropene	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--
Cyclohexane	ug/kg	8.3 U	8.3 U	7.6 U	--	--		--	--	--	--	8.6 U	--	9.6 U	--	--
Dibromochloromethane	ug/kg	8.4 U	8 U	7.8 U	--	--		10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS7	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS8	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC13-PITOS9	AOC15-1	AOC15-1	AOC15-1
	SAMPLE	AOC13-Pit7-0002	AOC13-Pit7-0003	AOC13-Pit7-0004	AOC13-Pit7-1002	AOC13-Pit8-0001	AOC13-Pit8-0003	AOC13-Pit8-0004	AOC13-Pit8-0005	AOC13-Pit9-0001	AOC13-Pit9-0002	AOC13-Pit9-0003	AOC13-Pit9-1003	AOC15-1-18000	AOC15-1-18001	AOC15-1-18018
	DATE	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	7/26/2011	1/22/2016	1/22/2016	1/19/2017
SAMPLE TOP DEPTH (FT)		2	5	8	2	0	5	9	11	0	2	5	5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	8.5	3	0.5	6	10	11.5	0.5	3	6	6	0.5	3	6
	SAMPLE TYPE				Field Duplicate								Field Duplicate			
ANALYTE	UNITS															
Dibromomethane	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Dichlorodifluoromethane	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Ethyl- benzene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Hexachlorobutadiene	ug/kg	8.4 U	8 U	7.8 U	--	660 U	10 U	8.7 U	8 U	660 U	9.3 U	--	9 U	--	--	690 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	660 UJ	--	--	--	660 U	--	--	--	--	--	690 U
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	330 U	330 U	--	330 U	340 U	330 U	330 U	330 UJ	330 U	330 U	--	--	--	340 U
Isopropylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Methyl acetate	ug/kg	8.3 U	8.3 U	7.6 U	ug/kg	--	--	--	--	--	8.6 U	--	9.6 U	--	--	--
Methyl ethyl ketone	ug/kg	84 U	80 U	78 U	--	--	100 U	87 U	80 U	--	93 U	--	90 U	--	--	--
Methyl isobutyl ketone	ug/kg	84 U	80 U	78 U	--	--	100 U	87 U	80 U	--	93 U	--	90 U	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Methylcyclohexane	ug/kg	8.3 U	8.3 U	7.6 U	ug/kg	--	--	--	--	--	8.6 U	--	9.6 U	--	--	--
Methylene chloride	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
N-Butylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
N-Propylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Nitrobenzene	ug/kg	330 U	330 U	330 U	ug/kg	--	330 U	340 U	330 U	330 U	330 U	330 U	--	--	--	340 U
p-Chlorotoluene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
sec-Butylbenzene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Styrene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
tert-Butylbenzene	ug/kg	8.4 U	8 U	7.8 U	ug/kg	--	8 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Tetrachloroethene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Toluene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	8.4 U	8 U	7.8 U	ug/kg	--	8 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Trichloroethene	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Vinyl chloride	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Xylene, m,p-	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Xylene, o-	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--
Xylenes, total	ug/kg	8.4 U	8 U	7.8 U	--	--	10 U	8.7 U	8 U	--	9.3 U	--	9 U	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-1	AOC15-1	AOC15-2	AOC15-2	AOC15-3	AOC15-3	AOC15-3	AOC15-4	AOC15-4	AOC15-5	AOC15-5	AOC15-5	AOC15-6	AOC15-6	AOC15-6
	SAMPLE	AOC15-1-18019	AOC15-1-18020	AOC15-2-18002	AOC15-2-18003	AOC15-3-18004	AOC15-3-18005	AOC15-3-18006	AOC15-4-18007	AOC15-4-18008	AOC15-5-18010	AOC15-5-18011	AOC15-5-18009	AOC15-6-18012	AOC15-6-18014	AOC15-6-18013
	DATE	1/20/2017	1/20/2017	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016
SAMPLE TOP DEPTH (FT)		9	14	0	2	0	2	2	0	2	0	2	0	0	2	0
SAMPLE BOTTOM DEPTH (FT)		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
	SAMPLE TYPE							Field Duplicate			Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	9.9	9.9	8.5	9.5	--	9.5	9.8	9.1	10	--	9.3	9.7	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2.1 U	2.2 U	2 U	2.1 U	--	2.1 U	2.2 U	--	2.1 U	2.1 U	2 U	2.1 U	--
Arsenic	mg/kg	2.5	2.6	5	3.5	4.1	3.6	--	6.9	4.9	--	3.2	3.9	3.7	3.3	--
Barium	mg/kg	52	76	100	95	170	99 J	--	140	110	--	97	150	97	91	--
Beryllium	mg/kg	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--
Cadmium	mg/kg	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--
Chromium, Hexavalent	mg/kg	1.3	1.1	80	4.2	8.4	--	0.34	4.2	1.5	19	1.3	--	--	0.33	5.6 J
Chromium, total	mg/kg	14	26	950	64	100	8.2 J	--	220	70	530	28	--	--	11	22 J
Cobalt	mg/kg	1.2	2.1	6	6.2	3.1	--	3	6.3	9	7.7	4.1	--	3	2.5	--
Copper	mg/kg	2 U	2.9	28	25	42	--	5.1	33	16	23 J	7.2	--	--	5	9.4
Lead	mg/kg	1.5	2.7	67	7.3	280	--	2.8	42	5.1	--	2.8	35 J	--	4.5	48 J
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.11 U	0.1 U	0.1 U	--	0.11 U	0.11 U	--	0.1 U	0.11 U	0.1 U	0.11 U	--
Molybdenum	mg/kg	4.5	65	780	22	22	1 U	--	84	34	--	7.9	500 J	--	1.1 U	4
Nickel	mg/kg	1.7	3.4	15	15	7.6	--	7 J	17	26	--	9.6	20	5.1	4.5	--
Selenium	mg/kg	1 UJ	1 UJ	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--
Silver	mg/kg	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1.1 U	--	1.1 U	1 U	1 U	1.1 U	--
Thallium	mg/kg	2 U	2 U	2.1 U	2.2 U	2 U	2.1 U	--	2.1 U	2.2 U	--	2.1 U	2.1 U	2 U	2.1 U	--
Vanadium	mg/kg	8.1	12	22	24	13	--	15	34	37	--	21	33	15	14	--
Zinc	mg/kg	6.7	12	59	32	120	14	--	51	37	56	18	--	--	14	25
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3700 J	3600	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	22000 J	21000	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.21 U	0.21 U	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	7300	6500	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	3500	3500	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	140	120	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-1	AOC15-1	AOC15-2	AOC15-2	AOC15-3	AOC15-3	AOC15-3	AOC15-4	AOC15-4	AOC15-5	AOC15-5	AOC15-5	AOC15-6	AOC15-6	AOC15-6
	SAMPLE	AOC15-1-18019	AOC15-1-18020	AOC15-2-18002	AOC15-2-18003	AOC15-3-18004	AOC15-3-18005	AOC15-3-18006	AOC15-4-18007	AOC15-4-18008	AOC15-5-18010	AOC15-5-18011	AOC15-5-18009	AOC15-6-18012	AOC15-6-18014	AOC15-6-18013
	DATE	1/20/2017	1/20/2017	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016
SAMPLE TOP DEPTH (FT)		9	14	0	2	0	2	2	0	2	0	2	0	0	2	0
SAMPLE BOTTOM DEPTH (FT)		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
	SAMPLE TYPE							Field Duplicate			Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	810 J	750	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	230	260	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	34 U	35 U	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	17 U	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	34 U	34 U	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6.1 U	55
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	32
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	40
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	71 J
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	14
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	22
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	39
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	65
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	14

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-1	AOC15-1	AOC15-2	AOC15-2	AOC15-3	AOC15-3	AOC15-3	AOC15-4	AOC15-4	AOC15-5	AOC15-5	AOC15-5	AOC15-6	AOC15-6	AOC15-6
	SAMPLE	AOC15-1-18019	AOC15-1-18020	AOC15-2-18002	AOC15-2-18003	AOC15-3-18004	AOC15-3-18005	AOC15-3-18006	AOC15-4-18007	AOC15-4-18008	AOC15-5-18010	AOC15-5-18011	AOC15-5-18009	AOC15-6-18012	AOC15-6-18014	AOC15-6-18013
	DATE	1/20/2017	1/20/2017	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016
SAMPLE TOP DEPTH (FT)		9	14	0	2	0	2	2	0	2	0	2	0	0	2	0
SAMPLE BOTTOM DEPTH (FT)		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
	SAMPLE TYPE							Field Duplicate			Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	5.1 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0	361
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0	21
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	21
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	64
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	720 U	740 U	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 U	1700 U	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-1	AOC15-1	AOC15-2	AOC15-2	AOC15-3	AOC15-3	AOC15-3	AOC15-4	AOC15-4	AOC15-5	AOC15-5	AOC15-5	AOC15-6	AOC15-6	AOC15-6
	SAMPLE	AOC15-1-18019	AOC15-1-18020	AOC15-2-18002	AOC15-2-18003	AOC15-3-18004	AOC15-3-18005	AOC15-3-18006	AOC15-4-18007	AOC15-4-18008	AOC15-5-18010	AOC15-5-18011	AOC15-5-18009	AOC15-6-18012	AOC15-6-18014	AOC15-6-18013
	DATE	1/20/2017	1/20/2017	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016
SAMPLE TOP DEPTH (FT)		9	14	0	2	0	2	2	0	2	0	2	0	0	2	0
SAMPLE BOTTOM DEPTH (FT)		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
	SAMPLE TYPE							Field Duplicate			Field Duplicate					Field Duplicate
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-1	AOC15-1	AOC15-2	AOC15-2	AOC15-3	AOC15-3	AOC15-3	AOC15-4	AOC15-4	AOC15-5	AOC15-5	AOC15-5	AOC15-6	AOC15-6	AOC15-6
	SAMPLE	AOC15-1-18019	AOC15-1-18020	AOC15-2-18002	AOC15-2-18003	AOC15-3-18004	AOC15-3-18005	AOC15-3-18006	AOC15-4-18007	AOC15-4-18008	AOC15-5-18010	AOC15-5-18011	AOC15-5-18009	AOC15-6-18012	AOC15-6-18014	AOC15-6-18013
	DATE	1/20/2017	1/20/2017	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016	1/22/2016
SAMPLE TOP DEPTH (FT)		9	14	0	2	0	2	2	0	2	0	2	0	0	2	0
SAMPLE BOTTOM DEPTH (FT)		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	0.5	3	0.5	3	3	0.5	3	0.5	3	0.5	0.5	3	0.5
	SAMPLE TYPE							Field Duplicate			Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	680 U	700 U	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 U	350 U	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-7	AOC15-7	AOC15-7	AOC15-OS1	AOC15-OS1	AOC15-OS2	AOC15-OS2	AOC15-OS5	AOC15-OS5	AOC16-1	AOC16-1	AOC16-2	AOC16-2	AOC16-3	AOC16-3
	SAMPLE	AOC15-7-18015	AOC15-7-18017	AOC15-7-18016	AOC15-1-D1	AOC15-1-D2	AOC15-2-D1	AOC15-2-D2	AOC15-5-D1	AOC15-5-D2	AOC16-1-19000	AOC16-1-19001	AOC16-2-19002	AOC16-2-19003	AOC16-3-19004	AOC16-3-19005
	DATE	1/22/2016	1/22/2016	1/22/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	0	2	0	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	9.2	9.4	--	9.9	9.7	9.8	9.5	10	9.9	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 UJ	2.1 U	--	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U
Arsenic	mg/kg	--	2.9	4	3.4	3.7	3.7	3.3	3.4	4.1	4.5	3.4	3	3.3	3.4	3.7
Barium	mg/kg	69 J	52	--	120	140	93	130	72	170	57	130	94	240	85 J	130
Beryllium	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Cadmium	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Chromium, Hexavalent	mg/kg	--	0.21 U	2.3 J	69	23	170	34	22	13	--	--	--	--	--	--
Chromium, total	mg/kg	9.1 J	5.4	--	1700	480	1600	430	100	110	12	17	22	29	15	22
Cobalt	mg/kg	--	2	3	4.8	6.3	4.7	5	3.3	7.4	5.3	6.1	6.8	9.3	5.5	6.4
Copper	mg/kg	6.2 J	3	--	41	20	24	19	21	16	13	21	31	21	98	16
Lead	mg/kg	--	2.2	87 J	200	33	52	220	47	12	4.2	5	8.1	3.3	6.5	6.6
Mercury	mg/kg	0.1 U	0.11 U	--	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.12	0.17	0.1	0.16	0.12	0.22
Molybdenum	mg/kg	--	1 U	9.9 J	1300	450	1000	350	590	76	1 U	1 U	2.1	1.1 U	3.6	1.1 U
Nickel	mg/kg	--	3.8	7	15	17	14	14	8	19	12	13	16	25	13	14
Selenium	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Silver	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	--	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U
Vanadium	mg/kg	--	11	15	26	33	24	27	24	33	19	25	22	37	17	26
Zinc	mg/kg	--	9.9	48 J	100	49	65	46	37	35	21	32	62	31	38	45
Metals CLP																
Aluminum	mg/kg	--	2200	3900	--	--	--	--	--	--	5800	7200	--	--	--	--
Calcium	mg/kg	--	17000	19000	--	--	--	--	--	--	9800	20000	--	--	--	--
Cyanide	mg/kg	0.21 U	0.21 U	--	--	--	--	--	--	--	0.21 UJ	0.21 UJ	--	--	--	--
Iron	mg/kg	--	5100	7600	--	--	--	--	--	--	11000	14000	--	--	--	--
Magnesium	mg/kg	--	2900	3600	--	--	--	--	--	--	4800	6300	--	--	--	--
Manganese	mg/kg	--	110	130	--	--	--	--	--	--	150	220	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-7	AOC15-7	AOC15-7	AOC15-OS1	AOC15-OS1	AOC15-OS2	AOC15-OS2	AOC15-OS5	AOC15-OS5	AOC16-1	AOC16-1	AOC16-2	AOC16-2	AOC16-3	AOC16-3
	SAMPLE	AOC15-7-18015	AOC15-7-18017	AOC15-7-18016	AOC15-1-D1	AOC15-1-D2	AOC15-2-D1	AOC15-2-D2	AOC15-5-D1	AOC15-5-D2	AOC16-1-19000	AOC16-1-19001	AOC16-2-19002	AOC16-2-19003	AOC16-3-19004	AOC16-3-19005
	DATE	1/22/2016	1/22/2016	1/22/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	0	2	0	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Potassium	mg/kg	--	440	720	--	--	--	--	--	--	1200 J	1800	--	--	--	--
Sodium	mg/kg	--	150	160	--	--	--	--	--	--	120 J	350	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	34 U	34 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	17 U	39	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	34 U	64.5	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	37	6 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	18	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	26	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	49	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	13	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	5.2 U	17	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	24	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	35	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	13	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-7	AOC15-7	AOC15-7	AOC15-OS1	AOC15-OS1	AOC15-OS2	AOC15-OS2	AOC15-OS5	AOC15-OS5	AOC16-1	AOC16-1	AOC16-2	AOC16-2	AOC16-3	AOC16-3
	SAMPLE	AOC15-7-18015	AOC15-7-18017	AOC15-7-18016	AOC15-1-D1	AOC15-1-D2	AOC15-2-D1	AOC15-2-D2	AOC15-5-D1	AOC15-5-D2	AOC16-1-19000	AOC16-1-19001	AOC16-2-19002	AOC16-2-19003	AOC16-3-19004	AOC16-3-19005
	DATE	1/22/2016	1/22/2016	1/22/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	0	2	0	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	228	0	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	10	0	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	5.2 U	9	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	36	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	720 U	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-7	AOC15-7	AOC15-7	AOC15-OS1	AOC15-OS1	AOC15-OS2	AOC15-OS2	AOC15-OS5	AOC15-OS5	AOC16-1	AOC16-1	AOC16-2	AOC16-2	AOC16-3	AOC16-3
	SAMPLE	AOC15-7-18015	AOC15-7-18017	AOC15-7-18016	AOC15-1-D1	AOC15-1-D2	AOC15-2-D1	AOC15-2-D2	AOC15-5-D1	AOC15-5-D2	AOC16-1-19000	AOC16-1-19001	AOC16-2-19002	AOC16-2-19003	AOC16-3-19004	AOC16-3-19005
	DATE	1/22/2016	1/22/2016	1/22/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	0	2	0	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC15-7	AOC15-7	AOC15-7	AOC15-OS1	AOC15-OS1	AOC15-OS2	AOC15-OS2	AOC15-OS5	AOC15-OS5	AOC16-1	AOC16-1	AOC16-2	AOC16-2	AOC16-3	AOC16-3
	SAMPLE	AOC15-7-18015	AOC15-7-18017	AOC15-7-18016	AOC15-1-D1	AOC15-1-D2	AOC15-2-D1	AOC15-2-D2	AOC15-5-D1	AOC15-5-D2	AOC16-1-19000	AOC16-1-19001	AOC16-2-19002	AOC16-2-19003	AOC16-3-19004	AOC16-3-19005
	DATE	1/22/2016	1/22/2016	1/22/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	0	2	0	2	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	680 U	690 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	340 U	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC16-4	AOC16-5	AOC16-5	AOC16-5	AOC16-grit	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-2	AOC17-2	AOC17-2	AOC17-2	AOC17-3
	SAMPLE	AOC16-4-19006	AOC16-5-19008	AOC16-5-19010	AOC16-5-19009	AOC16-grit-19007	AOC17-1-20000	AOC17-1-20002	AOC17-1-20003	AOC17-1-20022	AOC17-1-20001	AOC17-2-20004	AOC17-2-20005	AOC17-2-20006	AOC17-2-20007	AOC17-3-20008
	DATE	1/11/2016	2/20/2017	2/20/2017	2/20/2017	1/5/2017	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	0	2	0	0	0	2	5	9	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	0.5	0.5	1	3	6	10	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	0.5	0.5	0.5	3	6	10	0.5	0.5	3	6	10	0.5
	SAMPLE TYPE					Field Duplicate					Field Duplicate					
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	820 J	7.9 U	--	--	--	--	--	--	--	120	15	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	54	0.57 U	--	--	--	--	--	--	--	28	6.5 J	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	3.8 J	0.069 U	--	--	--	--	--	--	--	1.5 U	0.86 U	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	9 J	0.081 U	--	--	--	--	--	--	--	1.8 U	0.86 U	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	5.9 J	0.18 U	--	--	--	--	--	--	--	2.5 U	1 U	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	26	0.34 U	--	--	--	--	--	--	--	4.2 J	1.3 U	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	3.1 U	0.078 U	--	--	--	--	--	--	--	1.7 U	1.1 U	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	0.065 U	1.3 U	--	--	--	--	--	--	0.27 U	1 J	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	0.23 U	0.047 U	--	--	--	--	--	--	--	1.2 U	0.86 J	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	8.4 J	0.11 U	--	--	--	--	--	--	--	1.7 U	0.97 J	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	0.094 U	1.3 J	--	--	--	--	--	--	0.86 U	0.34 U	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	5.9 U	260 U	--	--	--	--	--	--	24 U	7.9 U	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	0.049 U	2.1 U	--	--	--	--	--	--	0.96 U	0.82 U	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	0.031 U	0.075 U	--	--	--	--	--	--	0.36 U	0.37 U	--	--	--
2,3,7,8-TCDF	ng/kg	--	0.16 U	0.036 U	--	--	--	--	--	--	--	0.97 U	0.34 U	--	--	--
OCDD	ng/kg	--	6800 J	66 U	--	--	--	--	--	--	--	1100	120	--	--	--
OCDF	ng/kg	--	--	0.91 U	45	--	--	--	--	--	--	52	11 J	--	--	--
TEQ Avian	ng/kg	--	26	0.42 U	--	--	--	--	--	--	--	3.5	2.6	--	--	--
TEQ Human	ng/kg	--	36	0.44 U	--	--	--	--	--	--	--	4.4	2.3	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	36	0.44 U	--	--	--	--	--	--	--	4.4	2.3	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	--	2 U	2.1 U	2.2 U	2.3 U	2.1 U	--	2.2 U	2.3 U	2.1 U	2.1 U	2.2 U
Arsenic	mg/kg	2.4	--	1.3	1.7	12	--	3.8	4.1	2.4	2.2	3.2	2.6	2.6	2.3	--
Barium	mg/kg	65	130	84	--	130	--	91	120	78	67	130	80	83	110	--
Beryllium	mg/kg	1 U	1 U	1 U	--	1 U	1.1 U	1.1 U	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U
Cadmium	mg/kg	1 U	1.4	1.1	--	2.4	1.1 U	1.1 U	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U
Chromium, Hexavalent	mg/kg	--	--	0.21 U	0.61	--	0.49	0.22 U	0.22 U	0.21 U	--	0.22 U	0.23 U	0.21 U	0.21 U	0.28
Chromium, total	mg/kg	15	28 J	13	--	38	--	16	16	7.3	20	13	16	4.3	6	16
Cobalt	mg/kg	6.1	--	7.6	8.1 J	21	5.3	5.6	6.6	2.7	--	3.9	5.3	1.6	2.1	--
Copper	mg/kg	12	18 J	28	--	1500	--	9.3	9.8	3.9	9.4	7.9	7.5	2.2	2.5	--
Lead	mg/kg	6.9	--	1.3	3.9 J	19	--	3.6	3.3	2.2	23	5.1	4.1	1.9	1.8	--
Mercury	mg/kg	0.14	--	0.1 U	0.12	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	--	0.11 U	0.11 U	0.1 U	0.1 U	0.11 U
Molybdenum	mg/kg	1 U	1 U	1 U	--	79	1.1 U	1.1 U	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U
Nickel	mg/kg	13	9.8 J	12	--	13	9.5	12	13	5.8	--	7.9	12	2.9	3.3	7.4 J
Selenium	mg/kg	1 U	1 UJ	1 UJ	--	1 UJ	1.1 U	1.1 U	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U
Silver	mg/kg	1 U	1 U	1 U	--	1 U	1.1 U	1.1 U	1.1 U	1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 UJ	2.1 UJ	--	2 UJ	2.1 U	2.2 U	2.3 U	2.1 U	--	2.2 U	2.3 U	2.1 U	2.1 U	2.2 U
Vanadium	mg/kg	21	--	22	25 J	28	26	27	31	14	--	21	24	12	14	--
Zinc	mg/kg	27	46 J	25	--	190	--	37	35	13	42	23	28	9.7	9.8	58 J
Metals CLP																
Aluminum	mg/kg	--	6900	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	19000	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	0.21 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	15000 J	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	5400	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	210	--	--	--	--	--	--	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC16-4	AOC16-5	AOC16-5	AOC16-5	AOC16-grit	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-2	AOC17-2	AOC17-2	AOC17-2	AOC17-3
	SAMPLE	AOC16-4-19006	AOC16-5-19008	AOC16-5-19010	AOC16-5-19009	AOC16-grit-19007	AOC17-1-20000	AOC17-1-20002	AOC17-1-20003	AOC17-1-20022	AOC17-1-20001	AOC17-2-20004	AOC17-2-20005	AOC17-2-20006	AOC17-2-20007	AOC17-3-20008
	DATE	1/11/2016	2/20/2017	2/20/2017	2/20/2017	1/5/2017	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	0	2	0	0	0	2	5	9	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	0.5	0.5	1	3	6	10	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	0.5	0.5	0.5	3	6	10	0.5	0.5	3	6	10	0.5
	SAMPLE TYPE					Field Duplicate					Field Duplicate					
ANALYTE		UNITS														
Potassium		mg/kg	--	2100	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	2700	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	5.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	52 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	17 U	17 U	--	17 U	17 U	--	--	--	--	19 U	19 U	--	--	19 U
Aroclor 1221	ug/kg	--	34 U	34 U	--	33 U	35 U	--	--	--	--	37 U	37 U	--	--	37 U
Aroclor 1232	ug/kg	--	17 U	17 U	--	17 U	17 U	--	--	--	--	19 U	19 U	--	--	19 U
Aroclor 1242	ug/kg	--	17 UJ	17 UJ	--	17 UJ	17 U	--	--	--	--	19 U	19 U	--	--	19 U
Aroclor 1248	ug/kg	--	17 U	17 U	--	17 UJ	17 U	--	--	--	--	19 U	19 U	--	--	19 U
Aroclor 1254	ug/kg	--	440	17 U	--	17 U	--	--	--	--	23	19 U	19 U	--	--	19 U
Aroclor 1260	ug/kg	--	17 U	17 U	--	17 U	17 U	--	--	--	--	19 U	19 U	--	--	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	466	34 U	--	34 U	--	--	--	--	50	38 U	38 U	--	--	38 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
2-Methyl naphthalene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Acenaphthene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Acenaphthylene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Anthracene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
B(a)P Equivalent	ug/kg	--	76	5.9 U	--	29	--	6.4 U	6.5 U	6 U	59	6.5 U	6.6 U	5.9 U	6 U	62
Benzo (a) anthracene	ug/kg	--	72 J	5.1 U	--	18	--	5.5 U	5.6 U	5.2 U	6.7	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Benzo (a) pyrene	ug/kg	--	52 J	5.1 U	--	19	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--
Benzo (b) fluoranthene	ug/kg	--	--	5.1 U	28 J	44	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--
Benzo (ghi) perylene	ug/kg	--	31	5.1 U	--	10	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--
Benzo (k) fluoranthene	ug/kg	--	--	5.1 U	7.9	10	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--
Chrysene	ug/kg	--	57 J	5.1 U	--	22	--	5.5 U	5.6 U	5.2 U	7.8	5.6 U	5.7 U	5.1 U	5.2 U	7.1
Dibenzo (a,h) anthracene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--
Fluoranthene	ug/kg	--	--	5.1 U	25 J	45	--	5.5 U	5.6 U	5.2 U	13	5.6 U	5.7 U	5.1 U	5.2 U	7.5
Fluorene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	5.1 U	9	10	53 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC16-4	AOC16-5	AOC16-5	AOC16-5	AOC16-grit	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-2	AOC17-2	AOC17-2	AOC17-2	AOC17-3
	SAMPLE	AOC16-4-19006	AOC16-5-19008	AOC16-5-19010	AOC16-5-19009	AOC16-grit-19007	AOC17-1-20000	AOC17-1-20002	AOC17-1-20003	AOC17-1-20022	AOC17-1-20001	AOC17-2-20004	AOC17-2-20005	AOC17-2-20006	AOC17-2-20007	AOC17-3-20008
	DATE	1/11/2016	2/20/2017	2/20/2017	2/20/2017	1/5/2017	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	0	2	0	0	0	2	5	9	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	0.5	0.5	1	3	6	10	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	0.5	0.5	0.5	3	6	10	0.5	0.5	3	6	10	0.5
	SAMPLE TYPE					Field Duplicate					Field Duplicate					
ANALYTE	UNITS															
Naphthalene	ug/kg	--	5.2 U	5.1 U	--	5.1 U	5.3 U	4.8 U	4.7 U	4.6 U	--	5.6 U	4.8 U	5.1 U	5 U	5.6 U
PAH High molecular weight	ug/kg	--	577	0	--	215	--	0	0	0	40.5	0	0	0	0	22.8
PAH Low molecular weight	ug/kg	--	29	0	--	20	0	0	0	0	--	0	0	0	0	0
Phenanthrene	ug/kg	--	--	5.1 U	5.9 J	20	5.3 U	5.5 U	5.6 U	5.2 U	--	5.6 U	5.7 U	5.1 U	5.2 U	5.6 U
Pyrene	ug/kg	--	94 J	5.1 U	--	37	--	5.5 U	5.6 U	5.2 U	13	5.6 U	5.7 U	5.1 U	5.2 U	8.2
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2-Chlorophenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2-Methylphenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2-Nitroaniline	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
2-Nitrophenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
2,4-Dimethylphenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2,4-Dinitrophenol	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
2,4-Dinitrotoluene	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2,6-Dinitrotoluene	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
3-Nitroaniline	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
3,3-Dichlorobenzidene	ug/kg	--	680 U	--	--	--	700 U	730 U	740 U	690 U	--	740 U	750 U	680 U	690 U	740 U
4-Bromophenyl phenyl ether	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
4-Chloro-3-methylphenol	ug/kg	--	680 U	--	--	--	700 U	730 U	740 U	690 U	--	740 U	750 U	680 U	690 U	740 U
4-Chloroaniline	ug/kg	--	680 U	--	--	--	700 U	730 U	740 U	690 U	--	740 U	750 U	680 U	690 U	740 U
4-Chlorophenyl phenyl ether	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
4-Methylphenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
4-Nitroaniline	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
4-Nitrophenol	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
Acetophenone	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	730 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
Benzyl alcohol	ug/kg	--	680 U	--	--	--	700 U	730 U	740 U	690 U	--	740 U	750 U	680 U	690 U	740 U
bis (2-chloroethoxy) methane	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
bis (2-ethylhexyl) phthalate	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Butylbenzylphthalate	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Caprolactam	ug/kg	--	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Di-n-octyl phthalate	ug/kg	--	340 U	--	--	--	3500 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Dibenzofuran	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Diethyl phthalate	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Dimethyl phthalate	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Hexachlorobenzene	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Hexachloroethane	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
n-Nitroso-di-n-propylamine	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
N-nitrosodiphenylamine	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Pentachlorophenol	ug/kg	--	1700 U	--	--	--	1700 U	1800 U	1900 U	1700 U	--	1900 U	1900 U	1700 U	1700 U	1900 U
Phenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	11 U	11 U	10 U	29	32	11 U	10 U	10 U	56

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC16-4	AOC16-5	AOC16-5	AOC16-5	AOC16-grit	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-2	AOC17-2	AOC17-2	AOC17-2	AOC17-3
	SAMPLE	AOC16-4-19006	AOC16-5-19008	AOC16-5-19010	AOC16-5-19009	AOC16-grit-19007	AOC17-1-20000	AOC17-1-20002	AOC17-1-20003	AOC17-1-20022	AOC17-1-20001	AOC17-2-20004	AOC17-2-20005	AOC17-2-20006	AOC17-2-20007	AOC17-3-20008
	DATE	1/11/2016	2/20/2017	2/20/2017	2/20/2017	1/5/2017	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	0	2	0	0	0	2	5	9	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	0.5	0.5	1	3	6	10	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	0.5	0.5	0.5	3	6	10	0.5	0.5	3	6	10	0.5
	SAMPLE TYPE					Field Duplicate					Field Duplicate					
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	1.1 U	1.1 U	0.99 U	--	--	1 U	1 U	1 U	--
TPH as motor oil		mg/kg	--	--	--	--	--	11 U	11 U	10 U	270	250	65	10 U	10 U	570 J
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1-Dichloroethene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1-Dichloropropene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1,1-Trichloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1,2-Trichloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2-Dibromoethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2-Dichlorobenzene	ug/kg	--	9 U	--	--	--	350 U	4.8 U	4.7 U	4.6 U	--	370 U	4.8 U	5.1 U	5 U	370 U
1,2-Dichloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2-Dichloropropane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2,3-Trichlorobenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2,3-Trichloropropane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,2,4-Trichlorobenzene	ug/kg	--	9 U	--	--	--	350 U	4.8 U	4.7 U	4.6 U	--	370 U	4.8 U	5.1 U	5 U	370 U
1,2,4-Trimethylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,3-Dichlorobenzene	ug/kg	--	9 U	--	--	--	350 U	4.8 U	4.7 U	4.6 U	--	370 U	4.8 U	5.1 U	5 U	370 U
1,3-Dichloropropane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,3,5-Trimethylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
1,4-Dichlorobenzene	ug/kg	--	9 U	--	--	--	350 U	4.8 U	4.7 U	4.6 U	--	370 U	4.8 U	5.1 U	5 U	370 U
1,4-Dioxane	ug/kg	--	340 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
2-Hexanone	ug/kg	--	90 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
2,4,5-Trichlorophenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
2,4,6-Trichlorophenol	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
4-Isopropyltoluene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Acetone	ug/kg	--	90 U	--	--	--	--	48 U	47 U	46 U	--	--	48 U	51 U	50 U	--
Acrolein	ug/kg	--	180 U	--	--	--	--	97 U	94 U	92 U	--	--	95 U	100 U	100 U	--
Acrylonitrile	ug/kg	--	90 U	--	--	--	--	48 U	47 U	46 U	--	--	48 U	51 U	50 U	--
Benzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
bis (2-chloroethyl) ether	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
bis (2-chloroisopropyl) ether	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Bromobenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Bromochloromethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Bromodichloromethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Bromoform	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Bromomethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Carbon disulfide	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Carbon tetrachloride	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Chloro methane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Chlorobenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Chloroethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Chloroform	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
cis-1,2-Dichloroethene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
cis-1,3-Dichloropropene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Cyclohexane	ug/kg	--	9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC16-4	AOC16-5	AOC16-5	AOC16-5	AOC16-grit	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-1	AOC17-2	AOC17-2	AOC17-2	AOC17-2	AOC17-3
	SAMPLE	AOC16-4-19006	AOC16-5-19008	AOC16-5-19010	AOC16-5-19009	AOC16-grit-19007	AOC17-1-20000	AOC17-1-20002	AOC17-1-20003	AOC17-1-20022	AOC17-1-20001	AOC17-2-20004	AOC17-2-20005	AOC17-2-20006	AOC17-2-20007	AOC17-3-20008
	DATE	1/11/2016	2/20/2017	2/20/2017	2/20/2017	1/5/2017	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015
SAMPLE TOP DEPTH (FT)		0	0	2	0	0	0	2	5	9	0	0	2	5	9	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	0.5	0.5	1	3	6	10	1	1	3	6	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	0.5	0.5	0.5	3	6	10	0.5	0.5	3	6	10	0.5
	SAMPLE TYPE					Field Duplicate					Field Duplicate					
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Dichlorodifluoromethane	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Ethyl- benzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Hexachlorobutadiene	ug/kg	--	9 U	--	--	--	700 U	4.8 U	4.7 U	4.6 U	--	740 U	4.8 U	5.1 U	5 U	740 U
Hexachlorocyclopentadiene	ug/kg	--	680 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
Isopropylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Methyl acetate	ug/kg	--	9 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	90 U	--	--	--	--	48 U	47 U	46 U	--	--	48 U	51 U	50 U	--
Methyl isobutyl ketone	ug/kg	--	90 U	--	--	--	--	48 U	47 U	46 U	--	--	48 U	51 U	50 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Methylcyclohexane	ug/kg	--	9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
N-Butylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
N-Propylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Nitrobenzene	ug/kg	--	340 U	--	--	--	350 U	360 U	370 U	340 U	--	370 U	380 U	340 U	340 U	370 U
p-Chlorotoluene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
sec-Butylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Styrene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
tert-Butylbenzene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Tetrachloroethene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Toluene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
trans-1,2-Dichloroethene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
trans-1,3-Dichloropropene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Trichloroethene	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Vinyl chloride	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Xylene, m,p-	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Xylene, o-	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--
Xylenes, total	ug/kg	--	9 U	--	--	--	--	4.8 U	4.7 U	4.6 U	--	--	4.8 U	5.1 U	5 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC17-3	AOC17-3	AOC17-3	AOC17-3	AOC17-4	AOC17-4	AOC17-4	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC18-1	AOC18-1	AOC18-1
	SAMPLE	AOC17-3-20010	AOC17-3-20011	AOC17-3-20012	AOC17-3-20009	AOC17-4-20013	AOC17-4-20014	AOC17-4-20015	AOC17-5-20017	AOC17-5-20019	AOC17-5-20018	AOC17-5-20020	AOC17-5-20021	AOC18-1-21000	AOC18-1-21002	AOC18-1-21003
	DATE	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		2	5	9	0	0	2	5	0	2	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	10	1	1	3	6	1	3	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	0.5	3	6	0.5	3	3	6	10	0.5	3	6
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	77	6 U	--	--	--	--	--	--	7500 J	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	15	1.3 U	--	--	--	--	--	--	330 J	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	1.1 U	0.5 U	--	--	--	--	--	--	18 J	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	1.6 U	0.65 U	--	--	--	--	--	--	30 J	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	0.98 U	0.62 U	--	--	--	--	--	--	16 J	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	2.9 J	0.85 J	--	--	--	--	--	--	110 J	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	1.8 U	0.65 U	--	--	--	--	--	--	9.6 UJ	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	1.4 J	0.69 U	--	--	--	--	--	--	8.4 UJ	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	0.15 U	0.73 U	--	--	--	--	--	--	4.8 J	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	2.1 U	0.58 U	--	--	--	--	--	--	33 J	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	0.77 U	0.56 U	--	--	--	--	--	--	9.1 J	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	13 U	0.53 U	--	--	--	--	--	--	480 UJ	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	0.92 U	0.74 J	--	--	--	--	--	--	10 J	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	0.53 U	0.3 U	--	--	--	--	--	--	0.22 UJ	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	0.86 U	0.29 U	--	--	--	--	--	--	2.7 J	--	--
OCDD	ng/kg	--	--	--	--	740	37	--	--	--	--	--	--	90000 J	--	--
OCDF	ng/kg	--	--	--	--	28	2.5 J	--	--	--	--	--	--	600 J	--	--
TEQ Avian	ng/kg	--	--	--	--	3.9	1.6	--	--	--	--	--	--	71	--	--
TEQ Human	ng/kg	--	--	--	--	4.3	1.1	--	--	--	--	--	--	160	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	4.3	1.1	--	--	--	--	--	--	160	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	8	9.1	9.5
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	--	2.1 U	2.2 U	2.2 U	2.1 U	--	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	4.3	2.3	2.2	2.5	2.3	2.1	2.4	2.4	3.2	--	2.8	2.5	4.2	3.4	3.3
Barium	mg/kg	87	51	53	80 J	100	58	170	74	230 J	--	87	51	120	160	180
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U
Cadmium	mg/kg	1.1 U	1.6	1.1	--	1.1 U	1.1 U	2.3	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.21 U	0.21 U	--	0.32	0.22 U	0.25	0.41	--	0.22 U	0.21 U	0.21 U	0.25	0.59	0.21 U
Chromium, total	mg/kg	12	11	5.4	--	17	20	8	15	--	19	14	6.4	19 J	26	24
Cobalt	mg/kg	4.4	2.7	2	5.4	4.6	6.3	3.3	4.4	5.5	--	3.9	2.4	5.7	7.5	8.5
Copper	mg/kg	8.5	3.2	2.6	8.5	11	7.9	6.3	11	9.4	--	7.2	3.3	--	11	14
Lead	mg/kg	2.9	1.7	1.7	6.8 J	6.3	2	1.8	24	3.3	--	2.6	2	8.7 J	9.1	4
Mercury	mg/kg	0.11 U	0.11 U	0.1 U	--	0.11 U	0.11 U	0.11 U	0.11 U	--	0.11 U	0.11 U	0.1 U	0.14	0.11	0.1 U
Molybdenum	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1 U	1.2	1.1 U	1.4
Nickel	mg/kg	9.1	5.7	4.3	--	9	17	5.1	7.8	--	9.5	9.6	5.2	14 J	14	17
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U
Silver	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1.1 U	1 U
Thallium	mg/kg	2.2 U	2.1 U	2.1 U	--	2.1 U	2.2 U	2.2 U	2.1 U	--	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	26	13	12	23 J	23	29	17	22	28	--	18	11	24	29	38
Zinc	mg/kg	28	71	29	--	30	32	42	33	36 J	--	19	11	36	41	40
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	6900	9900	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	16000	45000 J	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	0.21 U	0.22 U	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	16000	19000	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	4300	6600	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	160	360 J	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC17-3	AOC17-3	AOC17-3	AOC17-3	AOC17-4	AOC17-4	AOC17-4	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC18-1	AOC18-1	AOC18-1
	SAMPLE	AOC17-3-20010	AOC17-3-20011	AOC17-3-20012	AOC17-3-20009	AOC17-4-20013	AOC17-4-20014	AOC17-4-20015	AOC17-5-20017	AOC17-5-20019	AOC17-5-20018	AOC17-5-20020	AOC17-5-20021	AOC18-1-21000	AOC18-1-21002	AOC18-1-21003
	DATE	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		2	5	9	0	0	2	5	0	2	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	10	1	1	3	6	1	3	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	0.5	3	6	0.5	3	3	6	10	0.5	3	6
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	1700	--	2300	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	210	500	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	18 U	18 U	--	17 U	--	--	--	--	17 UJ	17 U	17 U
Aroclor 1221	ug/kg	--	--	--	--	35 U	36 U	--	35 U	--	--	--	--	34 U	35 U	34 U
Aroclor 1232	ug/kg	--	--	--	--	18 U	18 U	--	17 U	--	--	--	--	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	--	--	--	18 U	18 U	--	17 U	--	--	--	--	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	--	--	--	18 U	18 U	--	17 U	--	--	--	--	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	--	--	--	18 U	18 U	--	18	--	--	--	--	67	87	17 U
Aroclor 1260	ug/kg	--	--	--	--	18 U	18 U	--	17 U	--	--	--	--	17 UJ	54	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	17 U	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	36 U	36 U	--	43.5	--	--	--	--	92.5	158	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
2-Methyl naphthalene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
Acenaphthene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
Acenaphthylene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
Anthracene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
B(a)P Equivalent	ug/kg	6.2 U	6.1 U	6.1 U	--	59 U	6.2 U	6.4 U	60	6.2 U	--	6.1 U	6 U	--	60	6 U
Benzo (a) anthracene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	9.5	5.4 U	--	5.3 U	5.2 U	26 U	14	5.2 U
Benzo (a) pyrene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U
Benzo (ghi) perylene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U
Chrysene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	17	5.4 U	--	5.3 U	5.2 U	47	24	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U
Fluoranthene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	18	5.4 U	--	5.3 U	5.2 U	--	34	5.2 U
Fluorene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	5.3 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.4 U	5.3 U	5.3 U	5.7 U	53 U	5.4 U	5.5 U	53 U	5.4 U	--	5.3 U	5.2 U	260 U	53 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC17-3	AOC17-3	AOC17-3	AOC17-3	AOC17-4	AOC17-4	AOC17-4	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC18-1	AOC18-1	AOC18-1
	SAMPLE	AOC17-3-20010	AOC17-3-20011	AOC17-3-20012	AOC17-3-20009	AOC17-4-20013	AOC17-4-20014	AOC17-4-20015	AOC17-5-20017	AOC17-5-20019	AOC17-5-20018	AOC17-5-20020	AOC17-5-20021	AOC18-1-21000	AOC18-1-21002	AOC18-1-21003
	DATE	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		2	5	9	0	0	2	5	0	2	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	10	1	1	3	6	1	3	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	0.5	3	6	0.5	3	3	6	10	0.5	3	6
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.3 U	5.2 U	--	5.3 U	5 U	5.5 U	5.3 U	4.7 U	--	5.3 U	5.2 U	26 U	5.2 U	5.2 U
PAH High molecular weight	ug/kg	0	0	0	--	0	0	0	65.5	--	0	0	0	159	106	0
PAH Low molecular weight	ug/kg	0	0	0	--	0	0	0	0	--	0	0	0	0	9.5	0
Phenanthrene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	5.3 U	5.4 U	--	5.3 U	5.2 U	26 U	9.5	5.2 U
Pyrene	ug/kg	5.4 U	5.3 U	5.3 U	--	5.3 U	5.4 U	5.5 U	21	5.4 U	--	5.3 U	5.2 U	--	34	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2-Chlorophenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2-Methylphenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
2-Nitrophenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2,4-Dinitrophenol	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2,6-Dinitrotoluene	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
3-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	720 U	700 U	690 U	--	710 U	700 U	720 U	720 U	720 U	--	700 U	690 U	34000 U	700 U	690 U
4-Bromophenyl phenyl ether	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
4-Chloro-3-methylphenol	ug/kg	720 U	700 U	690 U	--	710 U	720 U	720 U	700 U	720 U	--	700 U	690 U	3400 U	700 U	690 U
4-Chloroaniline	ug/kg	720 U	700 U	690 U	--	710 U	720 U	720 U	700 U	720 U	--	700 U	690 U	3400 U	700 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
4-Methylphenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
4-Nitroaniline	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
4-Nitrophenol	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	740 U	760 U	--	--	--	--	--	--
Benzoic acid	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
Benzyl alcohol	ug/kg	720 U	700 U	690 U	--	710 U	720 U	720 U	700 U	720 U	--	700 U	690 U	3400 U	700 U	690 U
bis (2-chloroethoxy) methane	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	17000 U	350 U	340 U
Butylbenzylphthalate	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	17000 U	350 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	350 U	360 U	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	350 U	360 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Di-n-octyl phthalate	ug/kg	360 U	350 U	350 U	--	3500 U	360 U	360 U	3500 U	360 U	--	350 U	340 U	1700 U	3500 U	340 U
Dibenzofuran	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Diethyl phthalate	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Dimethyl phthalate	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Hexachlorobenzene	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Hexachloroethane	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
N-nitrosodiphenylamine	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Pentachlorophenol	ug/kg	1800 U	1800 U	1700 U	--	1800 U	1800 U	1800 U	1700 U	--	1800 U	1800 U	1700 U	--	1700 U	1700 U
Phenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	11 U	11 U	--	73	11 U	11 U	33	--	11 U	11 U	10 U	--	23	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC17-3	AOC17-3	AOC17-3	AOC17-3	AOC17-4	AOC17-4	AOC17-4	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC18-1	AOC18-1	AOC18-1
	SAMPLE	AOC17-3-20010	AOC17-3-20011	AOC17-3-20012	AOC17-3-20009	AOC17-4-20013	AOC17-4-20014	AOC17-4-20015	AOC17-5-20017	AOC17-5-20019	AOC17-5-20018	AOC17-5-20020	AOC17-5-20021	AOC18-1-21000	AOC18-1-21002	AOC18-1-21003
	DATE	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		2	5	9	0	0	2	5	0	2	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	10	1	1	3	6	1	3	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	0.5	3	6	0.5	3	3	6	10	0.5	3	6
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1 U	1.1 U	1 U	--	--	0.95 U	1.1 U	--	--	1 U	1.1 U	1 U	--	1.3 U	1.1 U
TPH as motor oil	mg/kg	14	11 U	11 U	--	630	53	12	310	--	11 U	11 U	10 U	500	340	13
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1-Dichloroethene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1-Dichloropropene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1,1-Trichloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1,1,2-Tetrachloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1,2-Trichloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,1,2,2-Tetrachloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2-Dibromo-3-chloropropane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2-Dibromoethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2-Dichlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	350 U	5 U	5.5 U	350 U	4.7 U	--	5.4 U	5.3 U	1700 U	5.2 U	5.6 U
1,2-Dichloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2-Dichloropropane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2,3-Trichlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2,3-Trichloropropane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,2,4-Trichlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	350 U	5 U	5.5 U	350 U	4.7 U	--	5.4 U	5.3 U	1700 U	5.2 U	5.6 U
1,2,4-Trimethylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,3-Dichlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	350 U	5 U	5.5 U	350 U	4.7 U	--	5.4 U	5.3 U	1700 U	5.2 U	5.6 U
1,3-Dichloropropane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,3,5-Trimethylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
1,4-Dichlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	350 U	5 U	5.5 U	350 U	4.7 U	--	5.4 U	5.3 U	1700 U	5.2 U	5.6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	350 U	360 U	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	47 U	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
2,4,5-Trichlorophenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
2,4,6-Trichlorophenol	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
4-Isopropyltoluene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Acetone	ug/kg	52 U	54 U	52 U	--	--	50 U	160	--	47 U	--	54 U	53 U	--	52 U	56 U
Acrolein	ug/kg	100 U	110 U	100 U	--	--	99 U	110 U	--	--	100 U	110 U	110 U	--	100 U	110 U
Acrylonitrile	ug/kg	52 U	54 U	52 U	--	--	50 U	55 U	--	47 U	--	54 U	53 U	--	52 U	56 U
Benzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
bis (2-chloroethyl) ether	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Bromobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Bromochloromethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Bromodichloromethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Bromoform	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Bromomethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Carbon disulfide	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Carbon tetrachloride	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Chloro methane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Chlorobenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Chloroethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Chloroform	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
cis-1,2-Dichloroethene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
cis-1,3-Dichloropropene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	4.7 U	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC17-3	AOC17-3	AOC17-3	AOC17-3	AOC17-4	AOC17-4	AOC17-4	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC17-5	AOC18-1	AOC18-1	AOC18-1
	SAMPLE	AOC17-3-20010	AOC17-3-20011	AOC17-3-20012	AOC17-3-20009	AOC17-4-20013	AOC17-4-20014	AOC17-4-20015	AOC17-5-20017	AOC17-5-20019	AOC17-5-20018	AOC17-5-20020	AOC17-5-20021	AOC18-1-21000	AOC18-1-21002	AOC18-1-21003
	DATE	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	12/6/2015	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		2	5	9	0	0	2	5	0	2	2	5	9	0	2	5
SAMPLE BOTTOM DEPTH (FT)		3	6	10	1	1	3	6	1	3	3	6	10	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	0.5	3	6	0.5	3	3	6	10	0.5	3	6
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Dichlorodifluoromethane	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Ethyl- benzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Hexachlorobutadiene	ug/kg	5.2 U	5.4 U	5.2 U	--	710 U	5 U	5.5 U	700 U	4.7 U	--	5.4 U	5.3 U	3400 U	5.2 U	5.6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	700 U	720 U	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
Isopropylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	4.7 U	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	52 U	54 U	52 U	--	--	50 U	55 U	--	47 U	--	54 U	53 U	--	52 U	56 U
Methyl isobutyl ketone	ug/kg	52 U	54 U	52 U	--	--	50 U	55 U	--	47 U	--	54 U	53 U	--	52 U	56 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	4.7 U	--	--	--	--	--	--
Methylene chloride	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
N-Butylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
N-Propylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Nitrobenzene	ug/kg	360 U	350 U	350 U	--	350 U	360 U	360 U	350 U	360 U	--	350 U	340 U	1700 U	350 U	340 U
p-Chlorotoluene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
sec-Butylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Styrene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
tert-Butylbenzene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Tetrachloroethene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Toluene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
trans-1,2-Dichloroethene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
trans-1,3-Dichloropropene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Trichloroethene	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Vinyl chloride	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Xylene, m,p-	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Xylene, o-	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U
Xylenes, total	ug/kg	5.2 U	5.4 U	5.2 U	--	--	5 U	5.5 U	--	4.7 U	--	5.4 U	5.3 U	--	5.2 U	5.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-1	AOC18-10	AOC18-10	AOC18-10	AOC18-11	AOC18-11	AOC18-11	AOC18-12	AOC18-12	AOC18-12	AOC18-2	AOC18-2	AOC18-2	AOC18-3	AOC18-3
	SAMPLE	AOC18-1-21001	AOC18-10-21004	AOC18-10-21005	AOC18-10-21006	AOC18-11-21007	AOC18-11-21008	AOC18-11-21009	AOC18-12-21010	AOC18-12-21011	AOC18-12-21012	AOC18-2-21013	AOC18-2-21014	AOC18-2-21015	AOC18-3-21016	AOC18-3-21017
	DATE	1/12/2016	12/16/2015	12/16/2015	12/16/2015	1/11/2016	1/11/2016	1/11/2016	12/4/2015	12/4/2015	12/4/2015	1/12/2016	1/12/2016	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		0	0	2	5	0	2	5	0	2	5	0	2	5	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
	SAMPLE TYPE	Field Duplicate														
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	940 J	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	110 J	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	7 UJ	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	0.82 UJ	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	6.2 J	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	26 J	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	5.7 UJ	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	4.5 UJ	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	0.97 UJ	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	13 J	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	0.94 UJ	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	120 UJ	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	1.9 J	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	0.28 UJ	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	0.33 UJ	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	8800 J	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	190 J	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	16	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	27	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	27	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	8.1	9.1	9.2	9.4	8.6	8.9	8.8 J	8.6 J	9.4 J	8.2	8.4	8.3	8.5	8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	2 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	--	3.4	2.5	1.9	4.3	5.2	2.3	3.4	4.7	3.2	4.1	4.2	3.9	3.3	3.7
Barium	mg/kg	--	150	170	76	130	160	95	95	120	180	130	170	180	110	180
Beryllium	mg/kg	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Cadmium	mg/kg	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Chromium, Hexavalent	mg/kg	--	0.29	0.37	0.21 U	0.64	0.21 U	0.21 U	0.36	0.21 U	0.22 U	0.23	0.22 U	0.21 U	0.21 U	0.22
Chromium, total	mg/kg	--	17	24	13	17	25	11	16	7.8	13	21	24	13	14	26
Cobalt	mg/kg	--	6.3	8.2	6.3	6.2	8.6	6.1	5.2	3.7	4.5	6.9	7.3	5.2	4.9	6.9
Copper	mg/kg	8.9	10	12	11	11	12	7.8	9.1	5.9	9	9.6	10	9.6	11	11
Lead	mg/kg	--	5.8	4.5	2.7	17	3.5	3.3	5.2	2.6	3.6	5.1	6.8	4.1	11	6.2
Mercury	mg/kg	--	0.1 U	0.1 U	0.1 U	0.13	0.15	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U
Molybdenum	mg/kg	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Nickel	mg/kg	--	13	15	10	13	22	9.1	9.8	6	8.9	15	17	11	11	16
Selenium	mg/kg	--	1 U	1 UJ	1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Silver	mg/kg	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U
Thallium	mg/kg	--	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	--	28	33	27	27	38	24	21	23	18	28	30	23	19	29
Zinc	mg/kg	--	36	45	34	38	32	28	24	22	23	36	33	27	28	35
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-1	AOC18-10	AOC18-10	AOC18-10	AOC18-11	AOC18-11	AOC18-11	AOC18-12	AOC18-12	AOC18-12	AOC18-2	AOC18-2	AOC18-2	AOC18-3	AOC18-3
	SAMPLE	AOC18-1-21001	AOC18-10-21004	AOC18-10-21005	AOC18-10-21006	AOC18-11-21007	AOC18-11-21008	AOC18-11-21009	AOC18-12-21010	AOC18-12-21011	AOC18-12-21012	AOC18-2-21013	AOC18-2-21014	AOC18-2-21015	AOC18-3-21016	AOC18-3-21017
	DATE	1/12/2016	12/16/2015	12/16/2015	12/16/2015	1/11/2016	1/11/2016	1/11/2016	12/4/2015	12/4/2015	12/4/2015	1/12/2016	1/12/2016	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		0	0	2	5	0	2	5	0	2	5	0	2	5	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
	SAMPLE TYPE	Field Duplicate														
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	17 U	17 U	17 U	18 U	18 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U
Aroclor 1221	ug/kg	--	34 U	34 U	34 U	35 U	35 U	34 U	34 U	35 U	36 U	35 U	36 U	35 U	35 U	35 U
Aroclor 1232	ug/kg	--	17 U	17 U	17 U	18 U	18 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U
Aroclor 1242	ug/kg	--	17 U	17 U	17 U	18 U	18 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U
Aroclor 1248	ug/kg	--	17 U	17 U	17 U	18 U	18 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U
Aroclor 1254	ug/kg	--	17 U	120	17 U	18 U	18 U	17 U	18	18 U	18 U	29	85	17 U	26	24
Aroclor 1260	ug/kg	--	17 U	52	17 U	18 U	18 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	34 U	189	34 U	36 U	36 U	34 U	43.5	36 U	36 U	56	112	34 U	53	49.5
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
2-Methyl naphthalene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
Acenaphthene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
Acenaphthylene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
Anthracene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.6	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
B(a)P Equivalent	ug/kg	300	59	58	57 U	59	6.1 U	6 U	130	6.1 U	6.2 U	60	60	6.1 U	24	16
Benzo (a) anthracene	ug/kg	--	51 U	5.2 U	5.1 U	5.7	5.3 U	5.2 U	80	5.3 U	5.4 U	5.4 U	5.8	5.3 U	5.3 U	5.2 U
Benzo (a) pyrene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	77	5.3 U	5.4 U	54 U	54 U	5.3 U	17	11
Benzo (b) fluoranthene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	140	5.3 U	5.4 U	54 U	54 U	5.3 U	37	19
Benzo (ghi) perylene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	52 U	5.3 U	5.4 U	54 U	54 U	5.3 U	5.3	5.2 U
Benzo (k) fluoranthene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	52 U	5.3 U	5.4 U	54 U	54 U	5.3 U	15	10
Chrysene	ug/kg	--	51 U	5.2	5.1 U	8.1	5.3 U	5.2 U	76	5.3 U	5.4 U	8.2	7.9	5.3 U	15	11
Dibenzo (a,h) anthracene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	52 U	5.3 U	5.4 U	54 U	54 U	5.3 U	5.3 U	5.2 U
Fluoranthene	ug/kg	60	14 J	8	5.1 U	19	5.3 U	5.2 U	140	5.3 U	5.4 U	16	13	5.3 U	20	16
Fluorene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.3 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	51 U	52 U	51 U	53 U	5.3 U	5.2 U	52 U	5.3 U	5.4 U	54 U	54 U	5.3 U	5.3 U	5.2 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-1	AOC18-10	AOC18-10	AOC18-10	AOC18-11	AOC18-11	AOC18-11	AOC18-12	AOC18-12	AOC18-12	AOC18-2	AOC18-2	AOC18-2	AOC18-3	AOC18-3
	SAMPLE	AOC18-1-21001	AOC18-10-21004	AOC18-10-21005	AOC18-10-21006	AOC18-11-21007	AOC18-11-21008	AOC18-11-21009	AOC18-12-21010	AOC18-12-21011	AOC18-12-21012	AOC18-2-21013	AOC18-2-21014	AOC18-2-21015	AOC18-3-21016	AOC18-3-21017
	DATE	1/12/2016	12/16/2015	12/16/2015	12/16/2015	1/11/2016	1/11/2016	1/11/2016	12/4/2015	12/4/2015	12/4/2015	1/12/2016	1/12/2016	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		0	0	2	5	0	2	5	0	2	5	0	2	5	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
	SAMPLE TYPE	Field Duplicate														
ANALYTE	UNITS															
Naphthalene	ug/kg	--	5.1 U	5.2 U	5.1 U	5.3 U	5.3 U	5.2 U	5.2 U	5.1 U	5.4 U	5.4 U	5.4 U	5.3 U	5.3 U	5.2 U
PAH High molecular weight	ug/kg	--	27	21.9	0	49.8	0	0	633	0	0	39.2	38.7	0	130	84
PAH Low molecular weight	ug/kg	--	0	0	0	7.1	0	0	55.6	0	0	5.7	0	0	0	0
Phenanthrene	ug/kg	--	5.1 U	5.2 U	5.1 U	7.1	5.3 U	5.2 U	50	5.3 U	5.4 U	5.7	5.4 U	5.3 U	5.3 U	5.2 U
Pyrene	ug/kg	64	13 J	8.7	5.1 U	17	5.3 U	5.2 U	120	5.3 U	5.4 U	15	12	5.3 U	21	17
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2-Chlorophenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2-Methylphenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2-Nitroaniline	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
2-Nitrophenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
2,4-Dimethylphenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2,4-Dinitrophenol	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2,6-Dinitrotoluene	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
3-Nitroaniline	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	6700 U	690 U	6800 U	700 U	710 U	690 U	710 U	690 U	720 U	710 U	690 U	700 U	700 U	690 U
4-Bromophenyl phenyl ether	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
4-Chloro-3-methylphenol	ug/kg	--	670 U	690 U	680 U	700 U	710 U	690 U	690 U	700 U	720 U	710 U	710 U	700 U	700 U	690 U
4-Chloroaniline	ug/kg	--	670 U	690 U	680 U	700 U	710 U	690 U	690 U	700 U	720 U	710 U	710 U	700 U	700 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
4-Methylphenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
4-Nitroaniline	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
4-Nitrophenol	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
Benzyl alcohol	ug/kg	--	670 U	690 U	680 U	700 U	710 U	690 U	690 U	700 U	720 U	710 U	710 U	700 U	700 U	690 U
bis (2-chloroethoxy) methane	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	--	3400 U	340 U	3400 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Butylbenzylphthalate	ug/kg	--	3400 U	340 U	3400 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Di-n-octyl phthalate	ug/kg	--	3400 U	3400 U	340 U	3500 U	350 U	340 U	3400 U	350 U	360 U	3500 U	360 U	350 U	350 U	350 U
Dibenzofuran	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Diethyl phthalate	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Dimethyl phthalate	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Hexachlorobenzene	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Hexachloroethane	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
N-nitrosodiphenylamine	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Pentachlorophenol	ug/kg	8500 U	1700 U	1700 U	1700 U	1800 U	1800 U	1700 U	1700 U	1800 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U
Phenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	88	18	10 U	10 U	11 U	11 U	10 U	100	11 U	11 U	11 U	11 U	11 U	11 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-1	AOC18-10	AOC18-10	AOC18-10	AOC18-11	AOC18-11	AOC18-11	AOC18-12	AOC18-12	AOC18-12	AOC18-2	AOC18-2	AOC18-2	AOC18-3	AOC18-3
	SAMPLE	AOC18-1-21001	AOC18-10-21004	AOC18-10-21005	AOC18-10-21006	AOC18-11-21007	AOC18-11-21008	AOC18-11-21009	AOC18-12-21010	AOC18-12-21011	AOC18-12-21012	AOC18-2-21013	AOC18-2-21014	AOC18-2-21015	AOC18-3-21016	AOC18-3-21017
	DATE	1/12/2016	12/16/2015	12/16/2015	12/16/2015	1/11/2016	1/11/2016	1/11/2016	12/4/2015	12/4/2015	12/4/2015	1/12/2016	1/12/2016	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		0	0	2	5	0	2	5	0	2	5	0	2	5	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
	SAMPLE TYPE	Field Duplicate														
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	1.2 U	1.1 U	--	1.4 U	1.2 U	--	0.96 U	1.3 U	--	1.3 U	1.5 U	--	1.3 U
TPH as motor oil	mg/kg	--	260	82	34	35	11 U	10 U	570	11 U	13	32	41	11 U	55	64
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1-Dichloroethene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1-Dichloropropene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1,1-Trichloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1,2-Trichloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2-Dibromoethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2-Dichlorobenzene	ug/kg	--	340 U	5.7 U	5.4 U	350 U	7 U	6 U	340 U	5.1 U	5.6 U	350 U	6.2 U	7.5 U	350 U	5.9 U
1,2-Dichloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2-Dichloropropane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2,3-Trichlorobenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2,3-Trichloropropane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,2,4-Trichlorobenzene	ug/kg	--	340 U	5.7 U	5.4 U	350 U	7 U	6 U	340 U	5.1 U	5.6 U	350 U	6.2 U	7.5 U	350 U	5.9 U
1,2,4-Trimethylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,3-Dichlorobenzene	ug/kg	--	340 U	5.7 U	5.4 U	350 U	7 U	6 U	340 U	5.1 U	5.6 U	350 U	6.2 U	7.5 U	350 U	5.9 U
1,3-Dichloropropane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,3,5-Trimethylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
1,4-Dichlorobenzene	ug/kg	--	340 U	5.7 U	5.4 U	350 U	7 U	6 U	340 U	5.1 U	5.6 U	350 U	6.2 U	7.5 U	350 U	5.9 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
2,4,5-Trichlorophenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
2,4,6-Trichlorophenol	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
4-Isopropyltoluene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Acetone	ug/kg	--	--	57 U	54 U	--	70 UJ	60 UJ	--	51 U	56 U	--	62 U	75 U	--	59 U
Acrolein	ug/kg	--	--	110 U	110 U	--	140 U	120 U	--	100 U	110 U	--	120 U	150 U	--	120 U
Acrylonitrile	ug/kg	--	--	57 U	54 U	--	70 U	60 U	--	51 U	56 U	--	62 UJ	75 UJ	--	59 UJ
Benzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
bis (2-chloroethyl) ether	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Bromobenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Bromochloromethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Bromodichloromethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Bromoform	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Bromomethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Carbon disulfide	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Carbon tetrachloride	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Chloro methane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Chlorobenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Chloroethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Chloroform	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
cis-1,2-Dichloroethene	ug/kg	--	--	5.7 UJ	5.4 UJ	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
cis-1,3-Dichloropropene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-1	AOC18-10	AOC18-10	AOC18-10	AOC18-11	AOC18-11	AOC18-11	AOC18-12	AOC18-12	AOC18-12	AOC18-2	AOC18-2	AOC18-2	AOC18-3	AOC18-3
	SAMPLE	AOC18-1-21001	AOC18-10-21004	AOC18-10-21005	AOC18-10-21006	AOC18-11-21007	AOC18-11-21008	AOC18-11-21009	AOC18-12-21010	AOC18-12-21011	AOC18-12-21012	AOC18-2-21013	AOC18-2-21014	AOC18-2-21015	AOC18-3-21016	AOC18-3-21017
	DATE	1/12/2016	12/16/2015	12/16/2015	12/16/2015	1/11/2016	1/11/2016	1/11/2016	12/4/2015	12/4/2015	12/4/2015	1/12/2016	1/12/2016	1/12/2016	1/12/2016	1/12/2016
SAMPLE TOP DEPTH (FT)		0	0	2	5	0	2	5	0	2	5	0	2	5	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3	6	0.5	3
	SAMPLE TYPE	Field Duplicate														
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Dichlorodifluoromethane	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Ethyl- benzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Hexachlorobutadiene	ug/kg	--	670 U	5.7 U	5.4 U	700 U	7 U	6 U	690 U	5.1 U	5.6 U	710 U	6.2 U	7.5 U	700 U	5.9 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
Isopropylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	57 U	54 U	--	70 U	60 U	--	51 U	56 U	--	62 U	75 U	--	59 U
Methyl isobutyl ketone	ug/kg	--	--	57 U	54 U	--	70 U	60 U	--	51 U	56 U	--	62 U	75 U	--	59 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
N-Butylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
N-Propylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Nitrobenzene	ug/kg	--	340 U	340 U	340 U	350 U	350 U	340 U	340 U	350 U	360 U	350 U	360 U	350 U	350 U	350 U
p-Chlorotoluene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
sec-Butylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Styrene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
tert-Butylbenzene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Tetrachloroethene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Toluene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
trans-1,2-Dichloroethene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
trans-1,3-Dichloropropene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Trichloroethene	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Vinyl chloride	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Xylene, m,p-	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Xylene, o-	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U
Xylenes, total	ug/kg	--	--	5.7 U	5.4 U	--	7 U	6 U	--	5.1 U	5.6 U	--	6.2 U	7.5 U	--	5.9 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-3	AOC18-4	AOC18-4	AOC18-4	AOC18-5	AOC18-5	AOC18-5	AOC18-6	AOC18-6	AOC18-6	AOC18-6	AOC18-7	AOC18-7	AOC18-8	AOC18-8
	SAMPLE	AOC18-3-21018	AOC18-4-21019	AOC18-4-21020	AOC18-4-21021	AOC18-5-21022	AOC18-5-21023	AOC18-5-21024	AOC18-6-21025	AOC18-6-21027	AOC18-6-21028	AOC18-6-21026	AOC18-7-21029	AOC18-7-21030	AOC18-8-21032	AOC18-8-21033
	DATE	1/12/2016	12/4/2015	12/4/2015	12/5/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	0	2	5	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	870 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	100 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	5.1 UJ	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	8.2 J	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	8.1 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	23 J	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	7.9 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	3.2 UJ	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	6.3 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	9.6 J	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	0.55 UJ	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	130 UJ	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	4.9 J	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	0.59 UJ	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	3.5 J	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	8700 J	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	190 J	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	23	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	28	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	28	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	8.2	9 J	8.6 J	9	9.4 J	9.1 J	9.2 J	8.7 J	8.7 J	9.4 J	--	9.8	10	9.5	9.8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 UJ	2.2 U	2.2 U	2.2 U	--	2.2 U	2.1 U	2.1 U	2.2 U	2.2 U	2.3 U
Arsenic	mg/kg	3.4	2.9	3	2.7	3.1 J	3.3	3.2	3.5	4	4	--	3.1	3.4	2.3	2.3
Barium	mg/kg	100	99	110	100	82 J	140	130	140	150	180	--	97	80	72 J	120 J
Beryllium	mg/kg	1 U	1 U	1 U	1.1 U	1 UJ	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U
Cadmium	mg/kg	1 U	1 U	1 U	1.1 U	1 UJ	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U
Chromium, Hexavalent	mg/kg	0.21 U	0.21 U	0.21 U	0.21 U	0.31	0.22 U	0.31	0.28	--	0.22 U	0.26	0.22 U	0.22 U	0.23	0.23 U
Chromium, total	mg/kg	9.5	15	18	11	16	30	22	38	--	15	20	26	31	--	31 J
Cobalt	mg/kg	4.5	4.6	4.3	4.5	3.9 J	6.6	5	5.8	--	5.2	5.5	6.4	9	--	8.9 J
Copper	mg/kg	7.5	9.3	8.6	7.2	8.9	11	9.9	12	--	9	14	13	15	9.9	16
Lead	mg/kg	4.5	6.7	7.2	4.6	5.3 J	4.7	4.4	6.2	--	3.7	7.1	4.7	3	2.7	2.6
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U
Molybdenum	mg/kg	1 U	1 U	1 U	1.1 U	1 UJ	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U
Nickel	mg/kg	9.2	11	10	9	10 J	21	13	14	14	12	--	20	28	--	25 J
Selenium	mg/kg	1 U	1 U	1 U	1.1 U	1 UJ	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.4	1.1 U	1.2 U
Silver	mg/kg	1 U	1 U	1 U	1.1 U	1 UJ	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 UJ	2.2 U	2.2 U	2.2 U	--	2.2 U	2.1 U	2.1 U	2.2 U	2.2 U	2.3 U
Vanadium	mg/kg	18	21	20	20	17	28	23	26	25	24	--	29	37	--	37 J
Zinc	mg/kg	24	29	26	27	24	31	29	32	--	25	28	37	35	--	32
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	14000	9800 J	13000 J
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	36000	--	42000
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.22 U	0.22 U	0.23 U
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	26000	--	25000
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	9700	--	9300 J
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	270	--	210

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-3	AOC18-4	AOC18-4	AOC18-4	AOC18-5	AOC18-5	AOC18-5	AOC18-6	AOC18-6	AOC18-6	AOC18-6	AOC18-7	AOC18-7	AOC18-8	AOC18-8
	SAMPLE	AOC18-3-21018	AOC18-4-21019	AOC18-4-21020	AOC18-4-21021	AOC18-5-21022	AOC18-5-21023	AOC18-5-21024	AOC18-6-21025	AOC18-6-21027	AOC18-6-21028	AOC18-6-21026	AOC18-7-21029	AOC18-7-21030	AOC18-8-21032	AOC18-8-21033
	DATE	1/12/2016	12/4/2015	12/4/2015	12/5/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	0	2	5	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	2600	--	2500
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700	--	620
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	--	18 U	18 U	18 U	18 U	18 U	19 U
Aroclor 1221	ug/kg	34 U	35 U	35 U	35 U	34 U	37 U	37 U	36 U	--	37 U	35 U	36 U	36 U	36 U	38 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	--	18 U	18 U	18 U	18 U	18 U	19 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	--	18 U	18 U	18 U	18 U	18 U	19 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	--	18 U	18 U	18 U	18 U	18 U	19 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	18 U	69	42	20	20	37	18 U	--	18 U	18 U	18 U	19 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	18 U	120	42	28	38	--	18 U	45	18 U	18 U	18 U	19 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	19 U
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	19 U
Total PCBs	ug/kg	34 U	34 U	34 U	36 U	206	102	66	76	98	36 U	--	36 U	36 U	36 U	38 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.2 U	9.1	5.3 U	5.2 U	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
2-Methyl naphthalene	ug/kg	5.2 U	5.2 U	12	5.3 U	5.2 U	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
Acenaphthene	ug/kg	5.2 U	5.2 U	5.3 U	5.3 U	5.2 U	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
Acenaphthylene	ug/kg	5.2 U	5.2 U	5.3 U	5.3 U	5.2 U	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
Anthracene	ug/kg	5.2 U	5.2 U	5.3 U	5.3 U	10	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
B(a)P Equivalent	ug/kg	13	32	19	18	130	63	65	67	--	6.5 U	64	62 U	6.4 U	62 U	6.7 U
Benzo (a) anthracene	ug/kg	5.2	14	7.7	6.8	75	11	16	23	--	5.6 U	17	54 U	5.5 U	54 U	5.8 U
Benzo (a) pyrene	ug/kg	8.7	22	13	12	80	56 U	55 U	54 U	25	5.6 U	--	54 U	5.5 U	54 U	5.8 U
Benzo (b) fluoranthene	ug/kg	13	46	23	21	140	56 U	55	75	--	5.6 U	54	54 U	5.5 U	54 U	5.8 U
Benzo (ghi) perylene	ug/kg	5.2 U	7.3	5.3 U	5.3	52 U	56 U	55 U	54 U	8.7	5.6 U	--	54 U	5.5 U	54 U	5.8 U
Benzo (k) fluoranthene	ug/kg	5.6	15	9.1	9.2	56	56 U	55 U	54 U	16	5.6 U	--	54 U	5.5 U	54 U	5.8 U
Chrysene	ug/kg	8.3	20	12	12	74	17	27	35	--	5.6 U	27	54 U	5.5 U	54 U	5.8 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.2 U	5.3 U	5.3 U	52 U	56 U	55 U	54 U	5.4 U	5.6 U	--	54 U	5.5 U	54 U	5.8 U
Fluoranthene	ug/kg	9.4	33	14	14	150	25	680	45	--	5.6 U	37	5.4 U	5.5 U	5.4 U	5.8 U
Fluorene	ug/kg	5.2 U	5.2 U	5.3 U	5.3 U	5.2 U	5.6 U	5.5 U	5.4 U	--	5.6 U	5.4 U	5.4 U	5.5 U	5.4 U	5.8 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	7.7	5.3 U	5.3	52 U	56 U	55 U	54 U	9.4	5.6 U	--	54 U	5.5 U	54 U	5.8 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-3	AOC18-4	AOC18-4	AOC18-4	AOC18-5	AOC18-5	AOC18-5	AOC18-6	AOC18-6	AOC18-6	AOC18-6	AOC18-7	AOC18-7	AOC18-8	AOC18-8
	SAMPLE	AOC18-3-21018	AOC18-4-21019	AOC18-4-21020	AOC18-4-21021	AOC18-5-21022	AOC18-5-21023	AOC18-5-21024	AOC18-6-21025	AOC18-6-21027	AOC18-6-21028	AOC18-6-21026	AOC18-7-21029	AOC18-7-21030	AOC18-8-21032	AOC18-8-21033
	DATE	1/12/2016	12/4/2015	12/4/2015	12/5/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	0	2	5	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.2 U	5.3 U	4.7 U	5.2 U	4.5 U	5.5 U	5.4 U	4.7 U	4.7 U	--	5.4 U	5.3 U	5.4 U	5.7 U
PAH High molecular weight	ug/kg	59.9	196	93.8	101	705	78	1310	224	210	0	--	0	0	0	0
PAH Low molecular weight	ug/kg	0	6.3	21.1	0	73	5.6	410	8.2	--	0	6.8	0	0	0	0
Phenanthrene	ug/kg	5.2 U	6.3	5.3 U	5.3 U	63	5.6	410	8.2	--	5.6 U	6.8	5.4 U	5.5 U	5.4 U	5.8 U
Pyrene	ug/kg	9.7	31	15	15	130	25	530	46	--	5.6 U	38	5.4 U	5.5 U	5.4 U	5.8 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
2-Chloro naphthalene	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2-Chlorophenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2-Methylphenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
2-Nitrophenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
2,4-Dimethylphenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2,4-Dinitrophenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
2,4-Dinitrotoluene	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
2,6-Dinitrotoluene	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
3,3-Dichlorobenzidene	ug/kg	690 U	690 U	700 U	710 U	690 U	730 U	710 U	710 U	--	740 U	730 U	710 U	760 U	7100 U	760 U
4-Bromophenyl phenyl ether	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
4-Chloro-3-methylphenol	ug/kg	690 U	690 U	700 U	710 U	690 U	730 U	730 U	710 U	--	740 U	710 U	710 U	730 U	7100 U	760 U
4-Chloroaniline	ug/kg	690 U	690 U	700 U	710 U	690 U	730 U	730 U	710 U	--	740 U	710 U	710 U	730 U	7100 U	760 U
4-Chlorophenyl phenyl ether	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
4-Methylphenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	760 U	7600 U	810 U
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
Benzyl alcohol	ug/kg	690 U	690 U	700 U	710 U	690 U	730 U	730 U	710 U	--	740 U	710 U	710 U	730 U	7100 U	760 U
bis (2-chloroethoxy) methane	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	3500 U	360 U	3600 U	380 U
Butylbenzylphthalate	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	3500 U	360 U	3600 U	380 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	360 U	3600 U	380 U
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	360 U	3600 U	380 U
Di-n-butyl phthalate	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Di-n-octyl phthalate	ug/kg	350 U	3500 U	3500 U	350 U	340 U	3700 U	3700 U	3600 U	--	370 U	3500 U	360 U	360 U	36000 U	380 U
Dibenzofuran	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Diethyl phthalate	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Dimethyl phthalate	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Hexachlorobenzene	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Hexachloroethane	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
N-nitrosodiphenylamine	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U	1800 U	1800 U	18000 U	1900 U
Phenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	10 U	11 U	11 U	11	11 U	11 U	11 U	--	11 U	11 U	180	11 U	44	12 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-3	AOC18-4	AOC18-4	AOC18-4	AOC18-5	AOC18-5	AOC18-5	AOC18-6	AOC18-6	AOC18-6	AOC18-6	AOC18-7	AOC18-7	AOC18-8	AOC18-8
	SAMPLE	AOC18-3-21018	AOC18-4-21019	AOC18-4-21020	AOC18-4-21021	AOC18-5-21022	AOC18-5-21023	AOC18-5-21024	AOC18-6-21025	AOC18-6-21027	AOC18-6-21028	AOC18-6-21026	AOC18-7-21029	AOC18-7-21030	AOC18-8-21032	AOC18-8-21033
	DATE	1/12/2016	12/4/2015	12/4/2015	12/5/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	0	2	5	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.2 U	--	1 U	1.2 U	--	0.9 U	0.84 U	--	0.89 U	0.96 U	--	--	0.97 U	--	1 U
TPH as motor oil	mg/kg	11	41	76	36	34	19	35	46	--	11 U	53	600	11 U	390	110
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1-Dichloroethene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1-Dichloropropene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1,1-Trichloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1,1,2-Tetrachloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1,2-Trichloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,1,2,2-Tetrachloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2-Dibromo-3-chloropropane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2-Dibromoethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2-Dichlorobenzene	ug/kg	6.7 U	350 U	6.3 U	4.7 U	340 U	4.5 U	5.8 U	360 U	4.7 U	4.7 U	--	360 U	5.3 U	3600 U	5.7 U
1,2-Dichloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2-Dichloropropane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2,3-Trichlorobenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2,3-Trichloropropane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,2,4-Trichlorobenzene	ug/kg	6.7 U	350 U	6.3 U	4.7 U	340 U	4.5 U	5.8 U	360 U	4.7 U	4.7 U	--	360 U	5.3 U	3600 U	5.7 U
1,2,4-Trimethylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,3-Dichlorobenzene	ug/kg	6.7 U	350 U	6.3 U	4.7 U	340 U	4.5 U	5.8 U	360 U	4.7 U	4.7 U	--	360 U	5.3 U	3600 U	5.7 U
1,3-Dichloropropane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,3,5-Trimethylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
1,4-Dichlorobenzene	ug/kg	6.7 U	350 U	6.3 U	4.7 U	340 U	4.5 U	5.8 U	360 U	4.7 U	4.7 U	--	360 U	5.3 U	3600 U	5.7 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	360 U	360 U	360 U
2-Chlorotoluene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	53 U	--	57 U
2,2-Dichloropropane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
2,4,5-Trichlorophenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	370 U	350 U	360 U	360 U	380 U
2,4,6-Trichlorophenol	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
4-Isopropyltoluene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Acetone	ug/kg	67 U	--	63 U	47 U	--	45 U	58 U	--	47 U	47 U	--	--	53 U	--	57 U
Acrolein	ug/kg	130 U	--	130 U	95 U	--	90 U	120 U	--	93 U	94 U	--	--	110 U	--	110 U
Acrylonitrile	ug/kg	67 U	--	63 U	47 U	--	45 U	58 U	--	47 U	47 U	--	--	53 U	--	57 U
Benzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
bis (2-chloroethyl) ether	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Bromobenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Bromochloromethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Bromodichloromethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Bromoform	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Bromomethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Carbon disulfide	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Carbon tetrachloride	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Chloro methane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Chlorobenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Chloroethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Chloroform	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
cis-1,2-Dichloroethene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
cis-1,3-Dichloropropene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	--	5.7 U
Dibromochloromethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-3	AOC18-4	AOC18-4	AOC18-4	AOC18-5	AOC18-5	AOC18-5	AOC18-6	AOC18-6	AOC18-6	AOC18-6	AOC18-7	AOC18-7	AOC18-8	AOC18-8
	SAMPLE	AOC18-3-21018	AOC18-4-21019	AOC18-4-21020	AOC18-4-21021	AOC18-5-21022	AOC18-5-21023	AOC18-5-21024	AOC18-6-21025	AOC18-6-21027	AOC18-6-21028	AOC18-6-21026	AOC18-7-21029	AOC18-7-21030	AOC18-8-21032	AOC18-8-21033
	DATE	1/12/2016	12/4/2015	12/4/2015	12/5/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/4/2015	12/8/2015	12/8/2015	12/8/2015	12/8/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	0	2	5	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	0.5	3	6	3	0.5	3	0.5	3
	SAMPLE TYPE									Field Duplicate						
ANALYTE	UNITS															
Dibromomethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Dichlorodifluoromethane	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Ethyl- benzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Hexachlorobutadiene	ug/kg	6.7 U	690 U	6.3 U	4.7 U	690 U	4.5 U	5.8 U	710 U	4.7 U	4.7 U	--	710 U	5.3 U	7100 U	5.7 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	710 U	7100 U	760 U
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
Isopropylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	--	5.7 U
Methyl ethyl ketone	ug/kg	67 U	--	63 U	47 U	--	45 U	58 U	--	47 U	47 U	--	--	53 U	--	57 U
Methyl isobutyl ketone	ug/kg	67 U	--	63 U	47 U	--	45 U	58 U	--	47 U	47 U	--	--	53 U	--	57 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	--	5.7 U
Methylene chloride	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
N-Butylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
N-Propylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Nitrobenzene	ug/kg	350 U	350 U	350 U	350 U	340 U	370 U	370 U	360 U	--	370 U	350 U	360 U	360 U	3600 U	380 U
p-Chlorotoluene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
sec-Butylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Styrene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
tert-Butylbenzene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Tetrachloroethene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Toluene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
trans-1,2-Dichloroethene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
trans-1,3-Dichloropropene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Trichloroethene	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Vinyl chloride	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Xylene, m,p-	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Xylene, o-	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U
Xylenes, total	ug/kg	6.7 U	--	6.3 U	4.7 U	--	4.5 U	5.8 U	--	4.7 U	4.7 U	--	--	5.3 U	--	5.7 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-9	AOC18-9	AOC18-9	AOC19-10	AOC19-10	AOC19-10	AOC19-10	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-12	AOC19-12	AOC19-12
	SAMPLE	AOC18-9-21036	AOC18-9-21038	AOC18-9-21037	AOC19-10-22000	AOC19-10-22001	AOC19-10-22021	AOC19-10-22022	AOC19-11-22018	AOC19-11-22019	AOC19-11-22023	AOC19-11-22024	AOC19-11-22020	AOC19-12-22025	AOC19-12-22027	AOC19-12-22028
	DATE	12/7/2015	12/7/2015	12/7/2015	12/16/2015	12/16/2015	1/22/2017	1/22/2017	3/10/2016	3/10/2016	1/23/2017	1/23/2017	3/10/2016	1/21/2017	1/21/2017	1/21/2017
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	6.5	0	2	5	9	2	0	2	4
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	5.5	7	1	3	6	10	3	0.5	3	5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	5.5	7	0.5	3	6	10	3	0.5	3	5
	SAMPLE TYPE			Field Duplicate									Field Duplicate		Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	1100 J	--	--	31000 J	3500 J	--	--	23 J	--	--	--	--	1500	2.6 U	16
1,2,3,4,6,7,8-HpCDF	ng/kg	54 J	--	--	1500 J	180 J	--	--	1.7 J	--	--	--	--	55	--	2 J
1,2,3,4,7,8-HxCDD	ng/kg	3 UJ	--	--	63 J	7.9 J	--	--	0.48 UJ	--	--	--	--	3.4 J	0.2 U	0.66 U
1,2,3,4,7,8-HxCDF	ng/kg	3.6 UJ	--	--	81 J	21 J	--	--	0.28 UJ	--	--	--	--	8.9 J	0.32 U	0.65 U
1,2,3,4,7,8,9-HpCDF	ng/kg	1.8 UJ	--	--	120 J	15 J	--	--	0.2 UJ	--	--	--	--	5.2 U	0.73 U	1.6 U
1,2,3,6,7,8-HxCDD	ng/kg	19 J	--	--	420 J	63 J	--	--	0.74 UJ	--	--	--	--	24	0.63 U	0.82 U
1,2,3,6,7,8-HxCDF	ng/kg	0.98 UJ	--	--	37 J	9.4 J	--	--	0.27 UJ	--	--	--	--	6.1 J	0.16 U	0.39 J
1,2,3,7,8-PeCDD	ng/kg	2 UJ	--	--	21 J	3.4 UJ	--	--	0.3 UJ	--	--	--	--	2.2 U	--	0.34 U
1,2,3,7,8-PeCDF	ng/kg	1.5 UJ	--	--	23 J	4.6 J	--	--	0.09 UJ	--	--	--	--	2.7 J	--	0.34 U
1,2,3,7,8,9-HxCDD	ng/kg	8 J	--	--	97 J	15 J	--	--	0.62 UJ	--	--	--	--	7.2 J	0.33 U	0.7 U
1,2,3,7,8,9-HxCDF	ng/kg	1.2 UJ	--	--	28 J	5.3 J	--	--	0.33 UJ	--	--	--	--	2.7 J	--	0.71 U
2,3,4,6,7,8-HxCDF	ng/kg	100 J	--	--	2000 UJ	370 UJ	--	--	2 UJ	--	--	--	--	110 U	0.53 U	2.7 U
2,3,4,7,8-PeCDF	ng/kg	2.2 J	--	--	21 J	6.3 J	--	--	0.24 UJ	--	--	--	--	5.6 J	0.11 U	0.93 U
2,3,7,8-TCDD	ng/kg	0.29 UJ	--	--	4.1 UJ	0.7 UJ	--	--	0.075 UJ	--	--	--	--	0.15 U	0.089 U	0.081 U
2,3,7,8-TCDF	ng/kg	1.6 UJ	--	--	6.5 J	2.6 J	--	--	0.21 UJ	--	--	--	--	3.1 J	--	0.34 U
OCDD	ng/kg	13000 J	--	--	320000 J	35000 J	--	--	240 J	--	--	--	--	14000	14 U	120
OCDF	ng/kg	100 J	--	--	4500 J	470 J	--	--	2.3 UJ	--	--	--	--	80	0.59 U	2.8 U
TEQ Avian	ng/kg	14	--	--	260	45	--	--	0.67	--	--	--	--	22	--	1.2
TEQ Human	ng/kg	26	--	--	630	83	--	--	0.79	--	--	--	--	34	--	0.95
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	26	--	--	630	83	--	--	0.79	--	--	--	--	34	--	0.95
General																
pH	PHUNITS	8.6	8.7	--	9.6	9.5	--	--	9	9.1	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	2.1 U	2 U	2.1 U	2.2 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2.1 U	--	2.2 U	2 U	2 U
Arsenic	mg/kg	--	1.8	2.5	4.5	4.3	2.2	2.9	6.6	--	2.1	3.2	5.4	3.6	2.1	2
Barium	mg/kg	77	130	--	110	130	20	58	170	--	46	83	130	110	--	49
Beryllium	mg/kg	1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1 U
Cadmium	mg/kg	1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.4	1 U	1 U
Chromium, Hexavalent	mg/kg	--	0.39	0.2 U	14	9.3	0.85	0.52	2.3	0.21	1.6	1.1	--	0.4	0.2 U	0.2 U
Chromium, total	mg/kg	--	22	11	320	210	3.4	15	29	8.9	21	13	--	20	--	3.4
Cobalt	mg/kg	4	5.8	--	3.5	4.5	1.1	2.1	6.4	--	1.9	4.6	8.2	3.2	--	1.5
Copper	mg/kg	--	11	7.8	170	16	2.1 U	3.7	100	--	4.2	7.1	9.1	8.5	--	3
Lead	mg/kg	--	3.7	3.9	110	43	1 U	2.8	24	--	1.7	3	7.2	63	--	2
Mercury	mg/kg	0.24	0.11 U	--	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.11 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1.1 U	--	240	81	1 U	6.4	510	--	1.5	5.8	5 J	1.2	1 U	1 U
Nickel	mg/kg	--	14	9.6	8.9	10	2	3.3	11	9.3	3	6.7	--	6.2	--	2.6
Selenium	mg/kg	1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1 U
Silver	mg/kg	1 U	1.1 U	--	1.1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	1.1 U	1 U	1 U
Thallium	mg/kg	--	2.1 U	2 U	2.1 U	2.2 U	2.2	2.2	2 U	2.1 U	2 U	2.1 U	--	2.2 U	2.1	2.1
Vanadium	mg/kg	--	25	18	16	18	4.4	12	22	18	8.4	12	--	16	--	7.2
Zinc	mg/kg	--	26	23	280	64	5.5	13	76	26	11	16	--	34	--	10
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	670	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	17000	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	0.21 UJ	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	2400	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	3100	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	64	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-9	AOC18-9	AOC18-9	AOC19-10	AOC19-10	AOC19-10	AOC19-10	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-12	AOC19-12	AOC19-12
	SAMPLE	AOC18-9-21036	AOC18-9-21038	AOC18-9-21037	AOC19-10-22000	AOC19-10-22001	AOC19-10-22021	AOC19-10-22022	AOC19-11-22018	AOC19-11-22019	AOC19-11-22023	AOC19-11-22024	AOC19-11-22020	AOC19-12-22025	AOC19-12-22027	AOC19-12-22028
	DATE	12/7/2015	12/7/2015	12/7/2015	12/16/2015	12/16/2015	1/22/2017	1/22/2017	3/10/2016	3/10/2016	1/23/2017	1/23/2017	3/10/2016	1/21/2017	1/21/2017	1/21/2017
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	6.5	0	2	5	9	2	0	2	4
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	5.5	7	1	3	6	10	3	0.5	3	5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	5.5	7	0.5	3	6	10	3	0.5	3	5
	SAMPLE TYPE			Field Duplicate									Field Duplicate		Field Duplicate	
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	170 J	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	280 J	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	5.2 U	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	52 U	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	--	18 R	18 R	--	--	17 UJ	--	--	--	--	18 U	--	17 U
Aroclor 1221	ug/kg	34 U	35 U	--	35 R	36 R	--	--	33 UJ	--	--	--	--	36 U	34 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	--	18 R	18 R	--	--	17 UJ	--	--	--	--	18 U	--	17 U
Aroclor 1242	ug/kg	17 U	17 U	--	18 R	18 R	--	--	17 UJ	--	--	--	--	18 UJ	--	17 UJ
Aroclor 1248	ug/kg	17 U	17 U	--	18 R	18 R	--	--	17 UJ	--	--	--	--	18 UJ	--	17 UJ
Aroclor 1254	ug/kg	17 U	17 U	--	18 R	18 R	--	--	17 UJ	--	--	--	--	97	--	17 U
Aroclor 1260	ug/kg	17 U	17 U	--	31 J	18 R	--	--	17 UJ	--	--	--	--	18 U	--	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	--	58 JH	36 R	--	--	34 U	--	--	--	--	124	--	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	--	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
Acenaphthene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
Anthracene	ug/kg	5.1 U	5.3 U	--	14 J	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	--	61 U	570	350 JH	40 JH	390 U	--	46 JH	--	--	--	--	29	5.9 U	5.9 U
Benzo (a) anthracene	ug/kg	51 U	53 U	--	220 J	19 J	340 U	--	20 J	--	--	--	--	15	5.1 U	5.1 U
Benzo (a) pyrene	ug/kg	51 U	53 U	--	260 J	29 J	340 U	--	31 J	--	--	--	--	19 J	5.1 U	5.1 U
Benzo (b) fluoranthene	ug/kg	51 U	53 U	--	460 J	58 J	340 U	--	85 J	--	--	--	--	53 J	5.1 U	5.1 U
Benzo (ghi) perylene	ug/kg	51 U	53 U	--	210 J	7.6 J	340 U	--	14 J	--	--	--	--	6.5 J	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	51 U	53 U	--	160 J	28 J	340 U	--	26 J	--	--	--	--	11 J	5.1 U	5.1 U
Chrysene	ug/kg	--	53 U	51	200 J	26 J	340 U	--	36 J	--	--	--	--	21	5.1 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	51 U	53 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
Fluoranthene	ug/kg	--	5.3 U	21 J	450 J	38 J	340 U	--	43 J	--	--	--	--	28	5.1 U	5.1 U
Fluorene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	51 U	53 U	--	160 J	7.6 J	340 U	--	12 J	--	--	--	--	6.5 J	5.1 U	5.1 U

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-9	AOC18-9	AOC18-9	AOC19-10	AOC19-10	AOC19-10	AOC19-10	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-12	AOC19-12	AOC19-12
	SAMPLE	AOC18-9-21036	AOC18-9-21038	AOC18-9-21037	AOC19-10-22000	AOC19-10-22001	AOC19-10-22021	AOC19-10-22022	AOC19-11-22018	AOC19-11-22019	AOC19-11-22023	AOC19-11-22024	AOC19-11-22020	AOC19-12-22025	AOC19-12-22027	AOC19-12-22028
	DATE	12/7/2015	12/7/2015	12/7/2015	12/16/2015	12/16/2015	1/22/2017	1/22/2017	3/10/2016	3/10/2016	1/23/2017	1/23/2017	3/10/2016	1/21/2017	1/21/2017	1/21/2017
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	6.5	0	2	5	9	2	0	2	4
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	5.5	7	1	3	6	10	3	0.5	3	5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	5.5	7	0.5	3	6	10	3	0.5	3	5
	SAMPLE TYPE			Field Duplicate									Field Duplicate		Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.3 U	--	5.4 R	5.4 R	340 U	--	5.1 R	--	--	--	--	5.4 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	--	0	89	2530	252	0	--	307	--	--	--	--	188	--	0
PAH Low molecular weight	ug/kg	--	0	14	154	8.4	0	--	13	--	--	--	--	7.6	--	0
Phenanthrene	ug/kg	8.2 J	5.3 U	--	140 J	8.4 J	340 U	--	13 J	--	--	--	--	7.6	5.1 U	5.1 U
Pyrene	ug/kg	17 J	5.3 U	--	410 J	39 J	340 U	--	40 J	--	--	--	--	28	5.1 U	5.1 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidene	ug/kg	68000 U	6900 U	--	--	--	690 U	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	6800 U	6900 U	--	--	--	690 U	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	6800 U	6900 U	--	--	--	690 U	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	730 U	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	6800 U	6900 U	--	--	--	690 U	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	34000 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	34000 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	34000 U	35000 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	17000 U	17000 U	--	--	--	1700 U	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	120	61	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-9	AOC18-9	AOC18-9	AOC19-10	AOC19-10	AOC19-10	AOC19-10	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-12	AOC19-12	AOC19-12
	SAMPLE	AOC18-9-21036	AOC18-9-21038	AOC18-9-21037	AOC19-10-22000	AOC19-10-22001	AOC19-10-22021	AOC19-10-22022	AOC19-11-22018	AOC19-11-22019	AOC19-11-22023	AOC19-11-22024	AOC19-11-22020	AOC19-12-22025	AOC19-12-22027	AOC19-12-22028
	DATE	12/7/2015	12/7/2015	12/7/2015	12/16/2015	12/16/2015	1/22/2017	1/22/2017	3/10/2016	3/10/2016	1/23/2017	1/23/2017	3/10/2016	1/21/2017	1/21/2017	1/21/2017
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	6.5	0	2	5	9	2	0	2	4
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	5.5	7	1	3	6	10	3	0.5	3	5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	5.5	7	0.5	3	6	10	3	0.5	3	5
	SAMPLE TYPE			Field Duplicate									Field Duplicate		Field Duplicate	
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	640	480	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	3400 U	5.9 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	3400 U	5.9 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	3400 U	5.9 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	3400 U	5.9 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	120 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC18-9	AOC18-9	AOC18-9	AOC19-10	AOC19-10	AOC19-10	AOC19-10	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-11	AOC19-12	AOC19-12	AOC19-12
	SAMPLE	AOC18-9-21036	AOC18-9-21038	AOC18-9-21037	AOC19-10-22000	AOC19-10-22001	AOC19-10-22021	AOC19-10-22022	AOC19-11-22018	AOC19-11-22019	AOC19-11-22023	AOC19-11-22024	AOC19-11-22020	AOC19-12-22025	AOC19-12-22027	AOC19-12-22028
	DATE	12/7/2015	12/7/2015	12/7/2015	12/16/2015	12/16/2015	1/22/2017	1/22/2017	3/10/2016	3/10/2016	1/23/2017	1/23/2017	3/10/2016	1/21/2017	1/21/2017	1/21/2017
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	6.5	0	2	5	9	2	0	2	4
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	5.5	7	1	3	6	10	3	0.5	3	5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	5.5	7	0.5	3	6	10	3	0.5	3	5
	SAMPLE TYPE			Field Duplicate									Field Duplicate		Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	6800 U	5.9 U	--	--	--	690 U	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	690 U	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	59 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	3400 U	3500 U	--	--	--	340 U	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-12	AOC19-13	AOC19-13	AOC19-13	AOC19-14	AOC19-14	AOC19-14	AOC19-14	AOC19-15	AOC19-15	AOC19-15	AOC19-5	AOC19-5	AOC19-6	AOC19-6
	SAMPLE	AOC19-12-22026	AOC19-13-22029	AOC19-13-22030	AOC19-13-22031	AOC19-14-22033	AOC19-14-22034	AOC19-14-22035	AOC19-14-22032	AOC19-15-22036	AOC19-15-22037	AOC19-15-22038	AOC19-5-22003	AOC19-5-22002	AOC19-6-22006	AOC19-6-22007
	DATE	1/21/2017	1/22/2017	1/22/2017	1/22/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	12/6/2015	12/6/2015	1/23/2016	1/23/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	5	0	0	2	5	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate										
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	90	12 U	2.2 U	93 J	21	6.1 J	--	32	5.9 J	6.4 U	270 J	--	220 J	--
1,2,3,4,6,7,8-HpCDF	ng/kg	1.3 J	8.7 J	2.3 J	0.9 U	--	2 U	0.96 U	13	3.3 U	1.1 U	1.3 J	13 J	--	21 UJ	--
1,2,3,4,7,8-HxCDD	ng/kg	--	1 J	0.58 J	0.43 J	--	0.51 J	0.09 U	2.2 J	0.22 U	0.46 U	0.36 U	2.5 J	--	2.8 UJ	--
1,2,3,4,7,8-HxCDF	ng/kg	--	0.73 U	0.48 U	0.36 U	0.28 U	0.32 U	0.082 U	--	0.47 J	0.083 U	0.36 U	0.26 UJ	--	1.7 UJ	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	0.65 U	1.1 U	0.82 U	--	0.64 J	0.47 J	1.1 U	0.57 U	1.1 U	0.73 U	0.73 UJ	--	2.6 UJ	--
1,2,3,6,7,8-HxCDD	ng/kg	--	2.8 U	0.87 U	0.29 U	--	0.77 U	0.088 U	5.5 J	0.22 U	0.61 J	0.12 U	4.8 J	--	6 UJ	--
1,2,3,6,7,8-HxCDF	ng/kg	--	0.77 U	0.56 J	0.47 J	1.2 J	0.46 J	0.075 U	--	0.32 U	0.42 U	0.74 U	0.2 UJ	--	1.6 UJ	--
1,2,3,7,8-PeCDD	ng/kg	0.44 J	0.96 U	0.58 J	0.31 J	--	0.18 U	0.37 U	1.5 J	0.43 J	0.14 U	0.075 U	0.69 UJ	--	2.1 UJ	--
1,2,3,7,8-PeCDF	ng/kg	0.39 J	0.28 U	0.37 U	0.18 U	0.44 U	0.28 U	0.098 U	--	0.22 U	0.09 U	0.31 U	0.74 J	--	0.79 UJ	--
1,2,3,7,8,9-HxCDD	ng/kg	--	2.6 J	0.95 U	0.76 J	--	1 U	0.39 U	3.6 J	0.75 J	0.15 U	0.74 J	2.4 J	--	2.6 UJ	--
1,2,3,7,8,9-HxCDF	ng/kg	0.65 J	0.14 U	0.69 J	0.58 J	--	0.61 U	0.32 U	0.25 U	0.36 U	0.36 U	0.44 U	0.24 UJ	--	2 UJ	--
2,3,4,6,7,8-HxCDF	ng/kg	--	12 U	2.8 U	0.5 U	--	1.9 U	0.89 U	18 U	6.9 U	0.84 U	1 U	22 UJ	--	33 UJ	--
2,3,4,7,8-PeCDF	ng/kg	--	0.72 U	0.39 U	0.22 U	1.4 J	0.19 U	0.061 U	--	0.29 U	0.095 U	0.32 U	0.53 UJ	--	0.82 UJ	--
2,3,7,8-TCDD	ng/kg	--	0.13 U	0.15 U	0.14 U	0.095 U	0.059 U	0.071 U	--	0.034 U	0.078 U	0.067 U	0.087 UJ	--	0.56 UJ	--
2,3,7,8-TCDF	ng/kg	0.11 U	0.38 U	0.16 U	0.11 U	0.14 U	0.076 U	0.071 U	--	0.084 U	0.32 U	0.11 U	0.21 UJ	--	0.8 UJ	--
OCDD	ng/kg	--	690	95	11 U	800 J	150	60	--	450	42	41	3100 J	--	2100 J	--
OCDF	ng/kg	--	14 J	3.6 U	1.5 U	7.7 J	3.7 J	2.1 J	--	6.3 J	1.9 U	2.5 U	21 J	--	41 J	--
TEQ Avian	ng/kg	0.91	2.4	1.3	0.81	--	0.63	0.4	4.3	1.2	0.45	0.54	3.1	--	4.9	--
TEQ Human	ng/kg	0.84	3.1	1.2	0.72	--	0.8	0.42	6.4	1.5	0.4	0.42	6.4	--	7	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.84	3.1	1.2	0.72	--	0.8	0.42	6.4	1.5	0.4	0.42	6.4	--	7	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	9.7	9.4	8.9	9.2
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	2.1 U	2.2 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U
Arsenic	mg/kg	--	3.8	3.5	3.2	4.9	2.4	3.8	--	4.6	4.8	2.8	3.1	2.5	4	3
Barium	mg/kg	82 J	110	120	65	97 J	79	71	--	66	110	57	89	91	110	62
Beryllium	mg/kg	--	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U
Cadmium	mg/kg	--	1.1 U	1.1 U	1 U	--	1 U	1 U	7.2 J	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.4	1.1 U
Chromium, Hexavalent	mg/kg	--	0.52	0.35	0.2 U	--	0.24	0.22	1.4	0.21 U	0.3	0.2 U	2	2.1	7	0.51
Chromium, total	mg/kg	4.4	23	18	5.8	34 J	10	13	--	16	16	11	50	54	240	22
Cobalt	mg/kg	1.9	4.3	4.2	3	3.4	2.3	2.6	--	6.1	5.8	3.3	3.1	3.7	5	2.9
Copper	mg/kg	3.6	10	7.9	4.7	--	2.9	3.9	7.4	6	7	4.1	7.8	8.7	37	7
Lead	mg/kg	2.7	13	5	2.1	43 J	1.8	3	--	4	5.2	3.9	24	20	310	8.3
Mercury	mg/kg	--	0.1 U	0.11 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	6	4.6	0.1 U	0.11 U
Molybdenum	mg/kg	--	2.6	1.1 U	1 U	4	1 U	1 U	--	1.1 U	1.1 U	1 U	1.1 U	1.1 U	4.4	1.1 U
Nickel	mg/kg	3.6	8.1	7.2	5.9	6.8	3.7	5.2	--	12	11	5.5	7.2	9.6	8.6	6.4
Selenium	mg/kg	--	1.1 U	1.1 U	1 U	--	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U
Silver	mg/kg	--	1.1 U	1.1 U	1 U	--	1 UJ	1 UJ	1 U	1.1 UJ	1.1 UJ	1 UJ	1.1 U	1.1 U	1 U	1.1 U
Thallium	mg/kg	--	2.1 U	2.2 U	2.1	--	2.1	2.1 U	2.1 U	2.1 U	2.2 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U
Vanadium	mg/kg	8.4	18	20	13	18 J	12	17	--	26	25	18	19	20	18	14
Zinc	mg/kg	14	40	26	13	54	13	17	--	33	27	21	29	27	170	19
Metals CLP																
Aluminum	mg/kg	2600	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	21000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	0.21 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	4200	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	4700	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-12	AOC19-13	AOC19-13	AOC19-13	AOC19-14	AOC19-14	AOC19-14	AOC19-14	AOC19-15	AOC19-15	AOC19-15	AOC19-5	AOC19-5	AOC19-6	AOC19-6
	SAMPLE	AOC19-12-22026	AOC19-13-22029	AOC19-13-22030	AOC19-13-22031	AOC19-14-22033	AOC19-14-22034	AOC19-14-22035	AOC19-14-22032	AOC19-15-22036	AOC19-15-22037	AOC19-15-22038	AOC19-5-22003	AOC19-5-22002	AOC19-6-22006	AOC19-6-22007
	DATE	1/21/2017	1/22/2017	1/22/2017	1/22/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	12/6/2015	12/6/2015	1/23/2016	1/23/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	5	0	0	2	5	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate										
ANALYTE		UNITS														
Potassium		mg/kg	570 J	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	660 J	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	2.1 U	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	5.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	53 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 R	--	17 R	--
Aroclor 1221	ug/kg	--	35 U	36 U	34 U	--	35 U	34 U	34 U	35 U	36 U	34 U	34 R	--	34 R	--
Aroclor 1232	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 R	--	17 R	--
Aroclor 1242	ug/kg	17 UJ	17 UJ	18 UJ	17 UJ	--	17 UJ	17 UJ	17 UJ	17 UJ	18 UJ	17 UJ	17 R	--	17 R	--
Aroclor 1248	ug/kg	17 UJ	17 UJ	18 UJ	17 UJ	--	17 UJ	17 UJ	17 UJ	17 UJ	18 UJ	17 UJ	17 R	--	17 R	--
Aroclor 1254	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 R	--	17 R	--
Aroclor 1260	ug/kg	17 U	17 U	18 U	17 U	--	17 U	17 U	17 U	17 U	18 U	17 U	17 R	--	17 R	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	36 U	34 U	--	34 U	34 U	34 U	34 U	36 U	34 U	34 R	--	34 R	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
2-Methyl naphthalene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Acenaphthene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Acenaphthylene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Anthracene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
B(a)P Equivalent	ug/kg	--	78	14	6 U	140	6 U	6 U	--	9.7	6.7	19	40 JH	--	14 JH	--
Benzo (a) anthracene	ug/kg	--	35	6.2	5.2 U	64 J	5.2 U	5.2 U	--	5.3 U	5.5 U	12	27 J	--	5.5 J	--
Benzo (a) pyrene	ug/kg	--	56	8.3 J	5.2 U	--	5.2 U	5.2 U	35 J	5.3	5.5 U	12	26 J	--	8 J	--
Benzo (b) fluoranthene	ug/kg	--	130	19 J	5.2 U	--	5.2 U	5.2 U	84 J	12	6.3	25	78 J	--	26 J	--
Benzo (ghi) perylene	ug/kg	--	23 J	5.4 U	5.2 U	80	5.2 U	5.2 U	--	5.3 U	5.5 U	9.6	8.7 J	--	5.2 R	--
Benzo (k) fluoranthene	ug/kg	--	31 J	5.8 J	5.2 U	59	5.2 U	5.2 U	--	5.3 U	5.5 U	8.6	32 J	--	10 J	--
Chrysene	ug/kg	--	55	9.8	5.2 U	--	5.2 U	5.2 U	39 J	6	5.5 U	13	32 J	--	12 J	--
Dibenzo (a,h) anthracene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Fluoranthene	ug/kg	--	55	10	5.2 U	--	5.2 U	5.2 U	49 J	7.4	5.5 U	13	36 J	--	13 J	--
Fluorene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	22 J	5.4 U	5.2 U	73	5.2 U	5.2 U	--	5.3 U	5.5 U	8.6	8.3 J	--	5.2 R	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-12	AOC19-13	AOC19-13	AOC19-13	AOC19-14	AOC19-14	AOC19-14	AOC19-14	AOC19-15	AOC19-15	AOC19-15	AOC19-5	AOC19-5	AOC19-6	AOC19-6
	SAMPLE	AOC19-12-22026	AOC19-13-22029	AOC19-13-22030	AOC19-13-22031	AOC19-14-22033	AOC19-14-22034	AOC19-14-22035	AOC19-14-22032	AOC19-15-22036	AOC19-15-22037	AOC19-15-22038	AOC19-5-22003	AOC19-5-22002	AOC19-6-22006	AOC19-6-22007
	DATE	1/21/2017	1/22/2017	1/22/2017	1/22/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	12/6/2015	12/6/2015	1/23/2016	1/23/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	5	0	0	2	5	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate										
ANALYTE	UNITS															
Naphthalene	ug/kg	--	5.3 U	5.4 U	5.2 U	--	5.2 U	5.2 U	5.2 U	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
PAH High molecular weight	ug/kg	0	464	70.1	0	976	0	0	--	37.7	6.3	116	289	--	86.5	--
PAH Low molecular weight	ug/kg	0	13	0	0	31	0	0	--	0	0	0	0	--	0	--
Phenanthrene	ug/kg	--	13	5.4 U	5.2 U	31	5.2 U	5.2 U	--	5.3 U	5.5 U	5.1 U	5.2 R	--	5.2 R	--
Pyrene	ug/kg	--	57	11	5.2 U	--	5.2 U	5.2 U	48 J	7	5.5 U	14	41 J	--	12 J	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	740 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-12	AOC19-13	AOC19-13	AOC19-13	AOC19-14	AOC19-14	AOC19-14	AOC19-14	AOC19-15	AOC19-15	AOC19-15	AOC19-5	AOC19-5	AOC19-6	AOC19-6
	SAMPLE	AOC19-12-22026	AOC19-13-22029	AOC19-13-22030	AOC19-13-22031	AOC19-14-22033	AOC19-14-22034	AOC19-14-22035	AOC19-14-22032	AOC19-15-22036	AOC19-15-22037	AOC19-15-22038	AOC19-5-22003	AOC19-5-22002	AOC19-6-22006	AOC19-6-22007
	DATE	1/21/2017	1/22/2017	1/22/2017	1/22/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	12/6/2015	12/6/2015	1/23/2016	1/23/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	5	0	0	2	5	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate										
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	71 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	71 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	140 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	71 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-12	AOC19-13	AOC19-13	AOC19-13	AOC19-14	AOC19-14	AOC19-14	AOC19-14	AOC19-15	AOC19-15	AOC19-15	AOC19-5	AOC19-5	AOC19-6	AOC19-6
	SAMPLE	AOC19-12-22026	AOC19-13-22029	AOC19-13-22030	AOC19-13-22031	AOC19-14-22033	AOC19-14-22034	AOC19-14-22035	AOC19-14-22032	AOC19-15-22036	AOC19-15-22037	AOC19-15-22038	AOC19-5-22003	AOC19-5-22002	AOC19-6-22006	AOC19-6-22007
	DATE	1/21/2017	1/22/2017	1/22/2017	1/22/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	1/21/2017	12/6/2015	12/6/2015	1/23/2016	1/23/2016
SAMPLE TOP DEPTH (FT)		2	0	2	5	0	2	5	0	0	2	5	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	6	0.5	3	6	0.5	0.5	3	6	3	0.5	0.5	3
	SAMPLE TYPE					Field Duplicate										
ANALYTE	UNITS															
Dibromomethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	71 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	71 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	7.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-7	AOC19-7	AOC19-7	AOC19-8	AOC19-8	AOC19-8	AOC19-8	AOC19-9	AOC19-9	AOC19-9	AOC19-OS1	AOC19-OS1	AOC19-OS10	AOC19-OS10	AOC19-OS2
	SAMPLE	AOC19-7-22008	AOC19-7-22010	AOC19-7-22009	AOC19-8-22011	AOC19-8-22012	AOC19-8-22013	AOC19-8-22014	AOC19-9-22015	AOC19-9-22016	AOC19-9-22017	AOC19-1-1001	AOC19-1-1002	AOC19-10-D1	AOC19-10-D2	AOC19-2-1003
	DATE	1/23/2016	1/23/2016	1/23/2016	12/16/2015	12/16/2015	12/16/2015	12/16/2015	12/5/2015	12/5/2015	12/6/2015	1/12/2011	1/12/2011	12/4/2013	12/4/2013	1/12/2011
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	9	0	2	5	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	180 J	5.7 UJ	--	160 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	3.1 UJ	0.99 J	--	11 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	3.5 UJ	0.15 UJ	--	1 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	3.2 UJ	0.3 UJ	--	1 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	3.5 UJ	0.29 UJ	--	0.7 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	3.5 UJ	0.15 UJ	--	3.8 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	3.1 UJ	0.28 UJ	--	1.1 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	2.8 UJ	0.17 UJ	--	0.83 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	1 UJ	0.2 UJ	--	0.3 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	3.3 UJ	0.14 UJ	--	2 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	3.7 UJ	0.34 UJ	--	0.49 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	20 J	1.8 UJ	--	10 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	1.1 UJ	0.11 UJ	--	1.1 J	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	1.2 UJ	0.049 UJ	--	0.19 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	1 UJ	0.099 UJ	--	0.26 UJ	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	1600 J	49 J	--	1100 J	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	20 UJ	1 UJ	--	15 J	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	6.2	0.39	--	3	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	7.6	0.35	--	4	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	1.3 J	0.00015 J	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	7.6	0.35	--	4	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	9.5	9.7	--	10	10	9.8	9.7	9.1	8.9	9.5	9.7	9.8	9	9.4	10
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.3 U	2.3 U	--	2.1 U	2.1 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	6.4	5.7	--	3.8	2.8	2.2	2.4	3.1	2.9	3.4	4	4.6	4.2	2.6	4.2
Barium	mg/kg	150	160	--	130	89	23	23	130	52	130	130	130	130	76	100
Beryllium	mg/kg	1.2 U	1.2 U	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Cadmium	mg/kg	1.2 U	1.2 U	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	--	7.2	14 J	13	8	2.8	2.6	0.59	0.2 U	0.21 U	1.1	0.91	22	3	1
Chromium, total	mg/kg	440 J	300	--	310	67	17	15	23	5.1	8.3	25	17	370	24	18
Cobalt	mg/kg	7	5.7	--	3.9	2.6	1.8	1.5	4.9	2	4.3	3.5	3.1	4.1	2.1	3
Copper	mg/kg	26 J	26	--	8.2	4.2	3	2.3	8.3	3.2	5.1	5.9	8.7	17	4.6	4.6
Lead	mg/kg	200 J	120	--	23	3	2	1.9	3.3	2.1	3	7.3	15	120	6.1	5
Mercury	mg/kg	0.12 U	0.12 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U
Molybdenum	mg/kg	2.5	3.1	--	17	2	1.8	2	1.1 U	1.2	1 U	8.8	18	140	37	27
Nickel	mg/kg	14	12	--	8.6	4.7	3.4	2.3	12	3.2	5.1	7.5	6.4	9.2	4.8	7.2
Selenium	mg/kg	1.2 UJ	1.2 U	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Silver	mg/kg	1.2 U	1.2 U	--	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Thallium	mg/kg	2.3 U	2.3 U	--	2.1 U	2.1 U	2 U	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	26 J	25	--	17	12	8.7	7.6	23	13	19	19	18	20	13	18
Zinc	mg/kg	88 J	94	--	29	14	11	8.3	23	10	22	25	38	98	18	18
Metals CLP																
Aluminum	mg/kg	--	--	--	5600	4100	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	25000	20000	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	0.042 UJ	0.041 UJ	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	14000	6300	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	5300	4200	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	170	120	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-7	AOC19-7	AOC19-7	AOC19-8	AOC19-8	AOC19-8	AOC19-8	AOC19-9	AOC19-9	AOC19-9	AOC19-OS1	AOC19-OS1	AOC19-OS10	AOC19-OS10	AOC19-OS2
	SAMPLE	AOC19-7-22008	AOC19-7-22010	AOC19-7-22009	AOC19-8-22011	AOC19-8-22012	AOC19-8-22013	AOC19-8-22014	AOC19-9-22015	AOC19-9-22016	AOC19-9-22017	AOC19-1-1001	AOC19-1-1002	AOC19-10-D1	AOC19-10-D2	AOC19-2-1003
	DATE	1/23/2016	1/23/2016	1/23/2016	12/16/2015	12/16/2015	12/16/2015	12/16/2015	12/5/2015	12/5/2015	12/6/2015	1/12/2011	1/12/2011	12/4/2013	12/4/2013	1/12/2011
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	9	0	2	5	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	1400	1000	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	1400	950	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	19 R	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	38 R	38 R	--	34 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	19 R	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	19 R	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	19 R	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	47 J	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	34 J	19 R	--	17 R	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	100 JH	38 R	--	34 R	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
2-Methyl naphthalene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	6.5 J	10 U	--	--	10 U
Acenaphthene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
Acenaphthylene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
Anthracene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
B(a)P Equivalent	ug/kg	12 JH	6.6 R	--	32 JH	--	--	--	--	--	--	20	100	--	--	35
Benzo (a) anthracene	ug/kg	11 J	5.7 R	--	14 J	--	--	--	--	--	--	5.1 U	35	--	--	10 U
Benzo (a) pyrene	ug/kg	5.8 R	5.7 R	--	21 J	--	--	--	--	--	--	12	50	--	--	10 U
Benzo (b) fluoranthene	ug/kg	50 J	5.7 R	--	56 J	--	--	--	--	--	--	9.2	94	--	--	10 U
Benzo (ghi) perylene	ug/kg	5.8 R	5.7 R	--	7.6 J	--	--	--	--	--	--	8.8	76	--	--	35
Benzo (k) fluoranthene	ug/kg	22 J	5.7 R	--	22 J	--	--	--	--	--	--	10	25	--	--	10 U
Chrysene	ug/kg	22 J	5.7 R	--	19 J	--	--	--	--	--	--	5.1 U	57	--	--	10 U
Dibenzo (a,h) anthracene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.8	34	--	--	26
Fluoranthene	ug/kg	31 J	5.7 R	--	25 J	--	--	--	--	--	--	5.1 U	71	--	--	10 U
Fluorene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.8 R	5.7 R	--	7 J	--	--	--	--	--	--	7.1	66	--	--	28

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-7	AOC19-7	AOC19-7	AOC19-8	AOC19-8	AOC19-8	AOC19-8	AOC19-9	AOC19-9	AOC19-9	AOC19-OS1	AOC19-OS1	AOC19-OS10	AOC19-OS10	AOC19-OS2
	SAMPLE	AOC19-7-22008	AOC19-7-22010	AOC19-7-22009	AOC19-8-22011	AOC19-8-22012	AOC19-8-22013	AOC19-8-22014	AOC19-9-22015	AOC19-9-22016	AOC19-9-22017	AOC19-1-1001	AOC19-1-1002	AOC19-10-D1	AOC19-10-D2	AOC19-2-1003
	DATE	1/23/2016	1/23/2016	1/23/2016	12/16/2015	12/16/2015	12/16/2015	12/16/2015	12/5/2015	12/5/2015	12/6/2015	1/12/2011	1/12/2011	12/4/2013	12/4/2013	1/12/2011
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	9	0	2	5	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Naphthalene	ug/kg	5.8 R	5.7 R	--	5.2 R	--	--	--	--	--	--	5.1 U	10 U	--	--	10 U
PAH High molecular weight	ug/kg	165	--	--	199	--	--	--	--	--	--	52.9	574	--	--	89
PAH Low molecular weight	ug/kg	10	--	--	5.9	--	--	--	--	--	--	6.5	15	--	--	0
Phenanthrene	ug/kg	10 J	5.7 R	--	5.9 J	--	--	--	--	--	--	5.1 U	15	--	--	10 U
Pyrene	ug/kg	29 J	5.7 R	--	27 J	--	--	--	--	--	--	5.1 U	66	--	--	10 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	340 U	690 U	--	--	680 U
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-7	AOC19-7	AOC19-7	AOC19-8	AOC19-8	AOC19-8	AOC19-8	AOC19-9	AOC19-9	AOC19-9	AOC19-OS1	AOC19-OS1	AOC19-OS10	AOC19-OS10	AOC19-OS2
	SAMPLE	AOC19-7-22008	AOC19-7-22010	AOC19-7-22009	AOC19-8-22011	AOC19-8-22012	AOC19-8-22013	AOC19-8-22014	AOC19-9-22015	AOC19-9-22016	AOC19-9-22017	AOC19-1-1001	AOC19-1-1002	AOC19-10-D1	AOC19-10-D2	AOC19-2-1003
	DATE	1/23/2016	1/23/2016	1/23/2016	12/16/2015	12/16/2015	12/16/2015	12/16/2015	12/5/2015	12/5/2015	12/6/2015	1/12/2011	1/12/2011	12/4/2013	12/4/2013	1/12/2011
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	9	0	2	5	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-7	AOC19-7	AOC19-7	AOC19-8	AOC19-8	AOC19-8	AOC19-8	AOC19-9	AOC19-9	AOC19-9	AOC19-OS1	AOC19-OS1	AOC19-OS10	AOC19-OS10	AOC19-OS2
	SAMPLE	AOC19-7-22008	AOC19-7-22010	AOC19-7-22009	AOC19-8-22011	AOC19-8-22012	AOC19-8-22013	AOC19-8-22014	AOC19-9-22015	AOC19-9-22016	AOC19-9-22017	AOC19-1-1001	AOC19-1-1002	AOC19-10-D1	AOC19-10-D2	AOC19-2-1003
	DATE	1/23/2016	1/23/2016	1/23/2016	12/16/2015	12/16/2015	12/16/2015	12/16/2015	12/5/2015	12/5/2015	12/6/2015	1/12/2011	1/12/2011	12/4/2013	12/4/2013	1/12/2011
SAMPLE TOP DEPTH (FT)		0	2	0	0	2	5	9	0	2	5	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	0.5	3	6	10	0.5	3	6	0.5	2	0.5	3	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-OS2	AOC19-OS3	AOC19-OS3	AOC19-OS4	AOC19-OS4	AOC19-OS7	AOC19-OS7	AOC19-OS8	AOC19-OS8	AOC20-1	AOC20-1	AOC20-1	AOC20-2	AOC20-2	AOC20-2
	SAMPLE	AOC19-2-1004	AOC19-3-1005	AOC19-3-1006	AOC19-4-1007	AOC19-4-1008	AOC19-7-D1	AOC19-7-D2	AOC19-8-D1	AOC19-8-D2	AOC20-1-23000	AOC20-1-23001	AOC20-1-23002	AOC20-2-23003	AOC20-2-23004	AOC20-2-23016
	DATE	1/12/2011	1/12/2011	1/12/2011	1/12/2011	1/12/2011	12/4/2013	12/4/2013	12/4/2013	12/4/2013	1/26/2016	1/26/2016	1/26/2016	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		1	0	1	0	1	0	2	0	2	0	2	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		2	0.5	2	0.5	2	0.5	3	0.5	3	1	3	3	1	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		2	0.5	2	0.5	2	0.5	3	0.5	3	0.5	3	3	0.5	3	6
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	9.9	8.7	8.5	8.9	9.1	9.5	9.7	8.4	8.4	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2 UJ	2 U	2.1 U	2.1 U	--	2.1 U	2.2 U	2.1 U
Arsenic	mg/kg	4.9	4.7	4.4	4.9	4.2	4.4	4.2	3.1	3.2	2.9	3.5	--	3	4.8	3.1
Barium	mg/kg	110	140	110	130	130	190	160	110	74	100	84	--	100	210	110
Beryllium	mg/kg	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--	1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.92	0.41 U	0.41 U	0.42 U	0.43 U	27	31	13	1.4	0.32	0.21 U	--	0.21 U	0.22 U	0.21 U
Chromium, total	mg/kg	12	7.9	6.8	12	10	510	1100	160	20	12	--	13	11	17	11
Cobalt	mg/kg	4	2.9	3.6	3.3	3	5.5	6.1	2.3	2.4	4	--	4.3	3.7	4.8	3.6
Copper	mg/kg	6.2	4.1 U	2.9	5.3	3.6	37	20	9.8	5.5	11	6.9	--	9.9	12	7.7
Lead	mg/kg	5.1	5.1	3.7	4.8	4.4	240	54	86	14	8.3	4.2	--	2.9	4.2	3.5
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U	0.11 U	--	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	110	2 U	1 U	1.1 U	1.1 U	9.9	5.1	190	77	1.1 U	1.1 U	--	1 U	1.1 U	1.1 U
Nickel	mg/kg	6.3	5.7	5.5	7.7	5.9	12	15	5.1	4.9	8.5	--	10	8.4	10	7.3
Selenium	mg/kg	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--	1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--	1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	2 U	2 U	2.1 U	2.1 U	--	2.1 U	2.2 U	2.1 U
Vanadium	mg/kg	17	17	16	20	16	20	25	15	15	16	--	20	16	24	17
Zinc	mg/kg	20	17	16	19	18	340	280	43	21	31	23	--	19	26	18
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	3700	3400	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	23000	22000	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	1 UJ	1 UJ	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	7300	7400	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	4100	4200	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	140	130	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-OS2	AOC19-OS3	AOC19-OS3	AOC19-OS4	AOC19-OS4	AOC19-OS7	AOC19-OS7	AOC19-OS8	AOC19-OS8	AOC20-1	AOC20-1	AOC20-1	AOC20-2	AOC20-2	AOC20-2
	SAMPLE	AOC19-2-1004	AOC19-3-1005	AOC19-3-1006	AOC19-4-1007	AOC19-4-1008	AOC19-7-D1	AOC19-7-D2	AOC19-8-D1	AOC19-8-D2	AOC20-1-23000	AOC20-1-23001	AOC20-1-23002	AOC20-2-23003	AOC20-2-23004	AOC20-2-23016
	DATE	1/12/2011	1/12/2011	1/12/2011	1/12/2011	1/12/2011	12/4/2013	12/4/2013	12/4/2013	12/4/2013	1/26/2016	1/26/2016	1/26/2016	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		1	0	1	0	1	0	2	0	2	0	2	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		2	0.5	2	0.5	2	0.5	3	0.5	3	1	3	3	1	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		2	0.5	2	0.5	2	0.5	3	0.5	3	0.5	3	3	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	920	870	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	990	480	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	17 U	18 U	--	17 U	18 U	18 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	35 U	35 U	--	35 U	36 U	35 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	17 U	18 U	--	17 U	18 U	18 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	17 U	18 U	--	17 U	18 U	18 U
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	17 U	18 U	--	17 U	18 U	18 U
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	28	18 U	--	17 U	18 U	18 U
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	17 U	18 U	--	17 U	18 U	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	53.5	36 U	--	34 U	36 U	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
2-Methyl naphthalene	ug/kg	10 U	5.8	6.6	5.6	5.7	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
Acenaphthene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
Acenaphthylene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
Anthracene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
B(a)P Equivalent	ug/kg	48	5.9	23	6.1	6.4	--	--	--	--	59	--	60	10	6.5	6.8
Benzo (a) anthracene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.6	--	5.4	5.2 U	5.4 U	5.3 U
Benzo (a) pyrene	ug/kg	19	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	53 U	54 U	--	5.9	5.4 U	5.3 U
Benzo (b) fluoranthene	ug/kg	34	5.1 U	8.3	5.3 U	5.7	--	--	--	--	53 U	54 U	--	12	5.4	9.2
Benzo (ghi) perylene	ug/kg	42	5.1 U	21	5.3 U	5.3 U	--	--	--	--	53 U	54 U	--	5.2 U	5.4 U	5.3 U
Benzo (k) fluoranthene	ug/kg	10 U	5.1 U	5.9	5.3 U	5.3 U	--	--	--	--	53 U	54 U	--	5.2	5.4 U	5.3 U
Chrysene	ug/kg	21	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	7.4	--	5.4	5.9	5.4 U	5.3 U
Dibenzo (a,h) anthracene	ug/kg	22	5.1 U	17	5.3 U	5.3 U	--	--	--	--	53 U	54 U	--	5.2 U	5.4 U	5.3 U
Fluoranthene	ug/kg	20	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.6	5.4 U	5.3
Fluorene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	35	5.1 U	19	5.3 U	5.3 U	--	--	--	--	53 U	54 U	--	5.2 U	5.4 U	5.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-OS2	AOC19-OS3	AOC19-OS3	AOC19-OS4	AOC19-OS4	AOC19-OS7	AOC19-OS7	AOC19-OS8	AOC19-OS8	AOC20-1	AOC20-1	AOC20-1	AOC20-2	AOC20-2	AOC20-2
	SAMPLE	AOC19-2-1004	AOC19-3-1005	AOC19-3-1006	AOC19-4-1007	AOC19-4-1008	AOC19-7-D1	AOC19-7-D2	AOC19-8-D1	AOC19-8-D2	AOC20-1-23000	AOC20-1-23001	AOC20-1-23002	AOC20-2-23003	AOC20-2-23004	AOC20-2-23016
	DATE	1/12/2011	1/12/2011	1/12/2011	1/12/2011	1/12/2011	12/4/2013	12/4/2013	12/4/2013	12/4/2013	1/26/2016	1/26/2016	1/26/2016	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		1	0	1	0	1	0	2	0	2	0	2	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		2	0.5	2	0.5	2	0.5	3	0.5	3	1	3	3	1	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		2	0.5	2	0.5	2	0.5	3	0.5	3	0.5	3	3	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Naphthalene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
PAH High molecular weight	ug/kg	213	0	71.2	0	5.7	--	--	--	--	23	--	21.6	40.2	5.4	19.8
PAH Low molecular weight	ug/kg	0	5.8	6.6	5.6	5.7	--	--	--	--	0	--	43.2	0	0	0
Phenanthrene	ug/kg	10 U	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	5.3 U	--	5.4	5.2 U	5.4 U	5.3 U
Pyrene	ug/kg	20	5.1 U	5.2 U	5.3 U	5.3 U	--	--	--	--	10	--	5.4	5.6	5.4 U	5.3
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	690 U	340 U	340 U	350 U	350 U	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	32	--	52	10 U	11 U	11 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-OS2	AOC19-OS3	AOC19-OS3	AOC19-OS4	AOC19-OS4	AOC19-OS7	AOC19-OS7	AOC19-OS8	AOC19-OS8	AOC20-1	AOC20-1	AOC20-1	AOC20-2	AOC20-2	AOC20-2
	SAMPLE	AOC19-2-1004	AOC19-3-1005	AOC19-3-1006	AOC19-4-1007	AOC19-4-1008	AOC19-7-D1	AOC19-7-D2	AOC19-8-D1	AOC19-8-D2	AOC20-1-23000	AOC20-1-23001	AOC20-1-23002	AOC20-2-23003	AOC20-2-23004	AOC20-2-23016
	DATE	1/12/2011	1/12/2011	1/12/2011	1/12/2011	1/12/2011	12/4/2013	12/4/2013	12/4/2013	12/4/2013	1/26/2016	1/26/2016	1/26/2016	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		1	0	1	0	1	0	2	0	2	0	2	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		2	0.5	2	0.5	2	0.5	3	0.5	3	1	3	3	1	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		2	0.5	2	0.5	2	0.5	3	0.5	3	0.5	3	3	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	1.3 U	--	--	1.4 U	1.3 U
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	140	--	170	34	68	31
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	67 U	--	62 U	66 U
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	130 UJ	--	120 U	130 U
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	67 U	--	62 U	66 U
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC19-OS2	AOC19-OS3	AOC19-OS3	AOC19-OS4	AOC19-OS4	AOC19-OS7	AOC19-OS7	AOC19-OS8	AOC19-OS8	AOC20-1	AOC20-1	AOC20-1	AOC20-2	AOC20-2	AOC20-2
	SAMPLE	AOC19-2-1004	AOC19-3-1005	AOC19-3-1006	AOC19-4-1007	AOC19-4-1008	AOC19-7-D1	AOC19-7-D2	AOC19-8-D1	AOC19-8-D2	AOC20-1-23000	AOC20-1-23001	AOC20-1-23002	AOC20-2-23003	AOC20-2-23004	AOC20-2-23016
	DATE	1/12/2011	1/12/2011	1/12/2011	1/12/2011	1/12/2011	12/4/2013	12/4/2013	12/4/2013	12/4/2013	1/26/2016	1/26/2016	1/26/2016	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		1	0	1	0	1	0	2	0	2	0	2	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		2	0.5	2	0.5	2	0.5	3	0.5	3	1	3	3	1	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		2	0.5	2	0.5	2	0.5	3	0.5	3	0.5	3	3	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	67 U	--	62 U	66 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	67 U	--	62 U	66 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	6.7 U	--	6.2 U	6.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-2	AOC20-3	AOC20-3	AOC20-3	AOC20-4	AOC20-4	AOC20-4	AOC20-4	AOC20-5	AOC20-5	AOC20-6	AOC20-6	AOC20-7	AOC20-7	AOC20-7
	SAMPLE	AOC20-2-23017	AOC20-3-23005	AOC20-3-23006	AOC20-3-23019	AOC20-4-23007	AOC20-4-23016	AOC20-4-23008	AOC20-4-23009	AOC20-5-23010	AOC20-5-23011	AOC20-6-23012	AOC20-6-23013	AOC20-7-23014	AOC20-7-23015	AOC20-7-23018
	DATE	12/18/2015	12/18/2015	12/18/2015	12/18/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		9	0	2	7	0	1.9	0	2	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	1	3	8	1	2	1	3	1	3	1	3	1	3	5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	8	0.5	2	0.5	3	0.5	3	0.5	3	0.5	3	5.5
	SAMPLE TYPE							Field Duplicate								
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	300 J	810 J	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	23 J	43 J	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	1.6 UJ	7.5 J	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	2.6 J	2.6 UJ	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	1.9 UJ	3.3 J	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	7.7 J	20 J	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	1.5 J	4 J	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	0.92 UJ	3.9 J	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	0.91 UJ	0.77 UJ	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	3.7 J	12 J	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	0.66 UJ	0.89 UJ	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	28 UJ	55 UJ	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	0.71 UJ	1.4 UJ	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	0.44 UJ	0.66 UJ	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	0.9 UJ	1.4 J	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	3400 J	6200 J	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	77 J	76 J	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	4.7	13	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	8.2	22	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	8.2	22	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2 U	--	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U
Arsenic	mg/kg	3.1	4.7	3.9	2.4	--	4.4	3.4	3.1	4.2	4.2	3.7	3.4	2.5	2.3	3
Barium	mg/kg	78	94	75	17	150	130	--	110	120	87	120	110	80	86	53
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1.6	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.7	0.22	0.2 U	0.21 U	0.2 U	--	0.2 U	0.27	0.44	0.21 U	0.21 U	0.21 U	0.21 U	0.2 U
Chromium, total	mg/kg	8.6	36	13	2.5	--	24	15 J	13	18	14	14	14	10	10	3.2
Cobalt	mg/kg	3.9	3.8	2.9	1 U	5.8	7	--	4.6	4.7	4.2	5.2	4.7	4.6	3.8	1.4
Copper	mg/kg	8.5	9.1	5.8	2.2	--	71	27 J	7.6	12	5.8	9.3	8.1	22	7.2	2.2
Lead	mg/kg	5.8	8.6	7.2	1.2	--	17	5	5.2	5.9	4.8	8.2	4.3	4	2.5	1.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1.2	1 U	1 U	1 U	2.6	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	7.4	7.8	6.1	1.7	9	15	--	9.2	10	11	11	11	10	8.2	3
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2 U	--	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U
Vanadium	mg/kg	17	18	16	5.6	--	23	21	19	20	18	22	19	19	15	8.2
Zinc	mg/kg	27	40	25	6	--	210	36	27	32	26	29	27	18	18	8.7
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-2	AOC20-3	AOC20-3	AOC20-3	AOC20-4	AOC20-4	AOC20-4	AOC20-4	AOC20-5	AOC20-5	AOC20-6	AOC20-6	AOC20-7	AOC20-7	AOC20-7
	SAMPLE	AOC20-2-23017	AOC20-3-23005	AOC20-3-23006	AOC20-3-23019	AOC20-4-23007	AOC20-4-23016	AOC20-4-23008	AOC20-4-23009	AOC20-5-23010	AOC20-5-23011	AOC20-6-23012	AOC20-6-23013	AOC20-7-23014	AOC20-7-23015	AOC20-7-23018
	DATE	12/18/2015	12/18/2015	12/18/2015	12/18/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		9	0	2	7	0	1.9	0	2	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	1	3	8	1	2	1	3	1	3	1	3	1	3	5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	8	0.5	2	0.5	3	0.5	3	0.5	3	0.5	3	5.5
	SAMPLE TYPE							Field Duplicate								
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	35 U	34 U	34 U	34 U	34 U	33 U	--	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	490	190	17 U	--	91	52	17 U	37	17 U	22	43	17 U	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	--	64	36	17 U	27	17 U	55	31	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	516	216	34 U	--	172	105	34 U	81	34 U	94	91	34 U	34 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	110 J	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
2-Methyl naphthalene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	190 J	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Acenaphthene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	9 J	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Acenaphthylene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	5 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Anthracene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	19 J	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
B(a)P Equivalent	ug/kg	6 U	150	64	6.3	--	240	57	9.6	58	57	59	58	6 U	58 U	5.9 U
Benzo (a) anthracene	ug/kg	5.2 U	63	31	5.1 U	17	160	--	5.1 U	5.2 U	5.1 U	51 U	5.2 U	5.2 U	5.2 U	5.1 U
Benzo (a) pyrene	ug/kg	5.2 U	96	52 U	5.1 U	21	160	--	5.4	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U
Benzo (b) fluoranthene	ug/kg	5.2 U	170	58	6.4	39	320	--	11	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U
Benzo (ghi) perylene	ug/kg	5.2 U	55	52 U	5.1 U	6.5	70	--	5.1 U	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5.2 U	62	52 U	5.1 U	16	73	--	5.1 U	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U
Chrysene	ug/kg	5.2 U	110	43	5.1 U	--	220	7.2	5.4	5.2 U	5.1 U	51 U	5.2 U	5.2 U	5.2 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	52 U	52 U	5.1 U	5.2 U	50 U	--	5.1 U	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U
Fluoranthene	ug/kg	5.2 U	200	86	9.5	41 J	460	--	6.8	6.2	8.2	8.5 J	5.2 U	5.2 U	5.2 U	5.1 U
Fluorene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	5 U	5.1 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	52	52 U	5.1 U	6.5	70	--	5.1 U	52 U	51 U	51 U	52 U	5.2 U	52 U	5.1 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-2	AOC20-3	AOC20-3	AOC20-3	AOC20-4	AOC20-4	AOC20-4	AOC20-4	AOC20-5	AOC20-5	AOC20-6	AOC20-6	AOC20-7	AOC20-7	AOC20-7
	SAMPLE	AOC20-2-23017	AOC20-3-23005	AOC20-3-23006	AOC20-3-23019	AOC20-4-23007	AOC20-4-23016	AOC20-4-23008	AOC20-4-23009	AOC20-5-23010	AOC20-5-23011	AOC20-6-23012	AOC20-6-23013	AOC20-7-23014	AOC20-7-23015	AOC20-7-23018
	DATE	12/18/2015	12/18/2015	12/18/2015	12/18/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		9	0	2	7	0	1.9	0	2	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	1	3	8	1	2	1	3	1	3	1	3	1	3	5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	8	0.5	2	0.5	3	0.5	3	0.5	3	0.5	3	5.5
	SAMPLE TYPE							Field Duplicate								
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.2 U	5.2 U	5.1 U	--	32 J	5.1 U	4.9 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
PAH High molecular weight	ug/kg	0	978	293	24.7	207	1930	--	35.4	12.4	16.1	16.3	5.2	0	0	0
PAH Low molecular weight	ug/kg	0	61	22	0	14	540	--	0	0	0	0	0	0	0	0
Phenanthrene	ug/kg	5.2 U	61	22	5.1 U	14	180 J	--	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U
Pyrene	ug/kg	5.2 U	170	75	8.8	38 J	400	--	6.8	6.2	7.9	7.8 J	5.2	5.2 U	5.2 U	5.1 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	10 U	68	--	10 U	10 U	39	63	10 U	10 U	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-2	AOC20-3	AOC20-3	AOC20-3	AOC20-4	AOC20-4	AOC20-4	AOC20-4	AOC20-5	AOC20-5	AOC20-6	AOC20-6	AOC20-7	AOC20-7	AOC20-7
	SAMPLE	AOC20-2-23017	AOC20-3-23005	AOC20-3-23006	AOC20-3-23019	AOC20-4-23007	AOC20-4-23016	AOC20-4-23008	AOC20-4-23009	AOC20-5-23010	AOC20-5-23011	AOC20-6-23012	AOC20-6-23013	AOC20-7-23014	AOC20-7-23015	AOC20-7-23018
	DATE	12/18/2015	12/18/2015	12/18/2015	12/18/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		9	0	2	7	0	1.9	0	2	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	1	3	8	1	2	1	3	1	3	1	3	1	3	5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	8	0.5	2	0.5	3	0.5	3	0.5	3	0.5	3	5.5
	SAMPLE TYPE							Field Duplicate								
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1.2 U	--	1.2 U	1.3 U	--	--	1 U	--	1.1 U	--	1.3 U	--	1.3 U	1.3 U
TPH as motor oil		mg/kg	10 U	25	12	10 U	55	560	--	33	37	180	180	42	10 U	10 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1-Dichloroethene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1-Dichloropropene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1,1-Trichloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1,1,2-Tetrachloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1,2-Trichloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,1,2,2-Tetrachloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2-Dibromo-3-chloropropane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2-Dibromoethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2-Dichlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2-Dichloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2-Dichloropropane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2,3-Trichlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2,3-Trichloropropane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2,4-Trichlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,2,4-Trimethylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,3-Dichlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,3-Dichloropropane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,3,5-Trimethylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,4-Dichlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Acetone	ug/kg	61 U	--	61 U	68 U	--	--	--	49 U	--	54 U	--	64 U	--	61 U	65 U
Acrolein	ug/kg	120 U	--	120 U	140 U	--	--	--	98 U	--	110 U	--	130 U	--	120 U	130 U
Acrylonitrile	ug/kg	61 U	--	61 U	68 U	--	--	--	49 U	--	54 U	--	64 U	--	61 U	65 U
Benzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Bromochloromethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Bromodichloromethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Bromoform	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Bromomethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Carbon disulfide	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Carbon tetrachloride	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Chloro methane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Chlorobenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Chloroethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Chloroform	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
cis-1,2-Dichloroethene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 UJ	--	5.4 UJ	--	6.4 UJ	--	6.1 U	6.5 U
cis-1,3-Dichloropropene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-2	AOC20-3	AOC20-3	AOC20-3	AOC20-4	AOC20-4	AOC20-4	AOC20-4	AOC20-5	AOC20-5	AOC20-6	AOC20-6	AOC20-7	AOC20-7	AOC20-7
	SAMPLE	AOC20-2-23017	AOC20-3-23005	AOC20-3-23006	AOC20-3-23019	AOC20-4-23007	AOC20-4-23016	AOC20-4-23008	AOC20-4-23009	AOC20-5-23010	AOC20-5-23011	AOC20-6-23012	AOC20-6-23013	AOC20-7-23014	AOC20-7-23015	AOC20-7-23018
	DATE	12/18/2015	12/18/2015	12/18/2015	12/18/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/15/2015	12/18/2015	12/18/2015	12/18/2015
SAMPLE TOP DEPTH (FT)		9	0	2	7	0	1.9	0	2	0	2	0	2	0	2	5
SAMPLE BOTTOM DEPTH (FT)		10	1	3	8	1	2	1	3	1	3	1	3	1	3	5.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	3	8	0.5	2	0.5	3	0.5	3	0.5	3	0.5	3	5.5
	SAMPLE TYPE							Field Duplicate								
ANALYTE	UNITS															
Dibromomethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Dichlorodifluoromethane	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Ethyl- benzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Hexachlorobutadiene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	61 U	--	61 U	68 U	--	--	--	49 U	--	54 U	--	64 U	--	61 U	65 U
Methyl isobutyl ketone	ug/kg	61 U	--	61 U	68 U	--	--	--	49 U	--	54 U	--	64 U	--	61 U	65 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
N-Butylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
N-Propylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
sec-Butylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Styrene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
tert-Butylbenzene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Tetrachloroethene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Toluene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
trans-1,2-Dichloroethene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
trans-1,3-Dichloropropene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Trichloroethene	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Vinyl chloride	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Xylene, m,p-	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Xylene, o-	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U
Xylenes, total	ug/kg	6.1 U	--	6.1 U	6.8 U	--	--	--	4.9 U	--	5.4 U	--	6.4 U	--	6.1 U	6.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS08	AOC20-OS08	AOC20-OS09	AOC20-OS09	AOC20-OS09	AOC20-OS11	AOC20-OS11	AOC20-OS11	AOC20-OS12	AOC20-OS12	AOC20-OS12	AOC20-OS13	AOC20-OS13	AOC20-OS13	AOC20-OS13
	SAMPLE	AOC20-08-OS1-1001	AOC20-08-OS1-1002	AOC20-09-OS1-1001	AOC20-09-OS1-1002	AOC20-09-OS1-1003	AOC20-11-OS1-1001	AOC20-11-OS1-1002	AOC20-11-OS1-1003	AOC20-12-OS1-1001	AOC20-12-OS1-1002	AOC20-12-OS1-1003	AOC20-13-OS1-1001	AOC20-13-OS1-1002	AOC20-13-OS1-1004	AOC20-13-OS1-1003
	DATE	12/18/2016	12/18/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016
SAMPLE TOP DEPTH (FT)		0	4	0	4	4	0	2	6	0	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
	SAMPLE TYPE					Field Duplicate										Field Duplicate
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 UJ	2.3 UJ	2.1 UJ	2.1 UJ	--	2 UJ	2.1 UJ	2.2 UJ	2 UJ	2.1 UJ	2.1 UJ	2 UJ	2.2 UJ	2.2 UJ	--
Arsenic	mg/kg	4.6	4.9	6.2	--	4.3	4.5	4.6	4.3	5.9	6.8	3.6	6.3	4.9	4.3	--
Barium	mg/kg	180	110	180	180 J	--	130	150	150	130	130	91	150	--	76	140
Beryllium	mg/kg	1 U	1.2 U	1 U	1 U	--	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--
Cadmium	mg/kg	1.2	1.3	1 U	1 U	--	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--
Chromium, Hexavalent	mg/kg	1.3	0.23 U	2.4	--	0.78	0.2 U	0.21 U	0.23	5.1	3.6	0.28	1.6	--	0.53	1.1
Chromium, total	mg/kg	88	50	70	--	21	20	19	13	140	220	17	38	58	50	--
Cobalt	mg/kg	6.3	12	6.8	--	5.8	6	6	4.7	5.9	3.8	2.5	6.1	--	11	8.6
Copper	mg/kg	140	31	30	--	9.6	10	9.5	7.4	29	28	4.3	19	22	20	--
Lead	mg/kg	63	5.8	50	--	9	6.1	5.5	6.6	42	78	5.6	21	--	11	29 J
Mercury	mg/kg	0.17	0.12 U	0.1 U	0.1 U	--	0.1 U	0.11 U	0.11 U	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	--
Molybdenum	mg/kg	1.9 J	1.2 U	10	1 U	--	1 U	1.1 U	1.1 U	44	1.6	1 U	1 U	1.1 U	1.1 U	--
Nickel	mg/kg	15	35	12	--	8.3	11	12	8.6	11	7.4	3.9	14	--	29	26 J
Selenium	mg/kg	1 UJ	1.2 UJ	1 UJ	1 UJ	--	1 UJ	1.1 UJ	1.1 UJ	1 UJ	1.1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	--
Silver	mg/kg	1 U	1.2 U	1 U	1 U	--	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	--
Thallium	mg/kg	2 UJ	2.3 UJ	2.1 U	2.1 U	--	2 U	2.1 U	2.2 U	2 U	2.1 U	2.1 U	2 U	2.2 U	2.2 U	--
Vanadium	mg/kg	24	49	30	--	26	28	28	22	25	26	13	30	--	44	36
Zinc	mg/kg	170	52	130	--	48	39	31	25	260	280	25	78	--	58	92
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS08	AOC20-OS08	AOC20-OS09	AOC20-OS09	AOC20-OS09	AOC20-OS11	AOC20-OS11	AOC20-OS11	AOC20-OS12	AOC20-OS12	AOC20-OS12	AOC20-OS13	AOC20-OS13	AOC20-OS13	AOC20-OS13
	SAMPLE	AOC20-08-OS1-1001	AOC20-08-OS1-1002	AOC20-09-OS1-1001	AOC20-09-OS1-1002	AOC20-09-OS1-1003	AOC20-11-OS1-1001	AOC20-11-OS1-1002	AOC20-11-OS1-1003	AOC20-12-OS1-1001	AOC20-12-OS1-1002	AOC20-12-OS1-1003	AOC20-13-OS1-1001	AOC20-13-OS1-1002	AOC20-13-OS1-1004	AOC20-13-OS1-1003
	DATE	12/18/2016	12/18/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016
SAMPLE TOP DEPTH (FT)		0	4	0	4	4	0	2	6	0	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
	SAMPLE TYPE					Field Duplicate										Field Duplicate
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	19 U	17 U	17 U	--	17 U	18 U	18 U	17 U	17 U	17 U	17 U	18 U	18 U	--
Aroclor 1221	ug/kg	33 U	38 U	34 U	34 U	--	33 U	35 U	36 U	33 U	35 U	34 U	34 U	36 U	36 U	--
Aroclor 1232	ug/kg	17 U	19 U	17 U	17 U	--	17 U	18 U	18 U	17 U	17 U	17 U	17 U	18 U	18 U	--
Aroclor 1242	ug/kg	17 U	19 U	17 U	17 U	--	17 U	18 U	18 U	17 U	17 U	17 U	17 U	18 U	18 U	--
Aroclor 1248	ug/kg	17 U	19 U	17 U	17 U	--	17 U	18 U	18 U	17 U	17 U	17 U	17 U	18 U	18 U	--
Aroclor 1254	ug/kg	530	19 U	1900 J	--	560 J	33	18 U	18 U	1300	2800	110	150	--	380	380 J
Aroclor 1260	ug/kg	170	19 U	1300 J	--	290 J	17 U	18 U	18 U	910	1700	17 U	67	79	18 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	717	38 U	3220	--	867	58.5	36 U	36 U	2230	4520	136	234	--	407	518
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1	5.3 U	57	5.1 U	5.4 U	5.4 U	--
2-Methyl naphthalene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1	5.3 U	88	5.1 U	--	5.4 U	5.4
Acenaphthene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1 U	6.7	430	5.1 U	5.4 U	5.4 U	--
Acenaphthylene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1 U	5.3 U	5.2 U	5.1 U	5.4 U	5.4 U	--
Anthracene	ug/kg	24	5.8 U	14	5.2 U	--	5.1 U	5.3 U	5.4 U	6.1	17	660	5.1 U	5.4 U	5.4 U	--
B(a)P Equivalent	ug/kg	570	6.7 U	260	--	85	24	23	6.8	120	250	1600	100	--	56	100
Benzo (a) anthracene	ug/kg	340	5.8 U	130	--	37	9.5	8.8	5.4 U	61	160	2000	38	--	26	50
Benzo (a) pyrene	ug/kg	440	5.8 U	200	--	66	17	16	5.4 U	85	190	1200	75	--	41	75
Benzo (b) fluoranthene	ug/kg	720	5.8 U	300	56	--	30	28	8	160	340	1900	130	98	69	--
Benzo (ghi) perylene	ug/kg	230	5.8 U	130	8.3 J	--	8.1	6	5.8	88	91	130	78	--	25	68
Benzo (k) fluoranthene	ug/kg	280	5.8 U	160	--	55 J	13	14	5.4 U	71	110 J	940	61	--	28	65
Chrysene	ug/kg	500	5.8 U	190	--	60	16	14	5.4 U	79	170	1800	62	--	37	69
Dibenzo (a,h) anthracene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1 U	5.3 U	5.2 U	5.1 U	5.4 U	5.4 U	--
Fluoranthene	ug/kg	850	5.8 U	450	--	98	20	16	5.4	130	410	5600	77	94	62	--
Fluorene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1 U	5.3 U	320	5.1 U	5.4 U	5.4 U	--
Indeno (1,2,3-cd) pyrene	ug/kg	230	5.8 U	110	8.3 J	--	7.8	5.7	5.4 U	71	85	170	58	--	21	57

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS08	AOC20-OS08	AOC20-OS09	AOC20-OS09	AOC20-OS09	AOC20-OS11	AOC20-OS11	AOC20-OS11	AOC20-OS12	AOC20-OS12	AOC20-OS12	AOC20-OS13	AOC20-OS13	AOC20-OS13	AOC20-OS13
	SAMPLE	AOC20-08-OS1-1001	AOC20-08-OS1-1002	AOC20-09-OS1-1001	AOC20-09-OS1-1002	AOC20-09-OS1-1003	AOC20-11-OS1-1001	AOC20-11-OS1-1002	AOC20-11-OS1-1003	AOC20-12-OS1-1001	AOC20-12-OS1-1002	AOC20-12-OS1-1003	AOC20-13-OS1-1001	AOC20-13-OS1-1002	AOC20-13-OS1-1004	AOC20-13-OS1-1003
	DATE	12/18/2016	12/18/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016
SAMPLE TOP DEPTH (FT)		0	4	0	4	4	0	2	6	0	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
	SAMPLE TYPE					Field Duplicate										Field Duplicate
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5.8 U	5.1 U	5.2 U	--	5.1 U	5.3 U	5.4 U	5.1 U	5.3 U	1100	5.1 U	5.4 U	5.4 U	--
PAH High molecular weight	ug/kg	4420	0	2060	--	574	141	126	25	865	1840	18000	653	--	363	744
PAH Low molecular weight	ug/kg	234	0	164	--	28	0	0	0	59.3	144	7560	18	--	19	49.4
Phenanthrene	ug/kg	210	5.8 U	150	--	28	5.1 U	5.3 U	5.4 U	43	120	4900	18	--	19	44
Pyrene	ug/kg	830	5.8 U	390	--	90	20	17	5.8	120	280	4300	74	84	54	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	59 J	12 J	29 J	35 J	--	11 J	21 J	14 J	14 J	15 J	10 UJ	15 J	19 J	23 J	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS08	AOC20-OS08	AOC20-OS09	AOC20-OS09	AOC20-OS09	AOC20-OS11	AOC20-OS11	AOC20-OS11	AOC20-OS12	AOC20-OS12	AOC20-OS12	AOC20-OS13	AOC20-OS13	AOC20-OS13	AOC20-OS13
	SAMPLE	AOC20-08-OS1-1001	AOC20-08-OS1-1002	AOC20-09-OS1-1001	AOC20-09-OS1-1002	AOC20-09-OS1-1003	AOC20-11-OS1-1001	AOC20-11-OS1-1002	AOC20-11-OS1-1003	AOC20-12-OS1-1001	AOC20-12-OS1-1002	AOC20-12-OS1-1003	AOC20-13-OS1-1001	AOC20-13-OS1-1002	AOC20-13-OS1-1004	AOC20-13-OS1-1003
	DATE	12/18/2016	12/18/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016
SAMPLE TOP DEPTH (FT)		0	4	0	4	4	0	2	6	0	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
	SAMPLE TYPE					Field Duplicate										Field Duplicate
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.1 U	1.2 U	1.2 U	--	1.5 U	1.3 U	1.5 U	1.5 U	1.2 U	1.1 U	1.5 U	1.4 U	--	1.6 U	1.3 U
TPH as motor oil	mg/kg	280 J	27 J	88 J	--	69 J	15 J	59 J	19 J	26 J	37 J	10 UJ	30 J	65 J	78 J	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	8.3 UJ	6.1 UJ	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1-Dichloroethene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1-Dichloropropene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1,1-Trichloroethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1,1,2-Tetrachloroethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1,2-Trichloroethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,1,2,2-Tetrachloroethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2-Dibromo-3-chloropropane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2-Dibromoethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2-Dichlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2-Dichloroethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2-Dichloropropane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2,3-Trichlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2,3-Trichloropropane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2,4-Trichlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 UJ	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,2,4-Trimethylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,3-Dichlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.6 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,3-Dichloropropane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,3,5-Trimethylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,4-Dichlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Acetone	ug/kg	83 U	61 U	67 U	--	66 U	66 U	77 U	73 U	83 U	69 U	86 U	69 U	86 U	81 U	--
Acrolein	ug/kg	170 UJ	120 UJ	130 U	--	130 U	130 U	150 U	150 U	170 U	140 U	170 U	140 U	170 U	160 U	--
Acrylonitrile	ug/kg	83 UJ	61 UJ	67 U	--	66 U	66 U	77 U	73 U	83 U	69 U	86 U	69 U	86 U	81 U	--
Benzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Bromochloromethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Bromodichloromethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Bromoform	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Bromomethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Carbon disulfide	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Carbon tetrachloride	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Chloro methane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Chlorobenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Chloroethane	ug/kg	8.3 UJ	6.1 UJ	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Chloroform	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
cis-1,2-Dichloroethene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
cis-1,3-Dichloropropene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS08	AOC20-OS08	AOC20-OS09	AOC20-OS09	AOC20-OS09	AOC20-OS11	AOC20-OS11	AOC20-OS11	AOC20-OS12	AOC20-OS12	AOC20-OS12	AOC20-OS13	AOC20-OS13	AOC20-OS13	AOC20-OS13
	SAMPLE	AOC20-08-OS1-1001	AOC20-08-OS1-1002	AOC20-09-OS1-1001	AOC20-09-OS1-1002	AOC20-09-OS1-1003	AOC20-11-OS1-1001	AOC20-11-OS1-1002	AOC20-11-OS1-1003	AOC20-12-OS1-1001	AOC20-12-OS1-1002	AOC20-12-OS1-1003	AOC20-13-OS1-1001	AOC20-13-OS1-1002	AOC20-13-OS1-1004	AOC20-13-OS1-1003
	DATE	12/18/2016	12/18/2016	12/20/2016	12/20/2016	12/20/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016	12/21/2016
SAMPLE TOP DEPTH (FT)		0	4	0	4	4	0	2	6	0	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	5	0.5	5	5	0.5	3	7	0.5	3	6	0.5	3	6	3
	SAMPLE TYPE					Field Duplicate										Field Duplicate
ANALYTE	UNITS															
Dibromomethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Dichlorodifluoromethane	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Ethyl- benzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Hexachlorobutadiene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	8.3 U	6.1 U	6.7 UJ	--	6.6 UJ	6.6 U	7.7 UJ	7.3 UJ	8.3 U	6.9 UJ	8.6 UJ	6.9 U	8.6 UJ	8.1 UJ	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	83 U	61 U	67 U	--	66 U	66 U	77 U	73 U	83 U	69 U	86 U	69 U	86 U	81 U	--
Methyl isobutyl ketone	ug/kg	83 U	61 U	67 U	--	66 U	66 U	77 U	73 U	83 U	69 U	86 U	69 U	86 U	81 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
N-Butylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
N-Propylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
sec-Butylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Styrene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
tert-Butylbenzene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Tetrachloroethene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Toluene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
trans-1,2-Dichloroethene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
trans-1,3-Dichloropropene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Trichloroethene	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Vinyl chloride	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Xylene, m,p-	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Xylene, o-	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--
Xylenes, total	ug/kg	8.3 U	6.1 U	6.7 U	--	6.6 U	6.6 U	7.7 U	7.3 U	8.3 U	6.9 U	8.6 U	6.9 U	8.6 U	8.1 U	--

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS18	AOC20-OS18	AOC20-OS21	AOC20-OS21	AOC20-OS21	AOC20-OS21
	SAMPLE	AOC20-14-OS1-1001	AOC20-14-OS1-1002	AOC20-14-OS1-1003	AOC20-14-OS1-1004	AOC20-16-OS1-1001	AOC20-16-OS1-1002	AOC20-16-OS1-1003	AOC20-16-OS1-1004	AOC20-16-OS1-1005	AOC20-18-OS1-1001	AOC20-18-OS1-1002	AOC20-21-OS1-1001	AOC20-21-OS1-1002	AOC20-21-OS1-1003	AOC20-21-OS1-1004
	DATE	12/19/2016	12/19/2016	12/20/2016	12/20/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/17/2016	12/17/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016
SAMPLE TOP DEPTH (FT)		0	2	6	6	0	2	5	9	9	0	3	0	2	5	8.5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 UJ	2.1 UJ	2.1 UJ	--	2.1 UJ	2.1 UJ	2.1 UJ	2.2 UJ	--	2.1 UJ	2 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ
Arsenic	mg/kg	3	2.4	--	3.5	4.1	3.3	3.5	--	3.3	3.1	3.3	4.4	4.3	4	--
Barium	mg/kg	84	41	--	60	100	120	85	68 J	--	80	54	110	120	89	--
Beryllium	mg/kg	1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.27	0.21 U	0.25	--	0.21 U	0.21 U	0.21 U	1.4	--	0.21 U	0.2 U	0.2 U	0.21 U	0.21	0.97
Chromium, total	mg/kg	17	4	--	8.6	21	10	8.3	--	70	11	4.9	16	15	9.6	--
Cobalt	mg/kg	5.4	2.6	--	3.1	9	3.7	3	--	2.7	4.4	1.9	5.5	4.9	3.1	--
Copper	mg/kg	11	4.9	--	9.8	12	5.8	5.2	--	17	11	2.8	12	16	7.1	--
Lead	mg/kg	7.3	2	5.4	--	6.7	4.5	4.5	--	9 J	3.5	2	10	11	4.5	--
Mercury	mg/kg	0.14	0.1 U	0.1 U	--	0.1 U	0.1 U	0.11 U	0.11 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	--	8.8 J	1 U	1 U	1 U	1 U	1.1	--
Nickel	mg/kg	11	3.3	--	5.1	17	7.4	6.1	--	5.1	8.7	3.7	9.7	8.8	4.7	--
Selenium	mg/kg	1 UJ	1 UJ	1 UJ	--	1.1 UJ	1 UJ	1.1 UJ	--	--	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Silver	mg/kg	1 U	1 U	1 U	--	1.1 U	1 U	1.1 U	1.1 U	--	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 UJ	2.1 UJ	2.1 UJ	--	2.1 UJ	2.1 UJ	2.1 UJ	2.2 UJ	--	2.1 UJ	2 UJ	2 UJ	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	23	9.3	9.3 J	--	35	18	15	9.3 J	--	17	9.9	23	26	19	--
Zinc	mg/kg	33	9.9	22	--	35	20	18	97 J	--	20	9.1	32	31	17	--
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS18	AOC20-OS18	AOC20-OS21	AOC20-OS21	AOC20-OS21	AOC20-OS21
	SAMPLE	AOC20-14-OS1-1001	AOC20-14-OS1-1002	AOC20-14-OS1-1003	AOC20-14-OS1-1004	AOC20-16-OS1-1001	AOC20-16-OS1-1002	AOC20-16-OS1-1003	AOC20-16-OS1-1004	AOC20-16-OS1-1005	AOC20-18-OS1-1001	AOC20-18-OS1-1002	AOC20-21-OS1-1001	AOC20-21-OS1-1002	AOC20-21-OS1-1003	AOC20-21-OS1-1004
	DATE	12/19/2016	12/19/2016	12/20/2016	12/20/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/17/2016	12/17/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016
SAMPLE TOP DEPTH (FT)		0	2	6	6	0	2	5	9	9	0	3	0	2	5	8.5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	18 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	35 U	34 U	--	34 U	35 U	35 U	35 U	36 U	--	34 U	34 U	33 U	34 U	34 U	35 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	18 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	18 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	18 U	--	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	18 U	--	17 U	17 U	82	34	17 U	34
Aroclor 1260	ug/kg	17 U	17 U	17 U	--	17 U	17 U	18 U	--	81	17 U	17 U	39	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	34 U	--	34 U	34 U	36 U	--	108	34 U	34 U	138	59.5	34 U	59.5
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
2-Methyl naphthalene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Acenaphthene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Acenaphthylene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Anthracene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	6.8	5.2 U	5.1 U	5.2 U
B(a)P Equivalent	ug/kg	18	6 U	--	6 U	6.5	6 U	6.1 U	6.4 U	--	15	6.1	110	39	12	--
Benzo (a) anthracene	ug/kg	11	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	55	17	5.5	5.2 U
Benzo (a) pyrene	ug/kg	11 J	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	9.4 J	5.1 U	84	28	6.8	--
Benzo (b) fluoranthene	ug/kg	28 J	5.2 U	--	5.2 U	6	5.2 U	5.3 U	5.5 U	--	20 J	5.1	160	56	13	--
Benzo (ghi) perylene	ug/kg	7.3 J	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	7.6 J	6.1	24	8.6	5.1 U	--
Benzo (k) fluoranthene	ug/kg	15 J	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	10 J	5.1 U	54 J	25 J	6.8 J	--
Chrysene	ug/kg	15	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	8.3	5.1 U	59	23	7.9	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Fluoranthene	ug/kg	24	5.2 U	--	5.2 U	6	5.2 U	5.3 U	5.5 U	--	7.6	5.1 U	77	29	12	--
Fluorene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	24	8.6	5.1 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS18	AOC20-OS18	AOC20-OS21	AOC20-OS21	AOC20-OS21	AOC20-OS21
	SAMPLE	AOC20-14-OS1-1001	AOC20-14-OS1-1002	AOC20-14-OS1-1003	AOC20-14-OS1-1004	AOC20-16-OS1-1001	AOC20-16-OS1-1002	AOC20-16-OS1-1003	AOC20-16-OS1-1004	AOC20-16-OS1-1005	AOC20-18-OS1-1001	AOC20-18-OS1-1002	AOC20-21-OS1-1001	AOC20-21-OS1-1002	AOC20-21-OS1-1003	AOC20-21-OS1-1004
	DATE	12/19/2016	12/19/2016	12/20/2016	12/20/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/17/2016	12/17/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016
SAMPLE TOP DEPTH (FT)		0	2	6	6	0	2	5	9	9	0	3	0	2	5	8.5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	5.1 U	5.2 U	5.1 U	5.2 U
PAH High molecular weight	ug/kg	139	0	0	--	18	0	0	0	--	70.9	11.2	613	224	63	--
PAH Low molecular weight	ug/kg	8	0	0	--	0	0	0	0	--	0	0	17.8	5.2	0	0
Phenanthrene	ug/kg	8	5.2 U	--	5.2 U	5.3 U	5.2 U	5.3 U	5.5 U	--	5.2 U	5.1 U	11	5.2	5.1 U	5.2 U
Pyrene	ug/kg	28	5.2 U	--	5.2 U	6	5.2 U	5.3 U	5.5 U	--	8	5.1 U	76	29	11	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	20 J	10 UJ	28 J	--	11 UJ	19 J	35 J	--	220 J	10 UJ	10 UJ	14 J	21 J	100 J	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS18	AOC20-OS18	AOC20-OS21	AOC20-OS21	AOC20-OS21	AOC20-OS21
	SAMPLE	AOC20-14-OS1-1001	AOC20-14-OS1-1002	AOC20-14-OS1-1003	AOC20-14-OS1-1004	AOC20-16-OS1-1001	AOC20-16-OS1-1002	AOC20-16-OS1-1003	AOC20-16-OS1-1004	AOC20-16-OS1-1005	AOC20-18-OS1-1001	AOC20-18-OS1-1002	AOC20-21-OS1-1001	AOC20-21-OS1-1002	AOC20-21-OS1-1003	AOC20-21-OS1-1004
	DATE	12/19/2016	12/19/2016	12/20/2016	12/20/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/17/2016	12/17/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016
SAMPLE TOP DEPTH (FT)		0	2	6	6	0	2	5	9	9	0	3	0	2	5	8.5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.1 U	1.3 U	1.2 U	--	1.3 U	1.3 U	1 U	1.6 U	--	1.2 U	1.3 U	1.5 U	1.5 U	1.4 U	1.3 U
TPH as motor oil	mg/kg	190 J	13 J	270 J	--	13 J	65 J	85 J	--	730 J	16 J	10 UJ	51 J	97 J	350 J	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	6.3 UJ	6.6 UJ	--	6.1 UJ	7.8 UJ	6.2 UJ	6.7 UJ	7.2 U	--	6.3 UJ	6.3 UJ	8.7 U	6.1 U	8.6 U	5.8 U
1,1-Dichloroethene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1-Dichloropropene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1,1-Trichloroethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1,1,2-Tetrachloroethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1,2-Trichloroethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,1,2,2-Tetrachloroethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2-Dibromo-3-chloropropane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2-Dibromoethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2-Dichlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2-Dichloroethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2-Dichloropropane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2,3-Trichlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 UJ	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2,3-Trichloropropane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2,4-Trichlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 UJ	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,2,4-Trimethylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,3-Dichlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,3-Dichloropropane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,3,5-Trimethylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,4-Dichlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Acetone	ug/kg	63 U	66 U	--	61 U	78 U	62 U	67 U	72 U	--	63 U	63 U	87 U	61 U	86 U	58 U
Acrolein	ug/kg	130 UJ	130 UJ	--	120 UJ	160 UJ	120 UJ	130 UJ	140 UJ	--	130 UJ	130 UJ	170 U	120 U	170 U	120 U
Acrylonitrile	ug/kg	63 UJ	66 UJ	--	61 UJ	78 UJ	62 UJ	67 UJ	72 U	--	63 UJ	63 UJ	87 U	61 U	86 U	58 U
Benzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Bromochloromethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Bromodichloromethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Bromoform	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Bromomethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Carbon disulfide	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Carbon tetrachloride	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Chloro methane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Chlorobenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Chloroethane	ug/kg	6.3 UJ	6.6 UJ	--	6.1 UJ	7.8 UJ	6.2 UJ	6.7 UJ	7.2 U	--	6.3 UJ	6.3 UJ	8.7 U	6.1 U	8.6 U	5.8 U
Chloroform	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
cis-1,2-Dichloroethene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
cis-1,3-Dichloropropene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS14	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS16	AOC20-OS18	AOC20-OS18	AOC20-OS21	AOC20-OS21	AOC20-OS21	AOC20-OS21
	SAMPLE	AOC20-14-OS1-1001	AOC20-14-OS1-1002	AOC20-14-OS1-1003	AOC20-14-OS1-1004	AOC20-16-OS1-1001	AOC20-16-OS1-1002	AOC20-16-OS1-1003	AOC20-16-OS1-1004	AOC20-16-OS1-1005	AOC20-18-OS1-1001	AOC20-18-OS1-1002	AOC20-21-OS1-1001	AOC20-21-OS1-1002	AOC20-21-OS1-1003	AOC20-21-OS1-1004
	DATE	12/19/2016	12/19/2016	12/20/2016	12/20/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/19/2016	12/17/2016	12/17/2016	12/20/2016	12/20/2016	12/20/2016	12/20/2016
SAMPLE TOP DEPTH (FT)		0	2	6	6	0	2	5	9	9	0	3	0	2	5	8.5
SAMPLE BOTTOM DEPTH (FT)		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	7	7	0.5	3	6	9.5	9.5	0.5	3.5	0.5	3	6	9
	SAMPLE TYPE				Field Duplicate					Field Duplicate						
ANALYTE	UNITS															
Dibromomethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Dichlorodifluoromethane	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Ethyl- benzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Hexachlorobutadiene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 UJ	8.6 UJ	5.8 UJ
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	63 U	66 U	--	61 U	78 U	62 U	67 U	72 U	--	63 U	63 U	87 U	61 U	86 U	58 U
Methyl isobutyl ketone	ug/kg	63 U	66 U	--	61 U	78 U	62 U	67 U	72 U	--	63 U	63 U	87 U	61 U	86 U	58 U
Methyl tert-butyl ether (MTBE)	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
N-Butylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
N-Propylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
sec-Butylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Styrene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
tert-Butylbenzene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Tetrachloroethene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Toluene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
trans-1,2-Dichloroethene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
trans-1,3-Dichloropropene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Trichloroethene	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Vinyl chloride	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Xylene, m,p-	ug/kg	12	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Xylene, o-	ug/kg	6.3 U	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U
Xylenes, total	ug/kg	17	6.6 U	--	6.1 U	7.8 U	6.2 U	6.7 U	7.2 U	--	6.3 U	6.3 U	8.7 U	6.1 U	8.6 U	5.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS21	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS2	AOC21-OS2	AOC21-OS3	AOC21-OS3	AOC21-OS4
	SAMPLE	AOC20-21-OS1-1005	AOC21-1-24000	AOC21-1-24001	AOC21-1-24002	AOC21-1-24003	AOC21-1-24004	AOC21-OS1-D1	AOC21-OS1-D2	AOC21-OS1-D3	AOC21-OS1-D99	AOC21-OS2-D1	AOC21-OS2-D2	AOC21-OS3-D1	AOC21-OS3-D2	AOC21-OS4-D1
	DATE	12/20/2016	1/12/2016	1/12/2016	1/12/2016	1/11/2017	1/11/2017	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014
SAMPLE TOP DEPTH (FT)		8.5	0	2	5	9	14	0	2	5	2	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
	SAMPLE TYPE	Field Duplicate									Field Duplicate					
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	8.3	9	9.1	--	--	8.2	8.9	8.8	--	8	8.4	7.8	7.8	7.8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	2.1 U	2.5 U	2.8 U	2 U	--	2 UJ	2.6 U	2.8 U	--	2 U	2 U	2 U	2.1 U	2 U
Arsenic	mg/kg	4.4	3.5	2.8	2.2	1 U	--	3.2	--	3.7	3.2	3.7	2.8	3.5	3.9	3
Barium	mg/kg	150	140	170	170	73	--	130	150	110	--	130	95	140	120	90
Beryllium	mg/kg	--	1.1 U	1.2 U	1.4 U	1 U	--	1 U	1.3 U	1.4 U	--	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	--	1.1 U	1.2 U	1.4 U	1 U	--	1 UJ	1.3 U	1.4 U	--	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	--	0.35	0.71	2	0.2 U	0.21 U	0.28	--	1.8	0.89	1.2	0.51	0.2 U	0.21 U	0.2 U
Chromium, total	mg/kg	64 J	23	35	40	22	--	19 J	--	24	28	32	19	20	16	23
Cobalt	mg/kg	4	6.9	7.6	6.7	9.1	--	4.5 J	1.3 U	2.3	--	4.9	4.2	5.3	4.5	4.4
Copper	mg/kg	17	12	11	14	7.7	--	8.7	2.6 U	3.8	--	98	12	18	12	11
Lead	mg/kg	13 J	8	1.8	1.4 U	1 U	--	12 J	1.3 U	1.4 U	--	41	11	5.4	5.2	5.8
Mercury	mg/kg	--	0.11 U	0.12 U	0.14 U	0.1 U	--	0.099 U	0.13 U	0.14 U	--	0.14	0.1 U	0.1 U	0.11 U	0.1 U
Molybdenum	mg/kg	12	1.1 U	1.2 U	1.4 U	1 U	--	1 U	1.3 U	1.4 U	--	2.2	1 U	1 U	1 U	1 U
Nickel	mg/kg	7.8 J	15	17	16	12	--	11	4.5	6	--	15	12	16	12	12
Selenium	mg/kg	--	1.1 U	1.2 U	1.4 U	1 U	--	1 UJ	1.3 U	1.4 U	--	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	--	1.1 U	1.2 U	1.4 U	1 U	--	1 UJ	--	1.7	3.4	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	--	2.1 U	2.5 U	2.8 U	2 U	--	2 UJ	2.6 U	2.8 U	--	2 U	2 U	2 U	2.1 U	2 U
Vanadium	mg/kg	23	26	32	32	24	--	24	--	17	9.1	24	22	29	26	22
Zinc	mg/kg	84 J	45	30	26	32	--	36 J	4.1	17	--	90	52	31	28	30
Metals CLP																
Aluminum	mg/kg	--	7100	9800	9900	7400	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	20000	1.00E+05	130000	11000 J	--	31000	--	220000	310000	20000	16000	36000	37000	17000
Cyanide	mg/kg	--	0.21 U	0.25 U	0.29 U	0.21 UJ	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	14000	16000	15000	17000	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	6200	15000	17000	5900	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	210	240	220	250	--	--	--	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS21	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS2	AOC21-OS2	AOC21-OS3	AOC21-OS3	AOC21-OS4
	SAMPLE	AOC20-21-OS1-1005	AOC21-1-24000	AOC21-1-24001	AOC21-1-24002	AOC21-1-24003	AOC21-1-24004	AOC21-OS1-D1	AOC21-OS1-D2	AOC21-OS1-D3	AOC21-OS1-D99	AOC21-OS2-D1	AOC21-OS2-D2	AOC21-OS3-D1	AOC21-OS3-D2	AOC21-OS4-D1
	DATE	12/20/2016	1/12/2016	1/12/2016	1/12/2016	1/11/2017	1/11/2017	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014
SAMPLE TOP DEPTH (FT)		8.5	0	2	5	9	14	0	2	5	2	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
	SAMPLE TYPE	Field Duplicate									Field Duplicate					
ANALYTE	UNITS															
Potassium	mg/kg	--	1800	2100	2200	2000 J	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	1800	1200	2000	450 J	--	570	3100	2000	--	400	270	570	410	700
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	2 U	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	5.1 U	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	51 UJ	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	18 U	20 U	24 U	--	--	17 U	21 U	23 UJ	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	35 U	40 U	47 U	--	--	33 U	43 U	46 UJ	--	33 U	33 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	--	18 U	20 U	24 U	--	--	17 U	21 U	23 UJ	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	18 U	20 U	24 U	--	--	17 U	24 U	21 U	23 UJ	--	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	18 U	20 U	24 U	--	--	17 U	21 U	23 UJ	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	71	20 U	24 U	--	--	60	21 U	23 UJ	--	70	39	25	21	17 U
Aroclor 1260	ug/kg	--	49	20 U	24 U	--	--	17 U	21 U	23 UJ	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	18 U	20 U	24 U	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	18 U	20 U	24 U	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	138	40 U	48 U	--	--	85.5	42 U	46 U	--	95.5	64.5	50.5	46.5	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	5.3 U	5.7 U	7.1 U	--	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
2-Methyl naphthalene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Acenaphthene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Acenaphthylene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Anthracene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
B(a)P Equivalent	ug/kg	10	65	6.6 U	8.2 U	390 U	--	59 U	--	8.1 U	7.7	64	62	94	63	58 U
Benzo (a) anthracene	ug/kg	--	25	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Benzo (a) pyrene	ug/kg	5.9 J	53 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51	52 U	50 U
Benzo (b) fluoranthene	ug/kg	13 J	64	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	87	54	120	59	50 U
Benzo (ghi) perylene	ug/kg	5.2 J	53 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Benzo (k) fluoranthene	ug/kg	6.3 J	53 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Chrysene	ug/kg	--	43	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51	52 U	50 U
Dibenzo (a,h) anthracene	ug/kg	--	53 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Fluoranthene	ug/kg	7.3 J	53	5.7 U	7.1 U	340 U	--	51 U	--	7 U	6.7	67	51 U	51 U	52 U	50 U
Fluorene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	53 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS21	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS2	AOC21-OS2	AOC21-OS3	AOC21-OS3	AOC21-OS4
	SAMPLE	AOC20-21-OS1-1005	AOC21-1-24000	AOC21-1-24001	AOC21-1-24002	AOC21-1-24003	AOC21-1-24004	AOC21-OS1-D1	AOC21-OS1-D2	AOC21-OS1-D3	AOC21-OS1-D99	AOC21-OS2-D1	AOC21-OS2-D2	AOC21-OS3-D1	AOC21-OS3-D2	AOC21-OS4-D1
	DATE	12/20/2016	1/12/2016	1/12/2016	1/12/2016	1/11/2017	1/11/2017	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014
SAMPLE TOP DEPTH (FT)		8.5	0	2	5	9	14	0	2	5	2	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
	SAMPLE TYPE	Field Duplicate									Field Duplicate					
ANALYTE	UNITS															
Naphthalene	ug/kg	--	5.3 U	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	7.3 U	51 U	11 U	50 U
PAH High molecular weight	ug/kg	44.7	237	0	0	0	--	0	--	0	6.7	215	54	222	59	0
PAH Low molecular weight	ug/kg	--	12	0	0	0	--	0	0	0	--	0	0	0	0	0
Phenanthrene	ug/kg	--	12	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	50 U	51 U	51 U	52 U	50 U
Pyrene	ug/kg	7 J	52	5.7 U	7.1 U	340 U	--	51 U	6.5 U	7 U	--	61	51 U	51 U	52 U	50 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	740 U	860 U	1000 U	720 U	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	740 U	860 U	1000 U	720 U	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2-Chlorophenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2-Methylphenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2-Nitroaniline	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
2-Nitrophenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	740 UJ	860 UJ	1000 UJ	720 U	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
2,4-Dimethylphenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2,4-Dinitrophenol	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 UJ
2,4-Dinitrotoluene	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2,6-Dinitrotoluene	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
3-Nitroaniline	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
3,3-Dichlorobenzidene	ug/kg	--	7000 U	810 U	950 U	680 U	--	6700 U	860 U	920 U	--	6600 U	6700 U	6800 U	6900 UJ	6600 U
4-Bromophenyl phenyl ether	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
4-Chloro-3-methylphenol	ug/kg	--	700 U	810 U	950 U	680 U	--	6700 U	860 U	920 U	--	6600 U	6700 U	6800 U	6900 UJ	6600 U
4-Chloroaniline	ug/kg	--	700 U	810 U	950 U	680 U	--	6700 U	860 U	920 U	--	6600 U	6700 U	6800 U	6900 UJ	6600 U
4-Chlorophenyl phenyl ether	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
4-Methylphenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
4-Nitroaniline	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
4-Nitrophenol	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
Acetophenone	ug/kg	--	740 UJ	860 UJ	1000 UJ	720 U	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	740 U	860 U	1000 U	720 U	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	740 UJ	860 UJ	1000 UJ	720 U	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
Benzyl alcohol	ug/kg	--	700 U	810 U	950 U	680 U	--	6700 U	860 U	920 U	--	6600 U	6700 U	6800 U	6900 UJ	6600 U
bis (2-chloroethoxy) methane	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
bis (2-ethylhexyl) phthalate	ug/kg	--	3500 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Butylbenzylphthalate	ug/kg	--	3500 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Caprolactam	ug/kg	--	350 U	400 U	470 U	340 U	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	350 U	400 U	470 U	340 U	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Di-n-octyl phthalate	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Dibenzofuran	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Diethyl phthalate	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Dimethyl phthalate	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Hexachlorobenzene	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Hexachloroethane	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
n-Nitroso-di-n-propylamine	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
N-nitrosodiphenylamine	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Pentachlorophenol	ug/kg	--	1800 U	2000 U	2400 U	1700 U	--	17000 U	2100 U	2300 U	--	17000 U	17000 U	17000 U	17000 UJ	17000 U
Phenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	180 J	19	12 U	14 U	--	--	33	--	14 U	24	10 UJ	10 U	10 U	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS21	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS2	AOC21-OS2	AOC21-OS3	AOC21-OS3	AOC21-OS4
	SAMPLE	AOC20-21-OS1-1005	AOC21-1-24000	AOC21-1-24001	AOC21-1-24002	AOC21-1-24003	AOC21-1-24004	AOC21-OS1-D1	AOC21-OS1-D2	AOC21-OS1-D3	AOC21-OS1-D99	AOC21-OS2-D1	AOC21-OS2-D2	AOC21-OS3-D1	AOC21-OS3-D2	AOC21-OS4-D1
	DATE	12/20/2016	1/12/2016	1/12/2016	1/12/2016	1/11/2017	1/11/2017	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014
SAMPLE TOP DEPTH (FT)		8.5	0	2	5	9	14	0	2	5	2	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
	SAMPLE TYPE	Field Duplicate									Field Duplicate					
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	1.5 U	1.7 U	--	--	--	3.3 U	3.5 U	--	--	1.5 U	--	2.3 U	--
TPH as motor oil	mg/kg	870 J	150	140	19	--	--	290	--	33	250 J	58	48	68	28 J	44
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1-Dichloroethene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1-Dichloropropene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1,1-Trichloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1,2-Trichloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2-Dibromoethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2-Dichlorobenzene	ug/kg	--	350 U	6.9 U	8.6 U	340 U	--	3300 U	--	16 U	15 U	3300 U	7.3 U	3400 U	11 U	3300 U
1,2-Dichloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2-Dichloropropane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2,3-Trichlorobenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2,3-Trichloropropane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,2,4-Trichlorobenzene	ug/kg	--	350 U	6.9 U	8.6 U	340 U	--	3300 U	--	16 U	15 U	3300 U	7.3 U	3400 U	11 U	3300 U
1,2,4-Trimethylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,3-Dichlorobenzene	ug/kg	--	350 U	6.9 U	8.6 U	340 U	--	3300 U	--	16 U	15 U	3300 U	7.3 U	3400 U	11 U	3300 U
1,3-Dichloropropane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,3,5-Trimethylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
1,4-Dichlorobenzene	ug/kg	--	350 U	6.9 U	8.6 U	340 U	--	3300 U	--	16 U	15 U	3300 U	7.3 U	3400 U	11 U	3300 U
1,4-Dioxane	ug/kg	--	350 U	400 U	470 U	340 U	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
2-Hexanone	ug/kg	--	--	69 U	86 U	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
2,4,5-Trichlorophenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
2,4,6-Trichlorophenol	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
4-Isopropyltoluene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Acetone	ug/kg	--	--	69 U	86 U	--	--	--	--	160 U	150 U	--	73 U	--	110 U	--
Acrolein	ug/kg	--	--	140 U	170 U	--	--	--	--	320 U	310 U	--	150 U	--	210 U	--
Acrylonitrile	ug/kg	--	--	69 UJ	86 UJ	--	--	--	--	160 U	150 U	--	73 U	--	110 U	--
Benzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
bis (2-chloroethyl) ether	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
bis (2-chloroisopropyl) ether	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Bromobenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Bromochloromethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Bromodichloromethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Bromoform	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Bromomethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Carbon disulfide	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Carbon tetrachloride	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Chloro methane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Chlorobenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Chloroethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Chloroform	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
cis-1,2-Dichloroethene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
cis-1,3-Dichloropropene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Cyclohexane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC20-OS21	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS1	AOC21-OS2	AOC21-OS2	AOC21-OS3	AOC21-OS3	AOC21-OS4
	SAMPLE	AOC20-21-OS1-1005	AOC21-1-24000	AOC21-1-24001	AOC21-1-24002	AOC21-1-24003	AOC21-1-24004	AOC21-OS1-D1	AOC21-OS1-D2	AOC21-OS1-D3	AOC21-OS1-D99	AOC21-OS2-D1	AOC21-OS2-D2	AOC21-OS3-D1	AOC21-OS3-D2	AOC21-OS4-D1
	DATE	12/20/2016	1/12/2016	1/12/2016	1/12/2016	1/11/2017	1/11/2017	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014	9/23/2014
SAMPLE TOP DEPTH (FT)		8.5	0	2	5	9	14	0	2	5	2	0	1	0	2	0
SAMPLE BOTTOM DEPTH (FT)		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		9	0.5	3	6	10	15	0.5	3	6	3	0.5	1.5	0.5	3	0.5
	SAMPLE TYPE	Field Duplicate									Field Duplicate					
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Dichlorodifluoromethane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Ethyl- benzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Hexachlorobutadiene	ug/kg	--	700 U	6.9 U	8.6 U	680 U	--	6700 U	--	16 U	15 U	6600 U	7.3 U	6800 U	11 U	6600 U
Hexachlorocyclopentadiene	ug/kg	--	700 U	810 U	950 U	680 U	--	950 U	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
Isopropylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Methyl acetate	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	69 U	86 U	--	--	--	--	160 U	150 U	--	73 U	--	110 U	--
Methyl isobutyl ketone	ug/kg	--	--	69 U	86 U	--	--	--	--	160 U	150 U	--	73 U	--	110 U	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Methylcyclohexane	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
N-Butylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
N-Propylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Nitrobenzene	ug/kg	--	350 U	400 U	470 U	340 U	--	3300 U	430 U	460 U	--	3300 U	3300 U	3400 U	3400 UJ	3300 U
p-Chlorotoluene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
sec-Butylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Styrene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
tert-Butylbenzene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Tetrachloroethene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Toluene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
trans-1,2-Dichloroethene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
trans-1,3-Dichloropropene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Trichloroethene	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Vinyl chloride	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Xylene, m,p-	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Xylene, o-	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--
Xylenes, total	ug/kg	--	--	6.9 U	8.6 U	--	--	--	--	16 U	15 U	--	7.3 U	--	11 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC21-OS4	AOC21-OS5	AOC21-OS6	AOC21-OS7	AOC21-OS8	AOC21-OS8	AOC21-OS9	AOC22-1	AOC22-1	AOC22-1	AOC22-2	AOC22-2	AOC22-2	AOC22-2	AOC22-2
	SAMPLE	AOC21-OS4-D2	AOC21-OS5-D1	AOC21-OS6-D1	AOC21-OS7-D1	AOC21-OS8-D1	AOC21-OS8-D99	AOC21-OS9-D1	AOC22-1-25000	AOC22-1-25002	AOC22-1-25001	AOC22-2-25003	AOC22-2-25004	AOC22-2-25005	AOC22-2-25007	AOC22-2-25006
	DATE	9/23/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/17/2017	1/17/2017	1/17/2017
SAMPLE TOP DEPTH (FT)		2	7	8	3.5	5	5	5	0	2	0	0	2	5	9	5
SAMPLE BOTTOM DEPTH (FT)		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
	SAMPLE TYPE						Field Duplicate				Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	1300 J	1100 J	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	80 J	82 J	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	10 J	10 J	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	4.1 J	7.8 J	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	5.4 J	5.3 UJ	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	24 J	27 J	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	3.1 UJ	7 J	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	3.3 J	4.1 UJ	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	1.8 J	4.7 J	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	12 J	15 J	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	1.2 UJ	1.8 J	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	93 UJ	100 UJ	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	1.8 J	3.1 J	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	0.44 UJ	0.12 UJ	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	1.1 J	3.4 J	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	11000 J	12000 J	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	260 J	160 J	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	17	21	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	31	31	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	31	31	--	--	--
General																
pH	PHUNITS	8.8	8.4	9.7	10	9.7	--	9.4	9.4	9.7	--	8.3	9	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.5 U	2.1 U	2.1 U	2 U	--	2 U	2 U	2.1 U	2.2 U	--	2.1 UJ	2.2 U	2.1 U	2.2 U	--
Arsenic	mg/kg	2.8	1.2	1 U	2.2	1.3	--	1.2	--	3.3	3.1	3.7	3.2	3.3	3.3	--
Barium	mg/kg	110	76	83	93	110	--	90	87	75	--	87 J	69	--	81	120
Beryllium	mg/kg	1.2 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	--
Cadmium	mg/kg	1.2 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	--
Chromium, Hexavalent	mg/kg	1.1	0.21 U	0.21 U	0.2 U	0.2 U	--	0.2 U	--	0.22 U	3.3 J	0.5	10	0.21 U	0.22 U	--
Chromium, total	mg/kg	21	14	22	19	--	18	16	21 J	46	--	20	42	25 J	28	--
Cobalt	mg/kg	1.2 U	6.3	8	5.7	6.2	--	6.4	--	6.5	6.2	5	6.2	6.1	8.3	--
Copper	mg/kg	2.5 U	7.5	10	7.7	--	8.6	8	--	11	8.9	12 J	18	9.7	15	--
Lead	mg/kg	1.2 U	2.9	6.6	3.9	--	3.5	3	--	100	6.3	12	75	--	2.8	2.3
Mercury	mg/kg	0.12 U	0.11 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U	0.11 U	--	0.1 U	0.24	0.11 U	0.11 U	--
Molybdenum	mg/kg	1.2 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1.1 U	1.1 U	1.1 U	--
Nickel	mg/kg	3.9	9.2	12	10	10	--	9.7	15 J	15	--	8.8	11	17 J	23	--
Selenium	mg/kg	1.2 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 UJ	1.1 U	1.1 UJ	1.1 UJ	--
Silver	mg/kg	3.3	1.1 U	1 U	1 U	1 U	--	1 U	1 U	2	--	1 U	1.2	1.1 U	1.1 U	--
Thallium	mg/kg	2.5 U	2.1 U	2.1 U	2 U	--	2 U	2 U	2.1 U	2.2 U	--	2.1 U	2.2 U	2.1 U	2.2 U	--
Vanadium	mg/kg	6.7	35	49	34	35	--	33	--	30	26	23	31	26	34	--
Zinc	mg/kg	5.4	28 J	30	29	--	31	29	--	67	34	47 J	58	22	32	--
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	8100	--	--
Calcium	mg/kg	260000	12000	14000	36000	--	14000	11000	--	--	--	--	--	32000	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.22 UJ	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	14000	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	6600	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	190	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC21-OS4	AOC21-OS5	AOC21-OS6	AOC21-OS7	AOC21-OS8	AOC21-OS8	AOC21-OS9	AOC22-1	AOC22-1	AOC22-1	AOC22-2	AOC22-2	AOC22-2	AOC22-2	AOC22-2
	SAMPLE	AOC21-OS4-D2	AOC21-OS5-D1	AOC21-OS6-D1	AOC21-OS7-D1	AOC21-OS8-D1	AOC21-OS8-D99	AOC21-OS9-D1	AOC22-1-25000	AOC22-1-25002	AOC22-1-25001	AOC22-2-25003	AOC22-2-25004	AOC22-2-25005	AOC22-2-25007	AOC22-2-25006
	DATE	9/23/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/17/2017	1/17/2017	1/17/2017
SAMPLE TOP DEPTH (FT)		2	7	8	3.5	5	5	5	0	2	0	0	2	5	9	5
SAMPLE BOTTOM DEPTH (FT)		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
	SAMPLE TYPE						Field Duplicate				Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1600 J	--	--
Sodium	mg/kg	3400	720	400	610	--	420	280	--	--	--	--	--	330 J	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	5.3 U	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	53 UJ	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	18 U	18 U	18 U	--
Aroclor 1221	ug/kg	41 U	35 U	34 U	34 U	34 U	--	34 U	35 U	36 U	--	34 U	37 U	35 U	35 U	--
Aroclor 1232	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	18 U	18 U	18 U	--
Aroclor 1242	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	18 U	18 U	18 U	--
Aroclor 1248	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	18 U	18 U	18 U	--
Aroclor 1254	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	31	18 U	--	76	140	18 U	18 U	--
Aroclor 1260	ug/kg	21 U	17 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	78	18 U	18 U	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	42 U	34 U	34 U	34 U	34 U	--	34 U	56.5	36 U	--	102	236	36 U	36 U	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
2-Methyl naphthalene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
Acenaphthene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
Acenaphthylene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
Anthracene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
B(a)P Equivalent	ug/kg	73 U	6.1 U	5.9 U	5.9 U	5.9 U	--	5.9 U	--	6.2 U	21	32	98	6.1 U	6.6	--
Benzo (a) anthracene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	--	5.4 U	9.5	27	37	5.3 U	5.4 UJ	--
Benzo (a) pyrene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	7	5.4 U	--	21	55	5.3 U	5.4 UJ	--
Benzo (b) fluoranthene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	--	5.4 U	24	46	92	5.3 U	6.1 J	--
Benzo (ghi) perylene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	6	5.4 U	--	9	59	5.3 U	5.4 UJ	--
Benzo (k) fluoranthene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	--	5.4 U	9.5	18	55 U	5.3 U	5.4 UJ	--
Chrysene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	7.4	5.4 U	--	43	59	5.3 U	5.4 UJ	--
Dibenzo (a,h) anthracene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	55 U	5.3 U	5.4 UJ	--
Fluoranthene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	8.8	5.4 U	--	49	66	5.3 U	5.4 UJ	--
Fluorene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
Indeno (1,2,3-cd) pyrene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	--	5.4 U	9.8	9.3	55 U	5.3 U	5.4 UJ	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC21-OS4	AOC21-OS5	AOC21-OS6	AOC21-OS7	AOC21-OS8	AOC21-OS8	AOC21-OS9	AOC22-1	AOC22-1	AOC22-1	AOC22-2	AOC22-2	AOC22-2	AOC22-2	AOC22-2
	SAMPLE	AOC21-OS4-D2	AOC21-OS5-D1	AOC21-OS6-D1	AOC21-OS7-D1	AOC21-OS8-D1	AOC21-OS8-D99	AOC21-OS9-D1	AOC22-1-25000	AOC22-1-25002	AOC22-1-25001	AOC22-2-25003	AOC22-2-25004	AOC22-2-25005	AOC22-2-25007	AOC22-2-25006
	DATE	9/23/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/17/2017	1/17/2017	1/17/2017
SAMPLE TOP DEPTH (FT)		2	7	8	3.5	5	5	5	0	2	0	0	2	5	9	5
SAMPLE BOTTOM DEPTH (FT)		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
	SAMPLE TYPE						Field Duplicate				Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Naphthalene	ug/kg	15 U	5.3 U	5.1 U	5.1 U	5.1 U	--	4.9 U	5.3 U	5.4 U	--	5.2 U	5.5 U	5.3 U	5.4 UJ	--
PAH High molecular weight	ug/kg	0	0	0	0	0	--	0	--	0	126	279	435	0	6.1	--
PAH Low molecular weight	ug/kg	0	0	0	0	0	--	0	0	0	--	17	14	0	0	--
Phenanthrene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	5.3 U	5.4 U	--	17	14	5.3 U	5.4 UJ	--
Pyrene	ug/kg	63 U	5.3 U	5.1 U	5.1 U	5.1 U	--	5.1 U	9.1	5.4 U	--	57	67	5.3 U	5.4 UJ	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
2-Chloro naphthalene	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2-Chlorophenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2-Methylphenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2-Nitroaniline	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
2-Nitrophenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
2,4-Dichlorophenol	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
2,4-Dimethylphenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2,4-Dinitrophenol	ug/kg	21000 UJ	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
2,4-Dinitrotoluene	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2,6-Dinitrotoluene	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
3-Nitroaniline	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
3,3-Dichlorobenzidene	ug/kg	8300 U	700 U	680 U	680 U	--	670 U	670 U	690 U	720 U	--	680 U	730 U	700 U	--	--
4-Bromophenyl phenyl ether	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
4-Chloro-3-methylphenol	ug/kg	8300 U	700 U	680 U	680 U	--	670 U	670 U	690 U	720 U	--	680 U	730 U	700 U	--	--
4-Chloroaniline	ug/kg	8300 U	700 U	680 U	680 U	--	670 U	670 U	690 U	720 U	--	680 U	730 U	700 U	--	--
4-Chlorophenyl phenyl ether	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
4-Methylphenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
4-Nitroaniline	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
4-Nitrophenol	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
4,6-Dinitro-2-methylphenol	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	750 U	--	--
Benzoic acid	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
Benzyl alcohol	ug/kg	8300 U	700 U	680 U	680 U	--	670 U	670 U	690 U	720 U	--	680 U	730 U	700 U	--	--
bis (2-chloroethoxy) methane	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
bis (2-ethylhexyl) phthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Butylbenzylphthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	350 U	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	350 U	--	--
Di-n-butyl phthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Di-n-octyl phthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	3700 U	350 U	--	--
Dibenzofuran	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Diethyl phthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Dimethyl phthalate	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Hexachlorobenzene	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Hexachloroethane	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
n-Nitroso-di-n-propylamine	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
N-nitrosodiphenylamine	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Pentachlorophenol	ug/kg	21000 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1700 U	1800 U	--	1700 U	1800 U	1800 U	--	--
Phenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	12 U	11 U	10 U	10 U	10 U	--	10 U	11 U	11 U	--	10 U	13	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC21-OS4	AOC21-OS5	AOC21-OS6	AOC21-OS7	AOC21-OS8	AOC21-OS8	AOC21-OS9	AOC22-1	AOC22-1	AOC22-1	AOC22-2	AOC22-2	AOC22-2	AOC22-2	AOC22-2
	SAMPLE	AOC21-OS4-D2	AOC21-OS5-D1	AOC21-OS6-D1	AOC21-OS7-D1	AOC21-OS8-D1	AOC21-OS8-D99	AOC21-OS9-D1	AOC22-1-25000	AOC22-1-25002	AOC22-1-25001	AOC22-2-25003	AOC22-2-25004	AOC22-2-25005	AOC22-2-25007	AOC22-2-25006
	DATE	9/23/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/17/2017	1/17/2017	1/17/2017
SAMPLE TOP DEPTH (FT)		2	7	8	3.5	5	5	5	0	2	0	0	2	5	9	5
SAMPLE BOTTOM DEPTH (FT)		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
	SAMPLE TYPE						Field Duplicate				Field Duplicate					Field Duplicate
ANALYTE	UNITS															
TPH as gasoline	mg/kg	3.1 U	1.6 U	1.5 U	1.4 U	--	1.3 U	1.3 U	--	1.5 U	--	--	1.4 U	--	--	--
TPH as motor oil	mg/kg	26	11 U	10 U	10 U	10 U	--	10 U	--	54	30	46	91	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1-Dichloroethene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1-Dichloropropene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1,1-Trichloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1,2-Trichloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2-Dibromoethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2-Dichlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	350 U	6.2 U	--	340 U	6.9 U	6.2 U	--	--
1,2-Dichloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2-Dichloropropane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2,3-Trichlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2,3-Trichloropropane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,2,4-Trichlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	350 U	6.2 U	--	340 U	6.9 U	6.2 U	--	--
1,2,4-Trimethylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,3-Dichlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	350 U	6.2 U	--	340 U	6.9 U	6.2 U	--	--
1,3-Dichloropropane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,3,5-Trimethylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
1,4-Dichlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	350 U	6.2 U	--	340 U	6.9 U	6.2 U	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	350 U	--	--
2-Chlorotoluene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	62 U	--	--
2,2-Dichloropropane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
2,4,5-Trichlorophenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
2,4,6-Trichlorophenol	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
4-Isopropyltoluene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Acetone	ug/kg	150 U	76 U	68 U	77 U	--	59 U	49 U	--	62 U	--	--	69 U	62 U	--	--
Acrolein	ug/kg	300 U	150 U	140 U	150 U	120 U	--	99 U	--	120 U	--	--	140 U	120 U	--	--
Acrylonitrile	ug/kg	150 U	76 U	68 U	77 U	--	59 U	49 U	--	62 U	--	--	69 U	62 U	--	--
Benzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
bis (2-chloroethyl) ether	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
bis (2-chloroisopropyl) ether	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Bromobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Bromochloromethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Bromodichloromethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Bromoform	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Bromomethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Carbon disulfide	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Carbon tetrachloride	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Chloro methane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Chlorobenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Chloroethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Chloroform	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
cis-1,2-Dichloroethene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
cis-1,3-Dichloropropene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.2 U	--	--
Dibromochloromethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC21-OS4	AOC21-OS5	AOC21-OS6	AOC21-OS7	AOC21-OS8	AOC21-OS8	AOC21-OS9	AOC22-1	AOC22-1	AOC22-1	AOC22-2	AOC22-2	AOC22-2	AOC22-2	AOC22-2
	SAMPLE	AOC21-OS4-D2	AOC21-OS5-D1	AOC21-OS6-D1	AOC21-OS7-D1	AOC21-OS8-D1	AOC21-OS8-D99	AOC21-OS9-D1	AOC22-1-25000	AOC22-1-25002	AOC22-1-25001	AOC22-2-25003	AOC22-2-25004	AOC22-2-25005	AOC22-2-25007	AOC22-2-25006
	DATE	9/23/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	10/27/2014	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/17/2017	1/17/2017	1/17/2017
SAMPLE TOP DEPTH (FT)		2	7	8	3.5	5	5	5	0	2	0	0	2	5	9	5
SAMPLE BOTTOM DEPTH (FT)		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	8	9	4.5	6	6	6	0.5	3	0.5	0.5	3	6	10	6
	SAMPLE TYPE						Field Duplicate				Field Duplicate					Field Duplicate
ANALYTE	UNITS															
Dibromomethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Dichlorodifluoromethane	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Ethyl- benzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Hexachlorobutadiene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	690 U	6.2 U	--	680 U	6.9 U	6.2 U	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	700 U	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	350 U	360 U	--	340 U	370 U	350 U	--	--
Isopropylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.2 U	--	--
Methyl ethyl ketone	ug/kg	150 U	76 U	68 U	77 U	--	59 U	49 U	--	62 U	--	--	69 U	62 U	--	--
Methyl isobutyl ketone	ug/kg	150 U	76 U	68 U	77 U	--	59 U	49 U	--	62 U	--	--	69 U	62 U	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.2 U	--	--
Methylene chloride	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
N-Butylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
N-Propylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Nitrobenzene	ug/kg	4100 U	350 U	340 U	340 U	340 U	--	340 U	340 U	350 U	360 U	--	340 U	370 U	350 U	--
p-Chlorotoluene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
sec-Butylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Styrene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
tert-Butylbenzene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Tetrachloroethene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Toluene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
trans-1,2-Dichloroethene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
trans-1,3-Dichloropropene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Trichloroethene	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Vinyl chloride	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Xylene, m,p-	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Xylene, o-	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--
Xylenes, total	ug/kg	15 U	7.6 U	6.8 U	7.7 U	--	5.9 U	4.9 U	--	6.2 U	--	--	6.9 U	6.2 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC22-3	AOC22-3	AOC22-3	AOC22-3	AOC23-1	AOC23-1	AOC23-1	AOC23-2	AOC23-3	AOC23-4	AOC23-4	AOC24-1	AOC24-1	AOC24-2	AOC24-2
	SAMPLE	AOC22-3-25008	AOC22-3-25009	AOC22-3-25010	AOC22-3-25011	AOC23-1-26001	AOC23-1-26002	AOC23-1-26000	AOC23-2-26003	AOC23-3-26005	AOC23-4-26006	AOC23-4-26007	AOC24-1-27000	AOC24-1-27001	AOC24-2-27003	AOC24-2-27004
	DATE	1/17/2017	1/17/2017	1/17/2017	1/17/2017	12/8/2015	12/8/2015	12/8/2015	1/7/2016	1/7/2016	1/17/2017	1/17/2017	1/10/2016	1/10/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	0	2	0	0	0	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	1	3	1	0.5	0.5	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	0.5	3	0.5	0.5	0.5	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE					Field Duplicate									Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	5900	380	170	41	--	--	--	180 J	15000 J	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	120	27	4.3 J	1.9 U	--	--	--	16 J	1300 J	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	810	3.1 J	3.4 J	0.59 U	--	--	--	2.3 UJ	99 J	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	22 U	2.7 J	0.48 U	0.091 U	--	--	--	0.96 UJ	100 J	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	4.3 U	1.8 J	0.69 U	0.57 U	--	--	--	1.4 J	93 J	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	120	8 J	3.7 J	0.38 U	--	--	--	5.3 J	440 J	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	20 U	2.5 U	0.24 U	0.083 U	--	--	--	1.3 UJ	71 J	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	1.4 U	1.2 U	0.22 U	0.062 U	--	--	--	0.82 UJ	5.3 UJ	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.79 U	2.2 J	0.22 U	0.085 U	--	--	--	0.2 UJ	6.5 UJ	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	49	2.9 U	1 U	0.27 U	--	--	--	4.1 J	170 J	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	25 U	1.5 U	0.31 U	0.11 U	--	--	--	0.49 UJ	24 J	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	460 U	31 U	13 U	2.7 U	--	--	--	17 UJ	2500 UJ	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	6.8 U	1.6 U	0.23 U	0.089 U	--	--	--	0.51 UJ	42 J	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	1.1 U	0.19 U	0.18 U	0.072 U	--	--	--	0.11 UJ	3.1 UJ	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	3.8 U	3.8 U	0.13 U	0.08 U	--	--	--	0.35 UJ	6.3 UJ	--	--	--	--	--	--
OCDD	ng/kg	52000	3000	950	420	--	--	--	1600 J	130000 J	--	--	--	--	--	--
OCDF	ng/kg	210	38	7.7 J	4.3 J	--	--	--	41 J	3000 J	--	--	--	--	--	--
TEQ Avian	ng/kg	92	7	1.7	0.43	--	--	--	2.9	260	--	--	--	--	--	--
TEQ Human	ng/kg	200	9.5	3.7	0.85	--	--	--	5.1	440	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	200	9.5	3.7	0.85	--	--	--	5.1	440	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	11	10	--	9.4	8.9	--	--	8.4	8.8	8.3	9.2
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2.1 U	2.2 U	2 U	2.2 U	2.3 U	--	2.2 U	2.3 U	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U
Arsenic	mg/kg	2.9	2.7	3.2	2.9	--	2	2.9	4.1	6.6	3.9	3.2	2.3	4.5	--	4
Barium	mg/kg	49	69	68	70	--	85	86 J	93	150	76	66	93	130	150	140
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	1.1 U	1.2 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	--	1.1 U
Cadmium	mg/kg	1 U	1 U	1.1 U	1 U	1.1 U	1.2 U	--	1.1 U	2.5	1.1 U	1.1	1 U	1.1 U	--	1.1 U
Chromium, Hexavalent	mg/kg	1.3	0.64	0.22 U	0.2 U	0.22 U	0.23 U	--	0.41	9.9	0.3	0.21 U	1	1.2	--	0.65
Chromium, total	mg/kg	17	26	23	4.5	--	38	30 J	37	460	21	57	18	35	--	31
Cobalt	mg/kg	2.9	5.6	6.8	2.6	--	9.3	8.6	9.7	11	7.2	12	6.3	7.8	--	5.6
Copper	mg/kg	17	8.6	10	6.7	--	15	19 J	34	55	9.9	21	7.1	13	9.4	9.4
Lead	mg/kg	4.7	8.7	2	1.8	--	2.3	4.9	14	330	15	4.9	3.1	4.5	7.2	7.9
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.12 U	--	0.44	0.64	0.11 U	0.11 U	0.1 U	0.11 U	--	0.11 U
Molybdenum	mg/kg	1 U	1 U	1.1 U	1 U	1.1 U	1.2 U	--	1.7	1.1 U	1.1 U	1.1 U	1 U	1.1 U	--	1.1 U
Nickel	mg/kg	5.7	14	17	3.3	--	27	23	25	32	11	35	8.6	19	--	12
Selenium	mg/kg	1 UJ	1 UJ	1.1 UJ	1 UJ	1.1 U	1.2 U	--	1.1 U	1.1 U	1.1 UJ	1.1 UJ	1 U	1.1 U	--	1.1 U
Silver	mg/kg	1 U	1 U	1.1 U	1 U	1.1 U	1.2 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	--	1.1 U
Thallium	mg/kg	2 U	2.1 U	2.2 U	2 U	2.2 U	2.3 U	--	2.2 U	2.3 U	2.1 U	2.1 U	2 U	2.1 U	--	2.1 U
Vanadium	mg/kg	15	24	27	12	--	39	37	35	41	23	50	23	26	--	24
Zinc	mg/kg	25	36	24	10	--	39	33	150	360	53	47	33	28	--	30
Metals CLP																
Aluminum	mg/kg	4400	--	--	--	--	--	--	--	--	6100	--	--	--	--	--
Calcium	mg/kg	17000	--	--	--	--	--	--	--	--	23000	--	--	--	--	--
Cyanide	mg/kg	0.21 UJ	--	--	--	--	--	--	--	--	0.21 UJ	--	--	--	--	--
Iron	mg/kg	7600	--	--	--	--	--	--	--	--	14000	--	--	--	--	--
Magnesium	mg/kg	2900	--	--	--	--	--	--	--	--	4300	--	--	--	--	--
Manganese	mg/kg	140	--	--	--	--	--	--	--	--	190	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC22-3	AOC22-3	AOC22-3	AOC22-3	AOC23-1	AOC23-1	AOC23-1	AOC23-2	AOC23-3	AOC23-4	AOC23-4	AOC24-1	AOC24-1	AOC24-2	AOC24-2
	SAMPLE	AOC22-3-25008	AOC22-3-25009	AOC22-3-25010	AOC22-3-25011	AOC23-1-26001	AOC23-1-26002	AOC23-1-26000	AOC23-2-26003	AOC23-3-26005	AOC23-4-26006	AOC23-4-26007	AOC24-1-27000	AOC24-1-27001	AOC24-2-27003	AOC24-2-27004
	DATE	1/17/2017	1/17/2017	1/17/2017	1/17/2017	12/8/2015	12/8/2015	12/8/2015	1/7/2016	1/7/2016	1/17/2017	1/17/2017	1/10/2016	1/10/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	0	2	0	0	0	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	1	3	1	0.5	0.5	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	0.5	3	0.5	0.5	0.5	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE					Field Duplicate									Field Duplicate	
ANALYTE		UNITS														
Potassium		mg/kg	1100 J	--	--	--	--	--	--	--	1400 J	--	--	--	--	--
Sodium		mg/kg	670 J	--	--	--	--	--	--	--	200 J	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
4,4-DDE	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
4,4-DDT	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Aldrin	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
alpha-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
alpha-Chlordane	ug/kg	1.3	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
beta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
delta-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
Dieldrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endo sulfan I	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
Endo sulfan II	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endosulfan sulfate	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin aldehyde	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
Endrin ketone	ug/kg	2 U	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--
gamma-BHC	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
gamma-Chlordane	ug/kg	2.8 J	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
Heptachlor	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
Heptachlor Epoxide	ug/kg	1 U	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--
Methoxy chlor	ug/kg	5.1 U	--	--	--	--	--	--	--	--	5.3 U	--	--	--	--	--
Toxaphene	ug/kg	51 UJ	--	--	--	--	--	--	--	--	53 UJ	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	17 U	18 U	19 U	--	18 U	19 U	18 U	18 U	17 U	17 U	--	18 U
Aroclor 1221	ug/kg	33 U	35 U	36 U	34 U	36 U	38 U	--	37 U	37 U	35 U	35 U	34 U	35 U	--	35 U
Aroclor 1232	ug/kg	17 U	17 U	18 U	17 U	18 U	19 U	--	18 U	19 U	18 U	18 U	17 U	17 U	--	18 U
Aroclor 1242	ug/kg	17 U	17 U	18 U	17 U	18 U	19 U	--	18 U	18 U	18 U	18 U	17 U	17 U	--	18 U
Aroclor 1248	ug/kg	17 U	17 U	18 U	17 U	18 U	19 U	--	18 U	19 U	18 U	18 U	17 U	17 U	--	18 U
Aroclor 1254	ug/kg	35	20	18 U	17 U	18 U	19 U	--	45	720	50	110	17 U	17 U	--	18 U
Aroclor 1260	ug/kg	17 U	31	18 U	17 U	18 U	19 U	--	18 U	19 U	18 U	18 U	17 U	17 U	--	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	60.5	68	36 U	34 U	36 U	38 U	--	72	749	77	137	34 U	34 U	--	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
2-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
Acenaphthene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
Acenaphthylene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
Anthracene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	8.3 J	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
B(a)P Equivalent	ug/kg	45	6 U	6.4 U	5.9 U	6.4 U	6.8 U	--	22	640	120	38	57 U	6.1 U	--	60 U
Benzo (a) anthracene	ug/kg	26 J	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	6	240	68 J	23 J	5.1 U	5.3 U	7.2	5.4 U
Benzo (a) pyrene	ug/kg	31	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	14	560 U	87	27	51 U	5.3 U	--	54 U
Benzo (b) fluoranthene	ug/kg	72	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	34	560 U	160	49	51 U	5.3 U	--	54 U
Benzo (ghi) perylene	ug/kg	11	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	7.1	560 U	26	11	51 U	5.3 U	--	54 U
Benzo (k) fluoranthene	ug/kg	16	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	9.3	560 U	60	18	51 U	5.3 U	--	54 U
Chrysene	ug/kg	32	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	13	350	75	24	5.1 U	5.3 U	--	5.4 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	560 U	5.3 U	5.4 U	51 U	5.3 U	--	54 U
Fluoranthene	ug/kg	45	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	12	590	110	32	5.1 U	5.3 U	--	5.4 U
Fluorene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
Indeno (1,2,3-cd) pyrene	ug/kg	11	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	6.7	560 U	25	10	51 U	5.3 U	--	54 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC22-3	AOC22-3	AOC22-3	AOC22-3	AOC23-1	AOC23-1	AOC23-1	AOC23-2	AOC23-3	AOC23-4	AOC23-4	AOC24-1	AOC24-1	AOC24-2	AOC24-2
	SAMPLE	AOC22-3-25008	AOC22-3-25009	AOC22-3-25010	AOC22-3-25011	AOC23-1-26001	AOC23-1-26002	AOC23-1-26000	AOC23-2-26003	AOC23-3-26005	AOC23-4-26006	AOC23-4-26007	AOC24-1-27000	AOC24-1-27001	AOC24-2-27003	AOC24-2-27004
	DATE	1/17/2017	1/17/2017	1/17/2017	1/17/2017	12/8/2015	12/8/2015	12/8/2015	1/7/2016	1/7/2016	1/17/2017	1/17/2017	1/10/2016	1/10/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	0	2	0	0	0	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	1	3	1	0.5	0.5	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	0.5	3	0.5	0.5	0.5	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE					Field Duplicate									Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.2 U	5.5 U	5.1 U	5.5 U	5 U	--	5.6 U	5.6 U	5.3 U	5.4 U	5.1 U	5.3 U	--	5.4 U
PAH High molecular weight	ug/kg	289	0	0	0	--	0	0	114	1750	721	227	0	0	--	0
PAH Low molecular weight	ug/kg	13	0	0	0	--	0	0	0	148	33	8.3	0	0	--	0
Phenanthrene	ug/kg	13	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	5.6 U	140 J	33	8.3	5.1 U	5.3 U	--	5.4 U
Pyrene	ug/kg	45	5.2 U	5.5 U	5.1 U	5.5 U	5.9 U	--	12	570	110	33	5.1 U	5.3 U	--	5.4 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
2-Chloro naphthalene	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2-Chlorophenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2-Methylphenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2-Nitroaniline	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
2-Nitrophenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
2,4-Dimethylphenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2,4-Dinitrophenol	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
2,4-Dinitrotoluene	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2,6-Dinitrotoluene	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
3-Nitroaniline	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
3,3-Dichlorobenzidene	ug/kg	670 U	--	--	--	730 U	770 U	--	740 U	7400 U	700 U	--	670 U	700 U	--	710 U
4-Bromophenyl phenyl ether	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
4-Chloro-3-methylphenol	ug/kg	670 U	--	--	--	730 U	770 U	--	740 U	740 U	700 U	--	670 U	700 U	--	710 U
4-Chloroaniline	ug/kg	670 U	--	--	--	730 U	770 U	--	740 U	740 U	700 U	--	670 U	700 U	--	710 U
4-Chlorophenyl phenyl ether	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
4-Methylphenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
4-Nitroaniline	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
4-Nitrophenol	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
Acetophenone	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
Atrazine	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
Benzaldehyde	ug/kg	710 U	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
Benzyl alcohol	ug/kg	670 U	--	--	--	730 U	770 U	--	740 U	740 U	700 U	--	670 U	700 U	--	710 U
bis (2-chloroethoxy) methane	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
bis (2-ethylhexyl) phthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	3700 U	350 U	--	340 U	350 U	--	350 U
Butylbenzylphthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	3700 U	350 U	--	340 U	350 U	--	350 U
Caprolactam	ug/kg	330 U	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--
Carbazole	ug/kg	330 U	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Di-n-octyl phthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	3700 U	350 U	--	340 U	350 U	--	3500 U
Dibenzofuran	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Diethyl phthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Dimethyl phthalate	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Hexachlorobenzene	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Hexachloroethane	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
n-Nitroso-di-n-propylamine	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
N-nitrosodiphenylamine	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Pentachlorophenol	ug/kg	1700 U	--	--	--	1800 U	1900 U	--	1900 U	1900 U	1800 U	--	1700 U	1700 U	--	1800 U
Phenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	11 U	12 U	--	18	160	--	--	120 J	24	--	31

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC22-3	AOC22-3	AOC22-3	AOC22-3	AOC23-1	AOC23-1	AOC23-1	AOC23-2	AOC23-3	AOC23-4	AOC23-4	AOC24-1	AOC24-1	AOC24-2	AOC24-2
	SAMPLE	AOC22-3-25008	AOC22-3-25009	AOC22-3-25010	AOC22-3-25011	AOC23-1-26001	AOC23-1-26002	AOC23-1-26000	AOC23-2-26003	AOC23-3-26005	AOC23-4-26006	AOC23-4-26007	AOC24-1-27000	AOC24-1-27001	AOC24-2-27003	AOC24-2-27004
	DATE	1/17/2017	1/17/2017	1/17/2017	1/17/2017	12/8/2015	12/8/2015	12/8/2015	1/7/2016	1/7/2016	1/17/2017	1/17/2017	1/10/2016	1/10/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	0	2	0	0	0	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	1	3	1	0.5	0.5	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	0.5	3	0.5	0.5	0.5	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE					Field Duplicate									Field Duplicate	
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	1.2 U	--	1.4 U
TPH as motor oil		mg/kg	--	--	--	--	14	12 U	--	110	740	--	--	640	230	170
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2-Dichlorobenzene	ug/kg	330 U	--	--	--	370 U	5 U	--	370 U	370 U	350 U	--	340 U	5.9 U	--	7.2 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,2,4-Trichlorobenzene	ug/kg	330 U	--	--	--	370 U	5 U	--	370 U	370 U	350 U	--	340 U	5.9 U	--	7.2 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,3-Dichlorobenzene	ug/kg	330 U	--	--	--	370 U	5 U	--	370 U	370 U	350 U	--	340 U	5.9 U	--	7.2 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
1,4-Dichlorobenzene	ug/kg	330 U	--	--	--	370 U	5 U	--	370 U	370 U	350 U	--	340 U	5.9 U	--	7.2 U
1,4-Dioxane	ug/kg	330 U	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
2,4,5-Trichlorophenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
2,4,6-Trichlorophenol	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Acetone	ug/kg	--	--	--	--	--	50 U	--	--	--	--	--	--	59 UJ	--	72 UJ
Acrolein	ug/kg	--	--	--	--	--	100 U	--	--	--	--	--	--	120 U	--	140 U
Acrylonitrile	ug/kg	--	--	--	--	--	50 U	--	--	--	--	--	--	59 U	--	72 U
Benzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
bis (2-chloroethyl) ether	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
bis (2-chloroisopropyl) ether	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Bromobenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Bromochloromethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Bromodichloromethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Bromoform	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Bromomethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Carbon disulfide	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Chloro methane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Chlorobenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Chloroethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Chloroform	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC22-3	AOC22-3	AOC22-3	AOC22-3	AOC23-1	AOC23-1	AOC23-1	AOC23-2	AOC23-3	AOC23-4	AOC23-4	AOC24-1	AOC24-1	AOC24-2	AOC24-2
	SAMPLE	AOC22-3-25008	AOC22-3-25009	AOC22-3-25010	AOC22-3-25011	AOC23-1-26001	AOC23-1-26002	AOC23-1-26000	AOC23-2-26003	AOC23-3-26005	AOC23-4-26006	AOC23-4-26007	AOC24-1-27000	AOC24-1-27001	AOC24-2-27003	AOC24-2-27004
	DATE	1/17/2017	1/17/2017	1/17/2017	1/17/2017	12/8/2015	12/8/2015	12/8/2015	1/7/2016	1/7/2016	1/17/2017	1/17/2017	1/10/2016	1/10/2016	1/11/2016	1/11/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	0	2	0	0	0	0	2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	1	3	1	0.5	0.5	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	0.5	3	0.5	0.5	0.5	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE					Field Duplicate									Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Ethyl- benzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Hexachlorobutadiene	ug/kg	670 U	--	--	--	730 U	5 U	--	740 U	740 U	700 U	--	670 U	5.9 U	--	7.2 U
Hexachlorocyclopentadiene	ug/kg	670 U	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
Isopropylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	50 U	--	--	--	--	--	--	59 U	--	72 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	50 U	--	--	--	--	--	--	59 U	--	72 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
N-Butylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
N-Propylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Nitrobenzene	ug/kg	330 U	--	--	--	370 U	380 U	--	370 U	370 U	350 U	--	340 U	350 U	--	350 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Styrene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Tetrachloroethene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Toluene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Trichloroethene	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Vinyl chloride	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Xylene, m,p-	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Xylene, o-	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U
Xylenes, total	ug/kg	--	--	--	--	--	5 U	--	--	--	--	--	--	5.9 U	--	7.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC24-2	AOC24-2	AOC24-OS1	AOC24-OS1	AOC24-OS2	AOC24-OS2	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-2	AOC26-2
	SAMPLE	AOC24-2-27005	AOC24-2-27002	AOC24-OS1-0001	AOC24-OS1-0002	AOC24-OS2-0001	AOC24-OS2-0002	AOC26-1-28000	AOC26-1-28001	AOC26-1-28002	AOC26-1-28003	AOC26-1-28004	AOC26-1-28005	AOC26-1-28006	AOC26-2-28007	AOC26-2-28008
	DATE	1/11/2016	1/11/2016	12/14/2011	12/14/2011	12/14/2011	12/14/2011	12/15/2015	12/15/2015	12/15/2015	12/15/2015	1/10/2016	1/10/2016	1/11/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	0	0	1	0	1	0	2	5	9	24	49	74	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	8.2	--	--	--	--	--	9.5	9.3	9.4	9.5	8.9	9	8.6	8.8	8.3
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	1.9	5	3.8	3.3	2.3	3.4	1 U	3.2	3.2	3.5	2.7	1.4	1.9	3.7	4
Barium	mg/kg	100 J	--	190	200	91	170	1 U	68	62	93	33	59	94	540	150
Beryllium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.21 U	0.82	1.2	0.76	0.41 U	0.42 U	0.2 U	0.2 U	0.21 U	0.21 U	0.22 U	0.21 U	0.21 U	0.27	0.21 U
Chromium, total	mg/kg	17	28	30	26	20	16	1 U	6.1	6.9	6.9	26	29	42	21	12
Cobalt	mg/kg	8.5	6.7	5.1	5.8	7.1	4	1 U	2.4	2.1	3.3	9.2	9	13	6.6	4.1
Copper	mg/kg	8.3	--	9.3	9.6	8	6.9	2 U	3.9	4	4.9	13	13	18	13	7
Lead	mg/kg	2.4	--	8.4	7.8	17	6.4	1 U	2.5	2.2	2.4	2.6	1.4	2.4	10	11
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.27	0.24	0.3	0.13	0.1 U
Molybdenum	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Nickel	mg/kg	14	13	9.7	11	13	7.8	1 U	4.7	4.3	5.9	20	19	36	14	10
Selenium	mg/kg	1 UJ	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	31	27	29	31	30	25	1 U	9.7	10	11	34	32	48	22	17
Zinc	mg/kg	33	32	33	36	32	27	1 U	14	15	15	34	32	40	38	27
Metals CLP																
Aluminum	mg/kg	--	--	7600	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	31000	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	14000	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	6300	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	260 J	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC24-2	AOC24-2	AOC24-OS1	AOC24-OS1	AOC24-OS2	AOC24-OS2	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-2	AOC26-2
	SAMPLE	AOC24-2-27005	AOC24-2-27002	AOC24-OS1-0001	AOC24-OS1-0002	AOC24-OS2-0001	AOC24-OS2-0002	AOC26-1-28000	AOC26-1-28001	AOC26-1-28002	AOC26-1-28003	AOC26-1-28004	AOC26-1-28005	AOC26-1-28006	AOC26-2-28007	AOC26-2-28008
	DATE	1/11/2016	1/11/2016	12/14/2011	12/14/2011	12/14/2011	12/14/2011	12/15/2015	12/15/2015	12/15/2015	12/15/2015	1/10/2016	1/10/2016	1/11/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	0	0	1	0	1	0	2	5	9	24	49	74	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	1600	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	1100	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	1.7	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	2.1 U	2.1 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	1.6 J	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	5.2 U	5.2 U	5.1 U	5.2 U	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	52 U	52 U	51 U	52 U	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U
Aroclor 1221	ug/kg	34 U	35 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	36 U	35 U	34 U	35 U	35 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	17 U
Aroclor 1254	ug/kg	17 U	28	17 U	30	17 U	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	48	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	30	17 U	17 U	17 U	18 U	17 U	17 U	80	120
Aroclor 1262	ug/kg	--	--	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	17 U	17 U	17 U	17 U	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	53.5	34 U	55.5	34 U	34 U	55.5	34 U	34 U	34 U	36 U	34 U	34 U	146	146
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
2-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	5.4 U	5.3 U	5.2 U	7.8	5.3 U
Acenaphthene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
Acenaphthylene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
Anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
B(a)P Equivalent	ug/kg	5.9 U	60	17	66	5.9 U	10	6.2	5.9 U	6 U	6 U	62	6.1 U	6 U	67	61 U
Benzo (a) anthracene	ug/kg	5.1 U	--	12	45	5.1 U	14	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	12	53 U
Benzo (a) pyrene	ug/kg	5.1 U	53 U	10	44	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	53 U	53 U
Benzo (b) fluoranthene	ug/kg	5.1 U	53 U	26	100	5.1 U	30	5.4	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	99	53 U
Benzo (ghi) perylene	ug/kg	5.1 U	53 U	5.2	17	5.1 U	6.6	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	53 U	53 U
Benzo (k) fluoranthene	ug/kg	5.1 U	53 U	10	28	5.1 U	8.3	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	53 U	53 U
Chrysene	ug/kg	5.1 U	15 J	17	50	5.1 U	13	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	12	53 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	53 U	5.2 U	5.2	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	53 U	53 U
Fluoranthene	ug/kg	5.1 U	21 J	26	85	5.1 U	24	5.1	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	22	5.3 U
Fluorene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	53 U	5.2 U	18	5.1 U	5.9	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	53 U	53 U

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC24-2	AOC24-2	AOC24-OS1	AOC24-OS1	AOC24-OS2	AOC24-OS2	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-2	AOC26-2
	SAMPLE	AOC24-2-27005	AOC24-2-27002	AOC24-OS1-0001	AOC24-OS1-0002	AOC24-OS2-0001	AOC24-OS2-0002	AOC26-1-28000	AOC26-1-28001	AOC26-1-28002	AOC26-1-28003	AOC26-1-28004	AOC26-1-28005	AOC26-1-28006	AOC26-2-28007	AOC26-2-28008
	DATE	1/11/2016	1/11/2016	12/14/2011	12/14/2011	12/14/2011	12/14/2011	12/15/2015	12/15/2015	12/15/2015	12/15/2015	1/10/2016	1/10/2016	1/11/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	0	0	1	0	1	0	2	5	9	24	49	74	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	4.9	4.7 U	4.5 U	5.3 U	5.3 U
PAH High molecular weight	ug/kg	0	65	130	468	0	125	10.5	0	0	0	0	0	0	166	0
PAH Low molecular weight	ug/kg	0	0	8.3	33	0	0	0	0	0	0	4.9	0	0	7.8	0
Phenanthrene	ug/kg	5.1 U	5.2 U	8.3	33	5.1 U	5.2 U	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	5.3 U	5.3 U
Pyrene	ug/kg	5.1 U	19 J	24	76	5.1 U	23	5.1 U	5.1 U	5.2 U	5.2 U	54 U	5.3 U	5.2 U	21	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2-Chlorophenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2-Methylphenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
2-Nitrophenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2,6-Dinitrotoluene	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
3,3-Dichlorobenzidene	ug/kg	680 U	700 U	680 U	680 U	680 U	680 U	690 U	680 U	680 U	680 U	7100 U	680 U	680 U	700 U	690 U
4-Bromophenyl phenyl ether	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
4-Chloro-3-methylphenol	ug/kg	680 U	700 U	680 U	690 U	680 U	690 U	670 U	680 U	680 U	680 U	710 U	690 U	680 U	700 U	690 U
4-Chloroaniline	ug/kg	680 U	700 U	680 U	690 U	680 U	690 U	670 U	680 U	680 U	680 U	710 U	690 U	680 U	700 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
4-Methylphenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
Acetophenone	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	720 UJ	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
Benzyl alcohol	ug/kg	680 U	700 U	680 U	690 U	680 U	690 U	670 U	680 U	680 U	680 U	710 U	690 U	680 U	700 U	690 U
bis (2-chloroethoxy) methane	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	3600 U	350 U	340 U	350 U	350 U
Butylbenzylphthalate	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	3600 U	350 U	340 U	350 U	350 U
Caprolactam	ug/kg	--	--	340 UJ	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Di-n-octyl phthalate	ug/kg	340 U	3500 U	340 U	340 U	340 U	340 U	3400 U	3400 U	3400 U	3400 U	360 U	350 U	340 U	3500 U	3500 U
Dibenzofuran	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Diethyl phthalate	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Dimethyl phthalate	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Hexachlorobenzene	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Hexachloroethane	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
N-nitrosodiphenylamine	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U
Phenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	25	77	39	10 U	10 U	10 U	10 U	10 U	10 U	3100	11 U	10 U	49	170

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC24-2	AOC24-2	AOC24-OS1	AOC24-OS1	AOC24-OS2	AOC24-OS2	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-2	AOC26-2
	SAMPLE	AOC24-2-27005	AOC24-2-27002	AOC24-OS1-0001	AOC24-OS1-0002	AOC24-OS2-0001	AOC24-OS2-0002	AOC26-1-28000	AOC26-1-28001	AOC26-1-28002	AOC26-1-28003	AOC26-1-28004	AOC26-1-28005	AOC26-1-28006	AOC26-2-28007	AOC26-2-28008
	DATE	1/11/2016	1/11/2016	12/14/2011	12/14/2011	12/14/2011	12/14/2011	12/15/2015	12/15/2015	12/15/2015	12/15/2015	1/10/2016	1/10/2016	1/11/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	0	0	1	0	1	0	2	5	9	24	49	74	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.2 U	--	--	--	--	--	--	1.2 U	1.2 U	1.2 U	68	1 U	0.93 U	--	1.3 U
TPH as motor oil	mg/kg	10 U	--	430	200	10 U	32	15	10 U	10 U	10 U	1700	11 U	10 U	120	580
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1-Dichloroethene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1-Dichloropropene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1,1-Trichloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1,1,2-Tetrachloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1,2-Trichloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,1,2,2-Tetrachloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2-Dibromo-3-chloropropane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2-Dibromoethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2-Dichlorobenzene	ug/kg	6 U	350 U	340 UJ	340 U	340 U	340 U	340 U	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	350 U	6.8 U
1,2-Dichloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2-Dichloropropane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2,3-Trichlorobenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2,3-Trichloropropane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,2,4-Trichlorobenzene	ug/kg	6 U	350 U	340 U	340 U	340 U	340 U	340 U	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	350 U	6.8 U
1,2,4-Trimethylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	29	4.7 U	4.5 U	--	6.8 U
1,3-Dichlorobenzene	ug/kg	6 U	350 U	340 U	340 U	340 U	340 U	340 U	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	350 U	6.8 U
1,3-Dichloropropane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
1,3,5-Trimethylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	20	4.7 U	4.5 U	--	6.8 U
1,4-Dichlorobenzene	ug/kg	6 U	350 U	340 U	340 U	340 U	340 U	340 U	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	350 U	6.8 U
1,4-Dioxane	ug/kg	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
2,4,5-Trichlorophenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
2,4,6-Trichlorophenol	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
4-Isopropyltoluene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Acetone	ug/kg	60 UJ	--	--	--	--	--	--	58 U	59 U	57 U	210	47 UJ	45 UJ	--	68 U
Acrolein	ug/kg	120 U	--	--	--	--	--	--	120 U	120 U	110 U	92 U	94 U	91 U	--	140 UJ
Acrylonitrile	ug/kg	60 U	--	--	--	--	--	--	58 U	59 U	57 U	46 UJ	47 U	45 U	--	68 U
Benzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
bis (2-chloroethyl) ether	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Bromobenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Bromochloromethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Bromodichloromethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Bromoform	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Bromomethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Carbon disulfide	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Carbon tetrachloride	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Chloro methane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Chlorobenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Chloroethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Chloroform	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
cis-1,2-Dichloroethene	ug/kg	6 U	--	--	--	--	--	--	5.8 UJ	5.9 UJ	5.7 UJ	4.6 U	4.7 U	4.5 U	--	6.8 U
cis-1,3-Dichloropropene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC24-2	AOC24-2	AOC24-OS1	AOC24-OS1	AOC24-OS2	AOC24-OS2	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-2	AOC26-2
	SAMPLE	AOC24-2-27005	AOC24-2-27002	AOC24-OS1-0001	AOC24-OS1-0002	AOC24-OS2-0001	AOC24-OS2-0002	AOC26-1-28000	AOC26-1-28001	AOC26-1-28002	AOC26-1-28003	AOC26-1-28004	AOC26-1-28005	AOC26-1-28006	AOC26-2-28007	AOC26-2-28008
	DATE	1/11/2016	1/11/2016	12/14/2011	12/14/2011	12/14/2011	12/14/2011	12/15/2015	12/15/2015	12/15/2015	12/15/2015	1/10/2016	1/10/2016	1/11/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	0	0	1	0	1	0	2	5	9	24	49	74	0	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	0.5	2	0.5	2	0.5	3	6	10	25	50	75	0.5	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Dichlorodifluoromethane	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Ethyl- benzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	72	4.7 U	4.5 U	--	6.8 U
Hexachlorobutadiene	ug/kg	6 U	700 U	680 U	690 U	680 U	690 U	670 U	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	700 U	6.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	680 UJ	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
Isopropylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	21	4.7 U	4.5 U	--	6.8 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	60 U	--	--	--	--	--	--	58 U	59 U	57 U	140	47 U	45 U	--	68 U
Methyl isobutyl ketone	ug/kg	60 U	--	--	--	--	--	--	58 U	59 U	57 U	46 U	47 U	45 U	--	68 U
Methyl tert-butyl ether (MTBE)	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
N-Butylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	7.3	4.7 U	4.5 U	--	6.8 U
N-Propylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	25	4.7 U	4.5 U	--	6.8 U
Nitrobenzene	ug/kg	340 U	350 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	340 U	360 U	350 U	340 U	350 U	350 U
p-Chlorotoluene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
sec-Butylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	7.8	4.7 U	4.5 U	--	6.8 U
Styrene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
tert-Butylbenzene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Tetrachloroethene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Toluene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	96	4.7 U	4.5 U	--	6.8 U
trans-1,2-Dichloroethene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
trans-1,3-Dichloropropene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Trichloroethene	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Vinyl chloride	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	4.6 U	4.7 U	4.5 U	--	6.8 U
Xylene, m,p-	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	180	4.7 U	4.5 U	--	6.8 U
Xylene, o-	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	45	4.7 U	4.5 U	--	6.8 U
Xylenes, total	ug/kg	6 U	--	--	--	--	--	--	5.8 U	5.9 U	5.7 U	220	4.7 U	4.5 U	--	6.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC26-2	AOC26-3	AOC26-3	AOC26-3	AOC26-4	AOC26-4	AOC26-4	AOC26-4	AOC26-5	AOC26-5	AOC26-5	AOC26-5	AOC2A	AOC2B	AOC4-17
	SAMPLE	AOC26-2-28009	AOC26-3-28011	AOC26-3-28012	AOC26-3-28013	AOC26-4-28015	AOC26-4-28016	AOC26-4-28017	AOC26-4-28018	AOC26-5-28019	AOC26-5-28020	AOC26-5-28021	AOC26-5-28022	AOC2A	AOC2B	AOC4-17-3100
	DATE	1/14/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	2/20/2003	2/20/2003	12/1/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	9	0	2	5	8	0.4	0.4	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.94 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18 U
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05 U
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.17 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.067 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.049 U
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.15 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.096 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.094 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.078 U
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.19 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.48 U
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.081 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.06 U
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.8 U
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.54 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18
General																
pH	PHUNITS	8.4	8.9	9	8.6	8.2	8.6	7.8	8.5	9.8	9.5	8	7.8	9.6	8.2	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	--	--	2.2 U
Arsenic	mg/kg	5.8	4.9	3.5	4.2	8.8	3.8	2.7	3.8	3.5	3.8	3.4	4	--	--	4.8
Barium	mg/kg	130	85	130	170	160	150	94	170	200	130	150	160	--	--	170
Beryllium	mg/kg	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	--	1.1 U
Cadmium	mg/kg	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	--	1.1 U
Chromium, Hexavalent	mg/kg	0.26	0.21 U	0.21 U	0.22 U	0.75	0.21 U	0.21 U	0.21 U	0.22 U	0.21 U	0.22 U	0.22 U	4.2 U	3.8 U	--
Chromium, total	mg/kg	19	9.2	10	13	22	8.8	40	13	4.9	7.6	13	11	26.1	17.3	41
Cobalt	mg/kg	5.5	3	3.2	5.3	5.2	3.9	8.5	5.3	2.8	3	5.8	5	--	--	12
Copper	mg/kg	11	5.9	6.2	7.5	10	6.3	11	7.6	3.7	5.4	8.8	8.1	10.2	11.2	19
Lead	mg/kg	8.9	3.1	11	4.3	19	2.6	3.1	3.9	2.8	4.8	4.2	5.2	--	--	3.9
Mercury	mg/kg	0.13	0.1 U	0.1 U	0.13	0.11	0.1 U	0.1 U	0.11	0.11 U	0.1 U	0.13	0.11	--	--	0.11 U
Molybdenum	mg/kg	2.3	1 U	1 U	1.3	1.2	1.8	1 U	1.7	1.1 U	1 U	1.1 U	1.1 U	--	--	1.1 U
Nickel	mg/kg	13	6.9	5.5	11	10	6.6	27	10	4.5	5.8	9.9	8.6	12.4	17	35
Selenium	mg/kg	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	--	1.1 U
Silver	mg/kg	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	--	1.1 U
Thallium	mg/kg	2.2 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.2 U	--	--	2.2 U
Vanadium	mg/kg	24	12	14	21	22	17	31	21	12	13	23	21	--	--	48
Zinc	mg/kg	36	23	32	30	35	19	38	26	14	20	31	28	367	23.9	39
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC26-2	AOC26-3	AOC26-3	AOC26-3	AOC26-4	AOC26-4	AOC26-4	AOC26-4	AOC26-5	AOC26-5	AOC26-5	AOC26-5	AOC2A	AOC2B	AOC4-17
	SAMPLE	AOC26-2-28009	AOC26-3-28011	AOC26-3-28012	AOC26-3-28013	AOC26-4-28015	AOC26-4-28016	AOC26-4-28017	AOC26-4-28018	AOC26-5-28019	AOC26-5-28020	AOC26-5-28021	AOC26-5-28022	AOC2A	AOC2B	AOC4-17-3100
	DATE	1/14/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	2/20/2003	2/20/2003	12/1/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	9	0	2	5	8	0.4	0.4	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	18 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	--	--	18 U
Aroclor 1221	ug/kg	36 U	34 U	35 U	37 U	35 U	34 U	34 U	35 U	37 U	34 U	37 U	36 U	--	--	36 U
Aroclor 1232	ug/kg	18 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	--	--	18 U
Aroclor 1242	ug/kg	18 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	--	--	18 U
Aroclor 1248	ug/kg	18 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	--	--	18 U
Aroclor 1254	ug/kg	18 U	17 U	28	18 U	150	17 U	30	17 U	19 U	17 U	18 U	18 U	--	--	18 U
Aroclor 1260	ug/kg	420	17 U	33	18 U	88	17 U	17 U	17 U	19 U	120	490	510	--	--	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	447	34 U	78	36 U	255	34 U	55.5	34 U	38 U	146	517	537	--	--	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
2-Methyl naphthalene	ug/kg	5.5 U	5.2 U	6.3	5.6 U	6.3	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Acenaphthene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Acenaphthylene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Anthracene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
B(a)P Equivalent	ug/kg	64 U	6 U	58	6.5 U	71	6 U	6 U	59 U	6.5 U	6 U	62 U	62 U	--	--	--
Benzo (a) anthracene	ug/kg	55 U	5.2 U	5.2 U	5.6 U	44	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	54 U	--	--	--
Benzo (a) pyrene	ug/kg	55 U	5.2 U	52 U	5.6 U	52 U	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--
Benzo (b) fluoranthene	ug/kg	55 U	5.2 U	52 U	5.6 U	120	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--
Benzo (ghi) perylene	ug/kg	55 U	5.2 U	52 U	5.6 U	52 U	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--
Benzo (k) fluoranthene	ug/kg	55 U	5.2 U	52 U	5.6 U	52 U	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--
Chrysene	ug/kg	55 U	5.2 U	5.2 U	5.6 U	41	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	54 U	--	--	--
Dibenzo (a,h) anthracene	ug/kg	55 U	5.2 U	52 U	5.6 U	52 U	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--
Fluoranthene	ug/kg	5.5 U	5.2 U	6.3	5.6 U	98	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Fluorene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	55 U	5.2 U	52 U	5.6 U	52 U	5.2 U	5.2 U	53 U	5.6 U	5.2 U	56 U	54 U	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC26-2	AOC26-3	AOC26-3	AOC26-3	AOC26-4	AOC26-4	AOC26-4	AOC26-4	AOC26-5	AOC26-5	AOC26-5	AOC26-5	AOC2A	AOC2B	AOC4-17
	SAMPLE	AOC26-2-28009	AOC26-3-28011	AOC26-3-28012	AOC26-3-28013	AOC26-4-28015	AOC26-4-28016	AOC26-4-28017	AOC26-4-28018	AOC26-5-28019	AOC26-5-28020	AOC26-5-28021	AOC26-5-28022	AOC2A	AOC2B	AOC4-17-3100
	DATE	1/14/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	2/20/2003	2/20/2003	12/1/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	9	0	2	5	8	0.4	0.4	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	5.2 U	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
PAH High molecular weight	ug/kg	0	0	12.9	0	388	0	0	0	0	0	0	0	--	--	--
PAH Low molecular weight	ug/kg	0	0	6.3	0	43.3	0	0	0	0	0	0	0	--	--	--
Phenanthrene	ug/kg	5.5 U	5.2 U	5.2 U	5.6 U	37	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Pyrene	ug/kg	5.5 U	5.2 U	6.6	5.6 U	85	5.2 U	5.2 U	5.3 U	5.6 U	5.2 U	5.6 U	5.4 U	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2-Chlorophenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2-Methylphenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
2-Nitrophenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
2,4-Dimethylphenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2,4-Dinitrophenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
2,4-Dinitrotoluene	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2,6-Dinitrotoluene	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
3-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
3,3-Dichlorobenzidene	ug/kg	720 U	680 U	690 U	740 U	690 U	680 U	690 U	740 U	680 U	690 U	740 U	7200 U	--	--	--
4-Bromophenyl phenyl ether	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
4-Chloro-3-methylphenol	ug/kg	720 U	680 U	690 U	740 U	690 U	680 U	690 U	700 U	740 U	690 U	740 U	720 U	--	--	--
4-Chloroaniline	ug/kg	720 U	680 U	690 U	740 U	690 U	680 U	690 U	700 U	740 U	690 U	740 U	720 U	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
4-Methylphenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
4-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
4-Nitrophenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
Benzyl alcohol	ug/kg	720 U	680 U	690 U	740 U	690 U	680 U	690 U	700 U	740 U	690 U	740 U	720 U	--	--	--
bis (2-chloroethoxy) methane	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	3600 U	--	--	--
Butylbenzylphthalate	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	3600 U	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Di-n-octyl phthalate	ug/kg	3600 U	3400 U	3500 U	370 U	3500 U	340 U	340 U	350 U	370 U	350 U	3700 U	3600 U	--	--	--
Dibenzofuran	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Diethyl phthalate	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Dimethyl phthalate	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Hexachlorobenzene	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Hexachloroethane	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
N-nitrosodiphenylamine	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Pentachlorophenol	ug/kg	1800 U	1700 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	--	--	--
Phenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	600	14	13	27	10 U	10 U	10 U	580	11 U	110	890	2600	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC26-2	AOC26-3	AOC26-3	AOC26-3	AOC26-4	AOC26-4	AOC26-4	AOC26-4	AOC26-5	AOC26-5	AOC26-5	AOC26-5	AOC2A	AOC2B	AOC4-17
	SAMPLE	AOC26-2-28009	AOC26-3-28011	AOC26-3-28012	AOC26-3-28013	AOC26-4-28015	AOC26-4-28016	AOC26-4-28017	AOC26-4-28018	AOC26-5-28019	AOC26-5-28020	AOC26-5-28021	AOC26-5-28022	AOC2A	AOC2B	AOC4-17-3100
	DATE	1/14/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	2/20/2003	2/20/2003	12/1/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	9	0	2	5	8	0.4	0.4	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.5 U	--	1.3 U	1.6 U	--	1.4 U	1.3 U	1.4 U	--	1.3 U	1.4 U	1.5 U	--	--	--
TPH as motor oil	mg/kg	600	67	62	50	49	10 U	10 U	530	11 U	170	710	2400	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,1-Dichloroethene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,1-Dichloropropene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,1,1-Trichloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,1,2-Trichloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,2-Dibromoethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,2-Dichlorobenzene	ug/kg	8.6 U	340 U	6.8 U	8.1 U	350 U	6.8 U	6.7 U	7.2 U	370 U	5.4 U	7.2 U	7.5 U	--	--	--
1,2-Dichloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,2-Dichloropropane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
1,2,3-Trichlorobenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,2,3-Trichloropropane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,2,4-Trichlorobenzene	ug/kg	8.6 U	340 U	6.8 U	8.1 U	350 U	6.8 U	6.7 U	7.2 U	370 U	5.4 U	7.2 U	7.5 U	--	--	--
1,2,4-Trimethylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,3-Dichlorobenzene	ug/kg	8.6 U	340 U	6.8 U	8.1 U	350 U	6.8 U	6.7 U	7.2 U	370 U	5.4 U	7.2 U	7.5 U	--	--	--
1,3-Dichloropropane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,3,5-Trimethylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
1,4-Dichlorobenzene	ug/kg	8.6 U	340 U	6.8 U	8.1 U	350 U	6.8 U	6.7 U	7.2 U	370 U	5.4 U	7.2 U	7.5 U	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
2,4,5-Trichlorophenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	370 U	350 U	370 U	350 U	370 U	360 U	--	--	--
2,4,6-Trichlorophenol	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
4-Isopropyltoluene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Acetone	ug/kg	86 U	--	68 U	81 U	--	68 U	67 U	72 U	--	54 U	72 U	75 U	--	--	--
Acrolein	ug/kg	170 U	--	140 U	160 UJ	--	140 UJ	130 UJ	140 UJ	--	110 UJ	140 U	150 U	--	--	--
Acrylonitrile	ug/kg	86 U	--	68 U	81 U	--	68 U	67 U	72 U	--	54 U	72 U	75 U	--	--	--
Benzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
bis (2-chloroethyl) ether	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Bromobenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Bromochloromethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Bromodichloromethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Bromoform	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Bromomethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Carbon disulfide	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Carbon tetrachloride	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Chloro methane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Chlorobenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Chloroethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Chloroform	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
cis-1,2-Dichloroethene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
cis-1,3-Dichloropropene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC26-2	AOC26-3	AOC26-3	AOC26-3	AOC26-4	AOC26-4	AOC26-4	AOC26-4	AOC26-5	AOC26-5	AOC26-5	AOC26-5	AOC2A	AOC2B	AOC4-17
	SAMPLE	AOC26-2-28009	AOC26-3-28011	AOC26-3-28012	AOC26-3-28013	AOC26-4-28015	AOC26-4-28016	AOC26-4-28017	AOC26-4-28018	AOC26-5-28019	AOC26-5-28020	AOC26-5-28021	AOC26-5-28022	AOC2A	AOC2B	AOC4-17-3100
	DATE	1/14/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	1/13/2016	2/20/2003	2/20/2003	12/1/2015
SAMPLE TOP DEPTH (FT)		5	0	2	5	0	2	5	9	0	2	5	8	0.4	0.4	2
SAMPLE BOTTOM DEPTH (FT)		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	0.5	3	6	10	0.5	3	6	9	0.4	0.4	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Dichlorodifluoromethane	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Ethyl- benzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Hexachlorobutadiene	ug/kg	8.6 U	680 U	6.8 U	8.1 U	690 U	6.8 U	6.7 U	7.2 U	740 U	5.4 U	7.2 U	7.5 U	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	340 U	350 U	370 U	350 U	370 U	360 U	--	--	--
Isopropylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	86 U	--	68 U	81 U	--	68 U	67 U	72 U	--	54 U	72 U	75 U	--	--	--
Methyl isobutyl ketone	ug/kg	86 U	--	68 U	81 U	--	68 U	67 U	72 U	--	54 U	72 U	4000 U	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
N-Butylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
N-Propylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Nitrobenzene	ug/kg	360 U	340 U	350 U	370 U	350 U	340 U	370 U	350 U	370 U	350 U	370 U	360 U	--	--	--
p-Chlorotoluene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
sec-Butylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Styrene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
tert-Butylbenzene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Tetrachloroethene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Toluene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
trans-1,2-Dichloroethene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
trans-1,3-Dichloropropene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Trichloroethene	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	400 U	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Vinyl chloride	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Xylene, m,p-	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Xylene, o-	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--
Xylenes, total	ug/kg	8.6 U	--	6.8 U	8.1 U	--	6.8 U	6.7 U	7.2 U	--	5.4 U	7.2 U	7.5 U	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-17-OS1	AOC4-17-OS1	AOC4-17-OS1	AOC4-18	AOC4-18-OS2	AOC4-18-OS2	AOC4-23	AOC4-23	AOC4-24	AOC4-24	AOC4-25	AOC4-26	AOC4-26	AOC4-26	AOC4-27
	SAMPLE	AOC4-17-OS1-D1	AOC4-17-OS1-D2	AOC4-17-OS99-D2	AOC4-18-3103	AOC4-18-OS2-D1	AOC4-18-OS2-D2	AOC4-23-3114	AOC4-23-3115	AOC4-24-3116	AOC4-24-3117	AOC4-25-3118	AOC4-26-3120	AOC4-26-3121	AOC4-26-3172	AOC4-27-3122
	DATE	10/17/2013	10/17/2013	10/17/2013	12/1/2015	10/17/2013	10/17/2013	12/6/2015	12/6/2015	12/6/2015	12/6/2015	11/20/2015	11/20/2015	11/20/2015	2/1/2017	11/20/2015
SAMPLE TOP DEPTH (FT)		2	5	5	2	2	5	0	2	0	2	0	0	2	5	0
SAMPLE BOTTOM DEPTH (FT)		3	6	6	3	3	6	1	3	1	3	1	1	3	6	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	3	3	6	0.5	3	0.5	3	0.5	0.5	3	6	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	0.86 U	0.85 U	--	140	5.9 U	2.8 U	88	54	4600	1500	270	62	13 U	3.6 U	810
1,2,3,4,6,7,8-HpCDF	ng/kg	0.096 U	--	0.12 U	13	0.13 U	0.6 U	12 J	12 J	490	150	81	14	3.2 J	0.5 U	180
1,2,3,4,7,8-HxCDD	ng/kg	0.17 U	--	0.12 U	1.4 J	0.17 U	0.12 U	1.8 U	1.4 U	30	10 J	4.4 J	0.67 U	0.42 U	0.12 U	7.7 J
1,2,3,4,7,8-HxCDF	ng/kg	0.083 U	--	0.072 U	0.54 U	0.13 U	0.11 U	2.8 U	4.8 U	52	17	17	2 U	0.6 J	0.12 U	45
1,2,3,4,7,8,9-HpCDF	ng/kg	0.14 U	--	0.17 U	0.87 U	0.19 U	0.18 U	1.8 U	2 U	41	14	12 J	1.3 U	0.34 U	0.16 U	21
1,2,3,6,7,8-HxCDD	ng/kg	0.17 U	--	0.11 U	4.8 J	0.16 U	0.12 U	3.5 J	2.3 J	99	33	10 J	2.5 J	0.35 U	0.28 U	24
1,2,3,6,7,8-HxCDF	ng/kg	0.078 U	--	0.091 U	1.2 J	0.21 U	0.1 U	2.3 U	6.2 U	41	16	9.2 J	1.8 J	0.46 U	0.44 U	39
1,2,3,7,8-PeCDD	ng/kg	0.5 U	--	0.12 U	0.37 U	0.4 U	0.12 U	1.2 J	0.74 U	6.8 U	5.1 J	38 U	1.3 U	3.2 U	0.095 U	64 U
1,2,3,7,8-PeCDF	ng/kg	0.08 U	0.066 U	--	0.45 U	0.12 U	0.11 U	2.1 J	4.5 J	30	13	6.6 U	0.38 U	0.35 U	1.1 J	24
1,2,3,7,8,9-HxCDD	ng/kg	0.16 U	--	0.11 U	2.6 J	0.16 U	0.11 U	2.2 U	1.5 J	55	18	7.2 J	1.6 U	0.33 U	0.12 U	12 J
1,2,3,7,8,9-HxCDF	ng/kg	0.11 U	--	0.093 U	0.63 U	0.17 U	0.083 U	1 J	1.3 J	7 J	3.2 J	1.7 U	0.51 U	0.36 U	0.14 U	4.4 U
2,3,4,6,7,8-HxCDF	ng/kg	0.087 U	--	0.075 U	15 U	0.14 U	0.075 U	7.1 U	1.4 J	460 U	180 U	29 U	5 U	1.2 U	0.71 U	16 U
2,3,4,7,8-PeCDF	ng/kg	0.087 U	--	0.072 U	0.77 U	0.14 U	0.11 U	2.5 U	5.8 J	43	12 J	25	2.3 U	0.9 U	0.14 U	100
2,3,7,8-TCDD	ng/kg	0.25 U	--	0.18 U	0.073 U	0.19 U	0.19 U	0.43 U	0.49 U	1.4 U	0.62 U	1.5 U	0.68 U	0.25 U	0.05 U	3.1 U
2,3,7,8-TCDF	ng/kg	0.051 U	--	0.058 U	0.58 J	0.14 U	0.11 U	1.8 U	3.4 J	30	8.4	14	2.3 J	0.67 J	0.075 U	38
OCDD	ng/kg	9 U	7 J	--	1100	50	21 J	820	510	45000	13000	2000	450	87	31 U	6500
OCDF	ng/kg	0.41 U	0.32 U	--	21 J	1.6 U	0.26 U	20 J	16 J	1400	430	140	18 J	5.2 J	0.86 U	310
TEQ Avian	ng/kg	0.48 U	0.43	--	2.9	0.5	0.33	5	12	140	47	66	5.4	3.1	0.38	190
TEQ Human	ng/kg	0.44 U	0.38	--	4.1	0.43	0.26	4.5	4.9	140	50	39	3.4	2.3	0.25	94
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.44 U	0.38	--	4.1	0.43	0.26	4.5	4.9	140	50	39	3.4	2.3	0.25	94
General																
pH	PHUNITS	--	--	--	--	9.9	8.7	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 UJ	2 U	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	mg/kg	5.2	4.2	--	4	5	4.5	3.5	2.5	2.6	5	4.9	5.4	5.8	4.9	5.3
Barium	mg/kg	150	300 J	--	150	210	140	130	110	130	450	120	160	360	280	220
Beryllium	mg/kg	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.4 U	--	--	0.41 U	0.4 U	--	--	--	--	--	--	--	0.2 U	--
Chromium, total	mg/kg	16	--	38	20	28	16	22	40	40	22	13	34	56	51	69
Cobalt	mg/kg	5.5	13	--	6.5	7	5.1	6.8	9	8.2	5.1	4.4	9.4	17	14	12
Copper	mg/kg	11	--	28	12	11	8.7	17	16	17	9.1	15	21	54	38	31
Lead	mg/kg	5.1	2.4	--	8.3	5.5	5.3	5.1	4.4	7.4	3.8	6.7	6.5	5.3	1.9	22
Mercury	mg/kg	0.1 U	0.1 U	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 UJ	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Nickel	mg/kg	13	33	--	17	21	12	18	26	20	14	8.6	24	40	38	33
Selenium	mg/kg	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Silver	mg/kg	1 UJ	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2 UJ	2 U	--	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vanadium	mg/kg	28	--	58	29	37	26	27	35	34	29	17	38	59	47	47
Zinc	mg/kg	27	36	--	39	30	26	42	35	42	27	30	44	50	45	61
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-17-OS1	AOC4-17-OS1	AOC4-17-OS1	AOC4-18	AOC4-18-OS2	AOC4-18-OS2	AOC4-23	AOC4-23	AOC4-24	AOC4-24	AOC4-25	AOC4-26	AOC4-26	AOC4-26	AOC4-27
	SAMPLE	AOC4-17-OS1-D1	AOC4-17-OS1-D2	AOC4-17-OS99-D2	AOC4-18-3103	AOC4-18-OS2-D1	AOC4-18-OS2-D2	AOC4-23-3114	AOC4-23-3115	AOC4-24-3116	AOC4-24-3117	AOC4-25-3118	AOC4-26-3120	AOC4-26-3121	AOC4-26-3172	AOC4-27-3122
	DATE	10/17/2013	10/17/2013	10/17/2013	12/1/2015	10/17/2013	10/17/2013	12/6/2015	12/6/2015	12/6/2015	12/6/2015	11/20/2015	11/20/2015	11/20/2015	2/1/2017	11/20/2015
SAMPLE TOP DEPTH (FT)		2	5	5	2	2	5	0	2	0	2	0	0	2	5	0
SAMPLE BOTTOM DEPTH (FT)		3	6	6	3	3	6	1	3	1	3	1	1	3	6	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	3	3	6	0.5	3	0.5	3	0.5	0.5	3	6	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 UJ	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	--	34 U	34 U	33 U	33 U	34 U	33 U	34 U	34 U	34 U	34 U	34 U	33 U
Aroclor 1232	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	1600	420	1600	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	--	17 U	17 U	17 U	140	380	3700	1200	3500	85	140	17 U	4400
Aroclor 1260	ug/kg	17 UJ	17 U	--	17 U	17 U	17 U	110	210	2300	590	2100	17 U	73	17 U	2700
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	--	34 U	34 U	34 U	267	607	7610	2220	7210	111	230	34 U	7120
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Anthracene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	8	56	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	12	13	170	1100	31	6.4	5.9 U	5.9 U	130
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	6.8	7.8	160	1300	19	5.1 U	5.1 U	5.1 U	92
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	7.1	7.8	120	800	21	5.1 U	5.1 U	5.1 U	95
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	14	17	260	1600	46	7.8	5.1 U	5.1 U	220
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	5.7	6.5	28	79	14	5.1 U	5.1 U	5.1 U	32
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	5.1 U	5.1	100	460	12	5.1 U	5.1 U	5.1 U	69
Chrysene	ug/kg	--	--	--	--	--	--	9.1	11	190	1700	28	5.4	5.1 U	5.1 U	140
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Fluoranthene	ug/kg	--	--	--	--	--	--	12	16	430	3600	53	9.8	5.1 U	5.1 U	460
Fluorene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	5.1 U	5.4	32	100	13	5.1 U	5.1 U	5.1 U	34

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-17-OS1	AOC4-17-OS1	AOC4-17-OS1	AOC4-18	AOC4-18-OS2	AOC4-18-OS2	AOC4-23	AOC4-23	AOC4-24	AOC4-24	AOC4-25	AOC4-26	AOC4-26	AOC4-26	AOC4-27
	SAMPLE	AOC4-17-OS1-D1	AOC4-17-OS1-D2	AOC4-17-OS99-D2	AOC4-18-3103	AOC4-18-OS2-D1	AOC4-18-OS2-D2	AOC4-23-3114	AOC4-23-3115	AOC4-24-3116	AOC4-24-3117	AOC4-25-3118	AOC4-26-3120	AOC4-26-3121	AOC4-26-3172	AOC4-27-3122
	DATE	10/17/2013	10/17/2013	10/17/2013	12/1/2015	10/17/2013	10/17/2013	12/6/2015	12/6/2015	12/6/2015	12/6/2015	11/20/2015	11/20/2015	11/20/2015	2/1/2017	11/20/2015
SAMPLE TOP DEPTH (FT)		2	5	5	2	2	5	0	2	0	2	0	0	2	5	0
SAMPLE BOTTOM DEPTH (FT)		3	6	6	3	3	6	1	3	1	3	1	1	3	6	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	3	3	6	0.5	3	0.5	3	0.5	0.5	3	6	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	5 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	66.7	92.6	1710	13000	259	32.1	0	0	1500
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	0	0	87	906	10	0	0	0	210
Phenanthrene	ug/kg	--	--	--	--	--	--	5.1 U	5.1 U	79	850	10	5.1 U	5.1 U	5.1 U	210
Pyrene	ug/kg	--	--	--	--	--	--	12	16	390	3400	53	9.1	5.1 U	5.1 U	360
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-17-OS1	AOC4-17-OS1	AOC4-17-OS1	AOC4-18	AOC4-18-OS2	AOC4-18-OS2	AOC4-23	AOC4-23	AOC4-24	AOC4-24	AOC4-25	AOC4-26	AOC4-26	AOC4-26	AOC4-27
	SAMPLE	AOC4-17-OS1-D1	AOC4-17-OS1-D2	AOC4-17-OS99-D2	AOC4-18-3103	AOC4-18-OS2-D1	AOC4-18-OS2-D2	AOC4-23-3114	AOC4-23-3115	AOC4-24-3116	AOC4-24-3117	AOC4-25-3118	AOC4-26-3120	AOC4-26-3121	AOC4-26-3172	AOC4-27-3122
	DATE	10/17/2013	10/17/2013	10/17/2013	12/1/2015	10/17/2013	10/17/2013	12/6/2015	12/6/2015	12/6/2015	12/6/2015	11/20/2015	11/20/2015	11/20/2015	2/1/2017	11/20/2015
SAMPLE TOP DEPTH (FT)		2	5	5	2	2	5	0	2	0	2	0	0	2	5	0
SAMPLE BOTTOM DEPTH (FT)		3	6	6	3	3	6	1	3	1	3	1	1	3	6	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	3	3	6	0.5	3	0.5	3	0.5	0.5	3	6	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-17-OS1	AOC4-17-OS1	AOC4-17-OS1	AOC4-18	AOC4-18-OS2	AOC4-18-OS2	AOC4-23	AOC4-23	AOC4-24	AOC4-24	AOC4-25	AOC4-26	AOC4-26	AOC4-26	AOC4-27
	SAMPLE	AOC4-17-OS1-D1	AOC4-17-OS1-D2	AOC4-17-OS99-D2	AOC4-18-3103	AOC4-18-OS2-D1	AOC4-18-OS2-D2	AOC4-23-3114	AOC4-23-3115	AOC4-24-3116	AOC4-24-3117	AOC4-25-3118	AOC4-26-3120	AOC4-26-3121	AOC4-26-3172	AOC4-27-3122
	DATE	10/17/2013	10/17/2013	10/17/2013	12/1/2015	10/17/2013	10/17/2013	12/6/2015	12/6/2015	12/6/2015	12/6/2015	11/20/2015	11/20/2015	11/20/2015	2/1/2017	11/20/2015
SAMPLE TOP DEPTH (FT)		2	5	5	2	2	5	0	2	0	2	0	0	2	5	0
SAMPLE BOTTOM DEPTH (FT)		3	6	6	3	3	6	1	3	1	3	1	1	3	6	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	3	3	6	0.5	3	0.5	3	0.5	0.5	3	6	0.5
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-27	AOC4-27	AOC4-28	AOC4-29	AOC4-29	AOC4-29	AOC4-30	AOC4-30	AOC4-30	AOC4-30-OS3	AOC4-30-OS3	AOC4-31	AOC4-31	AOC4-31	AOC4-31-OS4
	SAMPLE	AOC4-27-3123	AOC4-27-3174	AOC4-28-3124	AOC4-29-3153	AOC4-29-3154	AOC4-29-3155	AOC4-30-3157	AOC4-30-3158	AOC4-30-3159	AOC4-30-OS3-D1	AOC4-30-OS3-D2	AOC4-31-3161	AOC4-31-3162	AOC4-31-3163	AOC4-31-OS4-D1
	DATE	11/20/2015	2/1/2017	11/20/2015	12/2/2015	12/3/2015	12/3/2015	12/2/2015	12/3/2015	12/3/2015	10/17/2013	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013
SAMPLE TOP DEPTH (FT)		2	5	0	0	2	5	0	2	5	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		3	5.5	1	1	3	6	1	3	6	3	6	1	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	5.5	0.5	0.5	3	6	0.5	3	6	3	6	0.5	3	6	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	150	20	1400	26	1.6 J	1.7 U	1200	3.6 J	2.4 J	0.55 U	0.25 U	110	140	6.4 J	0.69 U
1,2,3,4,6,7,8-HpCDF	ng/kg	45	2.9 J	260	1.8 U	0.22 U	0.21 U	100	0.36 U	0.28 U	0.15 U	0.2 U	10 J	12 J	0.64 U	0.16 U
1,2,3,4,7,8-HxCDD	ng/kg	0.88 U	0.31 U	19	0.27 U	0.057 U	0.029 U	14	0.12 U	0.066 U	0.17 U	0.15 U	0.62 U	0.83 U	0.23 J	0.2 U
1,2,3,4,7,8-HxCDF	ng/kg	9.4 J	0.89 U	52	0.2 U	0.065 U	0.086 U	11 J	0.2 U	0.096 U	0.062 U	0.096 U	0.076 U	1.2 J	1.3 U	0.06 U
1,2,3,4,7,8,9-HpCDF	ng/kg	5.1 U	0.32 U	33	0.17 U	0.12 U	0.083 U	8.1 J	0.12 U	0.1 U	0.22 U	0.29 U	0.92 U	1.1 U	0.069 U	0.23 U
1,2,3,6,7,8-HxCDD	ng/kg	4.5 J	0.69 U	45	0.95 J	0.14 U	0.029 U	38	0.061 U	0.25 J	0.16 U	0.14 U	2.9 J	4.5 J	0.059 U	0.19 U
1,2,3,6,7,8-HxCDF	ng/kg	7.4 U	1.3 U	30 U	0.19 U	0.06 U	0.079 U	9.6 J	0.089 U	0.057 U	0.089 U	0.07 U	0.56 U	0.62 U	0.056 U	0.11 U
1,2,3,7,8-PeCDD	ng/kg	58 U	0.22 U	7.1 U	0.11 U	0.075 U	0.099 U	5.4 U	0.062 U	0.077 U	0.19 U	0.1 U	0.5 U	0.46 U	0.11 U	0.13 U
1,2,3,7,8-PeCDF	ng/kg	4.3 U	1.8 J	3.2 U	0.12 U	0.26 J	0.045 U	4.3 J	0.076 U	0.055 U	0.094 U	0.11 U	0.36 U	1.6 J	0.1 U	0.12 U
1,2,3,7,8,9-HxCDD	ng/kg	0.83 U	0.21 U	30	0.84 J	0.054 U	0.099 U	23	0.057 U	0.13 U	0.16 U	0.14 U	1.2 U	2 J	0.099 U	0.19 U
1,2,3,7,8,9-HxCDF	ng/kg	0.98 U	0.19 U	11 U	0.23 U	0.076 U	0.1 U	0.73 U	0.11 U	0.072 U	0.12 U	0.12 U	0.33 U	0.3 U	0.13 U	0.16 U
2,3,4,6,7,8-HxCDF	ng/kg	18 U	1.8 U	25	1.1 U	0.28 U	0.062 U	71 U	0.28 U	0.064 U	0.1 U	0.11 U	14 U	21 U	1.2 U	0.13 U
2,3,4,7,8-PeCDF	ng/kg	19	1.1 U	37	0.13 U	0.13 U	0.045 U	13	0.082 U	0.059 U	0.072 U	0.12 U	0.91 U	1.4 U	0.074 U	0.13 U
2,3,7,8-TCDD	ng/kg	1.6 U	0.036 U	3.5 U	0.058 U	0.11 U	0.068 U	0.55 U	0.045 U	0.058 U	0.17 U	0.14 U	0.076 U	0.069 U	0.054 U	0.22 U
2,3,7,8-TCDF	ng/kg	10	0.42 U	13 U	1 J	0.21 U	0.075 U	7.7	0.082 U	0.22 U	0.047 U	0.054 U	0.85 J	0.89 U	0.073 U	0.052 U
OCDD	ng/kg	1300	8.3 U	9400	210	8.3 U	15 U	8200	20 U	12 U	0.53 U	0.86 U	970	1100	55 U	17 J
OCDF	ng/kg	69	4 U	370	3.7 J	0.33 U	0.3 U	150	0.88 J	0.35 U	0.39 U	0.23 U	23 J	29	1.5 J	0.27 U
TEQ Avian	ng/kg	62	1.4	68	1.4	0.32	0.17 U	36	0.18	0.24	0.28 U	0.25 U	2.9	3.4	0.26	0.32
TEQ Human	ng/kg	42	0.93	56	0.82	0.18	0.13 U	37	0.15	0.16	0.24 U	0.19 U	3.3	4.3	0.28	0.26
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	42	0.93	56	0.82	0.18	0.13 U	37	0.15	0.16	0.24 U	0.19 U	3.3	4.3	0.28	0.26
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2.1 U	2 U	2 UJ	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Arsenic	mg/kg	5.9	4.2	4.3	3.6	3.8	4.2	4.5	3.6	3.8	5.1	4.7	3.3	3.3	3.7	4.6
Barium	mg/kg	290	260	190	110	170	150	95	81	140	180	260	140	140	150	210
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Cadmium	mg/kg	1 U	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	--	0.21 U	--	0.2 U	0.21 U	0.21 U	0.2 U	0.2 U	0.2 U	0.4 U	0.41 U	0.2 U	0.21 U	0.21 U	0.41 U
Chromium, total	mg/kg	72	59	34	31	30	16	27	12	25	15	36	28	26	5.4	20
Cobalt	mg/kg	19	12	5.2	7.6	8.7	5.4	7.9	4.3	5.2	4.5	9.1	7.9	7.2	2.8	6.3
Copper	mg/kg	38	270	17	18	16	9.3	16	6.7	6.3	6.5	17	14	16	3.9	14
Lead	mg/kg	6.4	1.8	26	6.5	3.9	3.4	4.2	2.7	2.3	2.7	4.2	4.3	4	3	5.4
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Nickel	mg/kg	43	40	13	22	26	15	24	12	20	11	26	20	21	5.7	16
Selenium	mg/kg	1.1	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Silver	mg/kg	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Thallium	mg/kg	2 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2 U
Vanadium	mg/kg	63	41	20	31	36	24	32	22	24	26	41	31	31	13	31
Zinc	mg/kg	50	41	65	170	33	25	40	20	24	20	34	39	30	15	29
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-27	AOC4-27	AOC4-28	AOC4-29	AOC4-29	AOC4-29	AOC4-30	AOC4-30	AOC4-30	AOC4-30-OS3	AOC4-30-OS3	AOC4-31	AOC4-31	AOC4-31	AOC4-31-OS4
	SAMPLE	AOC4-27-3123	AOC4-27-3174	AOC4-28-3124	AOC4-29-3153	AOC4-29-3154	AOC4-29-3155	AOC4-30-3157	AOC4-30-3158	AOC4-30-3159	AOC4-30-OS3-D1	AOC4-30-OS3-D2	AOC4-31-3161	AOC4-31-3162	AOC4-31-3163	AOC4-31-OS4-D1
	DATE	11/20/2015	2/1/2017	11/20/2015	12/2/2015	12/3/2015	12/3/2015	12/2/2015	12/3/2015	12/3/2015	10/17/2013	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013
SAMPLE TOP DEPTH (FT)		2	5	0	0	2	5	0	2	5	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		3	5.5	1	1	3	6	1	3	6	3	6	1	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	5.5	0.5	0.5	3	6	0.5	3	6	3	6	0.5	3	6	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	34 U	34 U	33 U	--	--	--	33 R	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	17 U	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	17 U	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	2900	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	810	230	6600	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	380	170	4300	--	--	--	17 R	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	1210	417	13800	--	--	--	34 R	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	5.1 U	5.2 U	52	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	72	6	2300	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	52	5.2 U	2200	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	52	5.2 U	1700	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	94	5.2 U	3400	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	31	5.2 U	530	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	26	5.2 U	1100	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	62	5.2 U	2200	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	80	6.6	5200	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	29	5.2 U	590	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-27	AOC4-27	AOC4-28	AOC4-29	AOC4-29	AOC4-29	AOC4-30	AOC4-30	AOC4-30	AOC4-30-OS3	AOC4-30-OS3	AOC4-31	AOC4-31	AOC4-31	AOC4-31-OS4
	SAMPLE	AOC4-27-3123	AOC4-27-3174	AOC4-28-3124	AOC4-29-3153	AOC4-29-3154	AOC4-29-3155	AOC4-30-3157	AOC4-30-3158	AOC4-30-3159	AOC4-30-OS3-D1	AOC4-30-OS3-D2	AOC4-31-3161	AOC4-31-3162	AOC4-31-3163	AOC4-31-OS4-D1
	DATE	11/20/2015	2/1/2017	11/20/2015	12/2/2015	12/3/2015	12/3/2015	12/2/2015	12/3/2015	12/3/2015	10/17/2013	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013
SAMPLE TOP DEPTH (FT)		2	5	0	0	2	5	0	2	5	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		3	5.5	1	1	3	6	1	3	6	3	6	1	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	5.5	0.5	0.5	3	6	0.5	3	6	3	6	0.5	3	6	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.2 U	5.1 U	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	509	12.8	21700	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	13	0	762	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	13	5.2 U	710	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	83	6.2	4800	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-27	AOC4-27	AOC4-28	AOC4-29	AOC4-29	AOC4-29	AOC4-30	AOC4-30	AOC4-30	AOC4-30-OS3	AOC4-30-OS3	AOC4-31	AOC4-31	AOC4-31	AOC4-31-OS4
	SAMPLE	AOC4-27-3123	AOC4-27-3174	AOC4-28-3124	AOC4-29-3153	AOC4-29-3154	AOC4-29-3155	AOC4-30-3157	AOC4-30-3158	AOC4-30-3159	AOC4-30-OS3-D1	AOC4-30-OS3-D2	AOC4-31-3161	AOC4-31-3162	AOC4-31-3163	AOC4-31-OS4-D1
	DATE	11/20/2015	2/1/2017	11/20/2015	12/2/2015	12/3/2015	12/3/2015	12/2/2015	12/3/2015	12/3/2015	10/17/2013	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013
SAMPLE TOP DEPTH (FT)		2	5	0	0	2	5	0	2	5	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		3	5.5	1	1	3	6	1	3	6	3	6	1	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	5.5	0.5	0.5	3	6	0.5	3	6	3	6	0.5	3	6	3
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-27	AOC4-27	AOC4-28	AOC4-29	AOC4-29	AOC4-29	AOC4-30	AOC4-30	AOC4-30	AOC4-30-OS3	AOC4-30-OS3	AOC4-31	AOC4-31	AOC4-31	AOC4-31-OS4
	SAMPLE	AOC4-27-3123	AOC4-27-3174	AOC4-28-3124	AOC4-29-3153	AOC4-29-3154	AOC4-29-3155	AOC4-30-3157	AOC4-30-3158	AOC4-30-3159	AOC4-30-OS3-D1	AOC4-30-OS3-D2	AOC4-31-3161	AOC4-31-3162	AOC4-31-3163	AOC4-31-OS4-D1
	DATE	11/20/2015	2/1/2017	11/20/2015	12/2/2015	12/3/2015	12/3/2015	12/2/2015	12/3/2015	12/3/2015	10/17/2013	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013
SAMPLE TOP DEPTH (FT)		2	5	0	0	2	5	0	2	5	2	5	0	2	5	2
SAMPLE BOTTOM DEPTH (FT)		3	5.5	1	1	3	6	1	3	6	3	6	1	3	6	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	5.5	0.5	0.5	3	6	0.5	3	6	3	6	0.5	3	6	3
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-31-OS4	AOC4-32	AOC4-32	AOC4-32	AOC4-32-OS5	AOC4-32-OS5	AOC4-36	AOC4-36	AOC4-37	AOC4-38	AOC4-38	AOC4-39	AOC4-39	AOC4-39	AOC4-40
	SAMPLE	AOC4-31-OS4-D2	AOC4-32-3164	AOC4-32-3165	AOC4-32-3166	AOC4-32-OS5-D1	AOC4-32-OS5-D2	AOC4-36-3188	AOC4-36-3189	AOC4-37-3192	AOC4-38-3196	AOC4-38-3197	AOC4-39-3201	AOC4-39-3202	AOC4-39-3200	AOC4-40-3206
	DATE	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013	10/17/2013	1/5/2017	1/5/2017	2/4/2017	2/2/2017	2/2/2017	1/5/2017	1/5/2017	1/5/2017	2/6/2017
SAMPLE TOP DEPTH (FT)		5	0	2	5	2	5	0	0.9	0	0	2	0	1.5	0	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
	SAMPLE TYPE												Field Duplicate			Field Duplicate
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	2.7 J	2900	86	41	0.27 U	21	340	53 J	43	930	560	890 J	27	--	390
1,2,3,4,6,7,8-HpCDF	ng/kg	0.73 U	280	6.4 J	3.6 J	0.25 U	0.56 U	39	6.9 J	3.7 J	100	92	79	2.8 U	--	86 J
1,2,3,4,7,8-HxCDD	ng/kg	0.45 U	14	0.58 U	0.4 U	0.27 U	0.61 U	6 J	0.67 U	0.58 U	5.2 J	1.7 J	13	0.63 U	--	6 J
1,2,3,4,7,8-HxCDF	ng/kg	0.13 U	1.8 U	0.86 J	0.22 U	0.069 U	0.55 U	5.3 J	0.76 U	0.45 U	3.7 J	3.6 J	--	0.52 U	14	35
1,2,3,4,7,8,9-HpCDF	ng/kg	0.56 U	8.5 U	0.82 U	0.2 U	0.4 U	0.91 U	6.4 J	1.6 U	0.35 U	8.6 J	6.7 J	--	1.3 U	10 J	--
1,2,3,6,7,8-HxCDD	ng/kg	0.42 U	79	2.5 J	1.2 U	0.25 U	0.45 U	12 J	2 U	1.9 J	22	15	24	0.9 U	--	13
1,2,3,6,7,8-HxCDF	ng/kg	0.12 U	9.3 J	0.32 U	0.2 U	0.061 U	0.49 U	6.8 J	11 J	4.9 J	2.4 U	2.6 U	--	2.2 J	14	29
1,2,3,7,8-PeCDD	ng/kg	0.17 U	7.6 U	0.26 U	0.2 U	0.46 U	1 U	7.4 U	3.2 U	0.5 U	2.9 U	0.82 U	630 U	1.7 U	--	--
1,2,3,7,8-PeCDF	ng/kg	0.1 U	6.2 U	0.28 U	0.17 U	0.067 U	0.14 U	56	76	0.83 U	1.3 U	1.8 J	--	1.2 U	52	--
1,2,3,7,8,9-HxCDD	ng/kg	0.44 U	27	1.1 U	0.53 U	0.16 U	0.61 U	8.5 U	2.3 U	1.3 J	9.6 J	3.8 J	19	0.32 U	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.18 U	6.4 J	0.38 U	0.25 U	0.095 U	0.76 U	0.43 U	0.87 U	0.52 U	1.3 J	0.57 U	--	0.59 U	3.1 U	--
2,3,4,6,7,8-HxCDF	ng/kg	0.14 U	640 U	16 U	8.1 U	0.074 U	0.59 U	34 U	2.3 U	3.3 U	200 U	140 U	--	0.52 U	64 U	37 U
2,3,4,7,8-PeCDF	ng/kg	0.097 U	6.7 U	0.47 J	0.29 U	0.07 U	0.16 U	5.6 J	1.7 U	0.17 U	1.9 U	0.95 U	13	1.2 U	--	43
2,3,7,8-TCDD	ng/kg	0.11 U	0.9 J	0.12 U	0.083 U	0.12 U	0.13 U	0.8 U	0.38 U	0.24 U	0.08 U	0.11 U	--	0.21 U	0.4 U	0.15 U
2,3,7,8-TCDF	ng/kg	0.07 U	3.4 J	0.47 U	0.22 U	0.061 U	0.26 U	13	0.5 U	0.42 U	1.3 J	0.21 U	--	2 U	3.4 U	45
OCDD	ng/kg	16 J	26000	140	300	300	140	3000	390	8 U	330	9700	6300	8400 J	130 U	--
OCDF	ng/kg	1.3 U	750	20 J	8.3 J	0.39 U	2.9 J	90	12 U	5.6 J	270	230	230 J	2.9 J	--	--
TEQ Avian	ng/kg	0.3	58	2.1	0.99	0.39 U	0.99	33	12	1.7	19	12	--	3	470	100
TEQ Human	ng/kg	0.29	92	2.7	1.3	0.36 U	1.1	19	6.6	2.1	30	19	--	2	470	37
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.29	92	2.7	1.3	0.36 U	1.1	19	6.6	2.1	30	19	--	2	470	37
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U	--	--
Arsenic	mg/kg	5.1	3.6	3.5	3.5	4.2	4.8	2.8	5.8	10	3.9	3.9	--	11	5.2	4.8
Barium	mg/kg	150	220	160	140	180	230	160	310	1100	130	130	--	840	290	160
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	--
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.2	--	1.1 U	1.1 U	1.5
Chromium, Hexavalent	mg/kg	0.41 U	0.37	0.21 U	0.21 U	0.4 U	0.4 U	0.23	0.22 U	0.21 U	0.44	0.33	0.78	0.22 U	--	0.47
Chromium, total	mg/kg	26	45	26	28	21	26	33	16	22	38	34	--	18	62	98 J
Cobalt	mg/kg	7.4	7.7	7.7	7.4	5.7	6.4	9.2	5	7.1	8.8	10	9.4	5.2	--	13
Copper	mg/kg	13	25	16	12	9.8	11	14	7.6	8.3	28	16	--	24	56 J	--
Lead	mg/kg	5.2	9.8	4.2	4.3	4.9	5.2	3.1	2.2	3.8	4.7	1.9	27	3.5	--	--
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.11 U	--	0.11 U	0.11 U	--
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	--
Nickel	mg/kg	21	24	26	22	16	19	22	13	21	21	28	23	10	--	43 J
Selenium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1.1 UJ	1 UJ	1.1 UJ	1.1 UJ	--	1.1 UJ	1.1 UJ	--
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	--
Thallium	mg/kg	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2.1 UJ	2.2 UJ	2.1 U	2.1 U	2.1 U	2.2 UJ	2.2 UJ	--	--
Vanadium	mg/kg	36	34	33	31	29	35	33	24	31	33	36	33	28	--	41 J
Zinc	mg/kg	31	440	36	37	26	29	36	27	31	44	41	--	22	53	52
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	13000	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	1.00E+05	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	0.21 UJ	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	19000	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	10000	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	320	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-31-OS4	AOC4-32	AOC4-32	AOC4-32	AOC4-32-OS5	AOC4-32-OS5	AOC4-36	AOC4-36	AOC4-37	AOC4-38	AOC4-38	AOC4-39	AOC4-39	AOC4-39	AOC4-40
	SAMPLE	AOC4-31-OS4-D2	AOC4-32-3164	AOC4-32-3165	AOC4-32-3166	AOC4-32-OS5-D1	AOC4-32-OS5-D2	AOC4-36-3188	AOC4-36-3189	AOC4-37-3192	AOC4-38-3196	AOC4-38-3197	AOC4-39-3201	AOC4-39-3202	AOC4-39-3200	AOC4-40-3206
	DATE	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013	10/17/2013	1/5/2017	1/5/2017	2/4/2017	2/2/2017	2/2/2017	1/5/2017	1/5/2017	1/5/2017	2/6/2017
SAMPLE TOP DEPTH (FT)		5	0	2	5	2	5	0	0.9	0	0	2	0	1.5	0	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
	SAMPLE TYPE												Field Duplicate			Field Duplicate
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	1800 J	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	140 J	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	5.3 U	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	53 UJ	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	17 R	--	--	--	--	17 U	18 U	17 U	18 U	17 U	18 U	18 U	--	--
Aroclor 1221	ug/kg	--	33 R	--	--	--	--	35 U	36 U	35 U	35 U	35 U	--	37 U	37 U	--
Aroclor 1232	ug/kg	--	17 R	--	--	--	--	17 U	18 U	17 U	18 U	17 U	18 U	18 U	--	--
Aroclor 1242	ug/kg	--	17 R	--	--	--	--	17 U	18 UJ	17 UJ	18 U	17 U	18 UJ	18 UJ	--	--
Aroclor 1248	ug/kg	--	17 R	--	--	--	--	17 U	18 U	17 U	18 U	17 U	18 UJ	18 UJ	--	--
Aroclor 1254	ug/kg	--	17 R	--	--	--	--	870	95	64	160	39	--	92	620 J	--
Aroclor 1260	ug/kg	--	17 R	--	--	--	--	710	77	44	140	17 U	--	18 U	480 J	600 J
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	34 R	--	--	--	--	1600	190	125	318	64.5	2920	119	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	18	5.6 U	5.6 U	--	7.9
Acenaphthylene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
Anthracene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	73	7.8	5.6 U	--	94 J
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	20	6.7	13	24	860	--	14	360	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	12	5.5 U	9.8 J	21	1200	--	13	390	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	12	5.5 U	7.7	15	580	--	7.8	240	620 J
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	28	6.2	18	32	1300	--	18	600	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	12	5.5 U	5.3	10	220	--	6.3	140	180 J
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	6	5.5 U	5.3 U	8.6	160	--	5.6 U	140	--
Chrysene	ug/kg	--	--	--	--	--	--	15	5.5 U	9.5	22	940	--	11	390	890 J
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	27	6.9	21	44	2500	--	27	820	--
Fluorene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	9.8	5.5 U	5.3 U	9.6	230	--	5.6	140	200 J

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-31-OS4	AOC4-32	AOC4-32	AOC4-32	AOC4-32-OS5	AOC4-32-OS5	AOC4-36	AOC4-36	AOC4-37	AOC4-38	AOC4-38	AOC4-39	AOC4-39	AOC4-39	AOC4-40
	SAMPLE	AOC4-31-OS4-D2	AOC4-32-3164	AOC4-32-3165	AOC4-32-3166	AOC4-32-OS5-D1	AOC4-32-OS5-D2	AOC4-36-3188	AOC4-36-3189	AOC4-37-3192	AOC4-38-3196	AOC4-38-3197	AOC4-39-3201	AOC4-39-3202	AOC4-39-3200	AOC4-40-3206
	DATE	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013	10/17/2013	1/5/2017	1/5/2017	2/4/2017	2/2/2017	2/2/2017	1/5/2017	1/5/2017	1/5/2017	2/6/2017
SAMPLE TOP DEPTH (FT)		5	0	2	5	2	5	0	0.9	0	0	2	0	1.5	0	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
	SAMPLE TYPE												Field Duplicate			Field Duplicate
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	5.3 U	5.5 U	5.3 U	5.3 U	5.3 U	5.6 U	5.6 U	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	148	19.7	91.3	201	9130	--	111	3590	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	5.6	0	5.3	12	1050	--	5.6	150	--
Phenanthrene	ug/kg	--	--	--	--	--	--	5.6	5.5 U	5.3	12	960	--	5.6	140	--
Pyrene	ug/kg	--	--	--	--	--	--	26	6.6	20	39	2000	--	22	730	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	740 U	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	1700 U	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-31-OS4	AOC4-32	AOC4-32	AOC4-32	AOC4-32-OS5	AOC4-32-OS5	AOC4-36	AOC4-36	AOC4-37	AOC4-38	AOC4-38	AOC4-39	AOC4-39	AOC4-39	AOC4-40
	SAMPLE	AOC4-31-OS4-D2	AOC4-32-3164	AOC4-32-3165	AOC4-32-3166	AOC4-32-OS5-D1	AOC4-32-OS5-D2	AOC4-36-3188	AOC4-36-3189	AOC4-37-3192	AOC4-38-3196	AOC4-38-3197	AOC4-39-3201	AOC4-39-3202	AOC4-39-3200	AOC4-40-3206
	DATE	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013	10/17/2013	1/5/2017	1/5/2017	2/4/2017	2/2/2017	2/2/2017	1/5/2017	1/5/2017	1/5/2017	2/6/2017
SAMPLE TOP DEPTH (FT)		5	0	2	5	2	5	0	0.9	0	0	2	0	1.5	0	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
	SAMPLE TYPE												Field Duplicate			Field Duplicate
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	88 U	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	88 U	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	180 U	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	88 U	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	9.7 U	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-31-OS4	AOC4-32	AOC4-32	AOC4-32	AOC4-32-OS5	AOC4-32-OS5	AOC4-36	AOC4-36	AOC4-37	AOC4-38	AOC4-38	AOC4-39	AOC4-39	AOC4-39	AOC4-40
	SAMPLE	AOC4-31-OS4-D2	AOC4-32-3164	AOC4-32-3165	AOC4-32-3166	AOC4-32-OS5-D1	AOC4-32-OS5-D2	AOC4-36-3188	AOC4-36-3189	AOC4-37-3192	AOC4-38-3196	AOC4-38-3197	AOC4-39-3201	AOC4-39-3202	AOC4-39-3200	AOC4-40-3206
	DATE	10/17/2013	12/2/2015	12/2/2015	12/2/2015	10/17/2013	10/17/2013	1/5/2017	1/5/2017	2/4/2017	2/2/2017	2/2/2017	1/5/2017	1/5/2017	1/5/2017	2/6/2017
SAMPLE TOP DEPTH (FT)		5	0	2	5	2	5	0	0.9	0	0	2	0	1.5	0	0
SAMPLE BOTTOM DEPTH (FT)		6	1	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	3	6	3	6	0.5	1	0.5	0.5	2.2	0.5	1.7	0.5	0.5
	SAMPLE TYPE												Field Duplicate			Field Duplicate
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	700 U	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	9.7 UJ	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	88 U	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	88 U	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	9.7 U	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	350 U	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	8.8 U	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-40	AOC4-40	AOC4-41	AOC4-42	AOC4-42	AOC4-42	AOC4-42	AOC4-L01	AOC4-L02	AOC4-L03	AOC4-M01	AOC4-M02	AOC4-M03	AOC4-M04	AOC4-N01
	SAMPLE	AOC4-40-3207	AOC4-40-3205	AOC4-41-3210	AOC4-42-3177	AOC4-42-3178	AOC4-42-3179	AOC4-42-3181	AOC4-L01-10881	AOC4-L02-10885	AOC4-L03-10889	AOC4-M01-10961	AOC4-M02-10965	AOC4-M03-10969	AOC4-M04-10973	AOC4-N01-11105
	DATE	2/6/2017	2/6/2017	2/2/2017	2/4/2017	2/4/2017	2/4/2017	2/4/2017	5/14/2010	5/14/2010	5/13/2010	9/30/2010	9/30/2010	10/4/2010	10/5/2010	9/30/2010
SAMPLE TOP DEPTH (FT)		0.5	0	0	0	2	5	7	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	210	--	1400	710	61	4.1 J	14	44	25	81	15	95	12 J	45	510
1,2,3,4,6,7,8-HpCDF	ng/kg	39	--	230 U	50	5.2 J	0.076 U	1.1 U	5.6 U	4.4 J	8 J	2.7 J	1.2 U	1 U	4.1 J	37
1,2,3,4,7,8-HxCDD	ng/kg	2.9 J	--	9.4 U	4.5 U	0.27 U	0.096 U	0.12 U	1.3 J	1.3 J	1.6 J	0.18 U	0.58 U	0.37 U	0.47 U	5.1 J
1,2,3,4,7,8-HxCDF	ng/kg	10 J	--	9.7 U	4.2 J	0.29 U	0.068 U	0.15 U	1.1 U	1.2 J	1.4 J	0.32 U	0.57 U	0.18 U	0.82 J	3.3 U
1,2,3,4,7,8,9-HpCDF	ng/kg	4.2 U	22	12 U	3.7 U	0.37 U	0.092 U	0.13 U	2.7 U	2.9 J	1.4 U	0.15 U	1.8 U	0.32 U	0.6 J	3.1 J
1,2,3,6,7,8-HxCDD	ng/kg	7 J	--	9.4 U	18	1.7 U	0.096 U	0.5 U	2.1 U	2 U	3.6 J	0.73 U	0.6 U	0.38 U	2.8 J	17
1,2,3,6,7,8-HxCDF	ng/kg	7.3 J	--	9.2 U	2.8 U	0.28 U	0.065 U	0.14 U	1.3 U	0.87 U	0.99 U	0.38 U	0.51 U	0.16 U	0.29 U	2.6 J
1,2,3,7,8-PeCDD	ng/kg	1.8 U	2.5 U	52 U	3.7 U	0.16 U	0.072 U	0.11 U	0.16 U	0.17 U	0.44 U	0.17 U	0.39 U	0.31 U	0.49 U	0.72 U
1,2,3,7,8-PeCDF	ng/kg	8.1 J	26	7.9 U	1.2 U	0.22 U	0.054 U	0.083 U	1 J	1.2 J	1 J	0.22 U	0.4 U	0.17 U	0.38 U	0.56 U
1,2,3,7,8,9-HxCDD	ng/kg	5.4 J	9.1 J	9.2 U	11 J	0.86 U	0.094 U	0.38 J	1.9 U	2.1 J	3.5 J	0.17 U	0.57 U	0.36 U	1.6 J	10 J
1,2,3,7,8,9-HxCDF	ng/kg	1.3 U	6.8 J	11 U	1.5 U	0.34 U	0.031 U	0.17 U	2.6 U	3.2 U	1.1 U	0.19 U	0.68 U	0.21 U	0.39 U	0.73 U
2,3,4,6,7,8-HxCDF	ng/kg	22 U	--	9.9 U	69 U	6.7 U	0.61 U	1.7 U	1 J	1.4 J	0.6 U	3.5 U	1.4 J	1.3 U	4.3 U	37 U
2,3,4,7,8-PeCDF	ng/kg	20	--	8.2 U	1.9 U	0.23 U	0.057 U	0.086 U	1.2 J	1.3 J	0.79 U	0.085 U	0.38 U	0.17 U	0.36 U	1.5 J
2,3,7,8-TCDD	ng/kg	0.15 U	--	6.4 U	0.18 U	0.17 U	0.076 U	0.071 U	1.3 J	1.4 J	0.18 U	0.11 U	0.26 U	0.095 U	0.17 U	0.23 U
2,3,7,8-TCDF	ng/kg	16	--	5.1 U	1.5 J	0.36 U	0.071 U	0.067 U	1.7 J	1.6 U	1 U	0.38 U	0.39 U	0.26 U	0.38 U	1.3 U
OCDD	ng/kg	1700	3100	13000	6400	560	35	120	140	210	780	140	960	120	450	4500
OCDF	ng/kg	57	240 J	180	96	9.1 U	1.1 J	2.2 J	15 J	10 J	17 J	9.8 J	1.9 U	2.8 U	6.4 U	65
TEQ Avian	ng/kg	42	--	43	12	1.1	0.2	0.36	5	4.6	2.3	0.68	1.1	0.58	1.4	7.8
TEQ Human	ng/kg	16	--	53	19	1.6	0.19	0.47	3.2	3.3	2.8	0.67	1.9	0.55	1.8	13
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	16	--	53	19	1.6	0.19	0.47	3.2	3.3	2.8	0.67	1.9	0.55	1.8	13
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	2.1 UJ	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 UJ	2 U
Arsenic	mg/kg	1.1 U	--	3.2	4.2	2.8	3.3	3.3	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U
Barium	mg/kg	330	--	110	140	130	130	90	230	340	160	180	230	650	240 J	130
Beryllium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 UJ	1 U
Cadmium	mg/kg	2.1	--	1 U	1 U	1	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 UJ	1 U
Chromium, Hexavalent	mg/kg	0.22 U	--	0.21 U	0.21 U	0.21 U	0.2 U	0.21 U	0.43 U	0.42 U	0.43 U	0.43 U	0.42 U	0.43 U	0.42 U	0.4 U
Chromium, total	mg/kg	120	--	40	24 J	35	29	28	54	53	53	51	47	51	30	22
Cobalt	mg/kg	28	--	8.8	5.6	9.3	8.3	8.6	14	13	12	12	11	12	7.9 J	5.2
Copper	mg/kg	12	19	19	12	13	14	15	24	25	28	23	22	24	11	9.5
Lead	mg/kg	15	26 J	5.6	7.9	2	1.8	2.3	4.2	4.4	4.5	4.6	4.1	3.2	3.6 J	5.4
Mercury	mg/kg	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 UJ	1 U
Nickel	mg/kg	69	--	24	12	30	26	25	37	37	36	37	32	38	25	15
Selenium	mg/kg	1.1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 UJ	1 U
Silver	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U
Thallium	mg/kg	2.2 UJ	2.1 U	2.1 U	2.1 UJ	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.1 U	2.1 UJ	2 U
Vanadium	mg/kg	82	--	29	20	33	31	31	63	61	60	53	51	54	38	26
Zinc	mg/kg	60	--	53	33	33	30	31	42	44	43	43	38	39	33	32
Metals CLP																
Aluminum	mg/kg	--	--	--	6400	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	24000	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	0.21 UJ	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	14000	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	5700	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	220	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-40	AOC4-40	AOC4-41	AOC4-42	AOC4-42	AOC4-42	AOC4-42	AOC4-L01	AOC4-L02	AOC4-L03	AOC4-M01	AOC4-M02	AOC4-M03	AOC4-M04	AOC4-N01
	SAMPLE	AOC4-40-3207	AOC4-40-3205	AOC4-41-3210	AOC4-42-3177	AOC4-42-3178	AOC4-42-3179	AOC4-42-3181	AOC4-L01-10881	AOC4-L02-10885	AOC4-L03-10889	AOC4-M01-10961	AOC4-M02-10965	AOC4-M03-10969	AOC4-M04-10973	AOC4-N01-11105
	DATE	2/6/2017	2/6/2017	2/2/2017	2/4/2017	2/4/2017	2/4/2017	2/4/2017	5/14/2010	5/14/2010	5/13/2010	9/30/2010	9/30/2010	10/4/2010	10/5/2010	9/30/2010
SAMPLE TOP DEPTH (FT)		0.5	0	0	0	2	5	7	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	1800 J	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	750 J	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	2.1 U	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	1 U	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	5.2 U	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	52 UJ	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	18 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U	17 U
Aroclor 1221	ug/kg	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	35 U	36 U	35 U	35 U	35 U	33 U
Aroclor 1232	ug/kg	18 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U	17 U
Aroclor 1242	ug/kg	18 U	17 UJ	17 U	17 UJ	17 UJ	17 UJ	17 UJ	18 U	18 U	18 U	18 U	17 U	18 U	17 U	17 U
Aroclor 1248	ug/kg	18 U	17 U	17 U	17 U	17 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U	17 U
Aroclor 1254	ug/kg	1700	2000	300	41	17 U	17 U	17 U	18 U	18 U	33	18 U	17 U	18 U	19	160
Aroclor 1260	ug/kg	1500	--	230	41	17 U	17 U	17 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U	34
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	18 U	17 U	18 U	17 U	17 U
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	18 U	17 U	18 U	17 U	17 U
Total PCBs	ug/kg	3220	3120	547	99	34 U	34 U	34 U	36 U	36 U	61	36 U	43.5	36 U	44.5	224
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
2-Methyl naphthalene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Acenaphthene	ug/kg	5.5 U	--	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Acenaphthylene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Anthracene	ug/kg	78	--	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
B(a)P Equivalent	ug/kg	2500	2900	90	29	6 U	5.9	6 U	6.1 U	6.1 U	6.1 U	6.2 U	6	6.1 U	6.1 U	15
Benzo (a) anthracene	ug/kg	2900	4600 J	110 J	16 J	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	7.7
Benzo (a) pyrene	ug/kg	1800	--	56 J	19	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	9
Benzo (b) fluoranthene	ug/kg	3500	4400 J	180 J	46	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	19
Benzo (ghi) perylene	ug/kg	470	--	11 J	8.3	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	10
Benzo (k) fluoranthene	ug/kg	880	940 J	69 J	12	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Chrysene	ug/kg	2400	--	300 J	21	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	14
Dibenzo (a,h) anthracene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Fluoranthene	ug/kg	4200	9400 J	88 J	30	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2	5.3 U	5.3 U	29
Fluorene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
Indeno (1,2,3-cd) pyrene	ug/kg	520	--	11 J	8	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	8.4

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-40	AOC4-40	AOC4-41	AOC4-42	AOC4-42	AOC4-42	AOC4-42	AOC4-L01	AOC4-L02	AOC4-L03	AOC4-M01	AOC4-M02	AOC4-M03	AOC4-M04	AOC4-N01
	SAMPLE	AOC4-40-3207	AOC4-40-3205	AOC4-41-3210	AOC4-42-3177	AOC4-42-3178	AOC4-42-3179	AOC4-42-3181	AOC4-L01-10881	AOC4-L02-10885	AOC4-L03-10889	AOC4-M01-10961	AOC4-M02-10965	AOC4-M03-10969	AOC4-M04-10973	AOC4-N01-11105
	DATE	2/6/2017	2/6/2017	2/2/2017	2/4/2017	2/4/2017	2/4/2017	2/4/2017	5/14/2010	5/14/2010	5/13/2010	9/30/2010	9/30/2010	10/4/2010	10/5/2010	9/30/2010
SAMPLE TOP DEPTH (FT)		0.5	0	0	0	2	5	7	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.5 U	5.2 U	5.2 U	5.2 U	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5 U
PAH High molecular weight	ug/kg	21500	34400	914	190	0	0	0	0	0	0	0	5.2	0	0	121
PAH Low molecular weight	ug/kg	638	2720	100	9.7	0	14	0	0	0	0	0	0	0	0	7
Phenanthrene	ug/kg	560	2500 J	100 J	9.7	5.2 U	14	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	7
Pyrene	ug/kg	4800	7700 J	89 J	30	5.2 U	5.1 U	5.2 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	24
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	730 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	730 UJ	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	730 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	690 U	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	690 U	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	690 U	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	730 U	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	730 U	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	730 U	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	1700 U	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	690 U	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	340 UJ	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	1700 U	--	--	--	350 U	350 U	350 U	360 U	350 U	350 U	350 U	330 U
Phenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-40	AOC4-40	AOC4-41	AOC4-42	AOC4-42	AOC4-42	AOC4-42	AOC4-L01	AOC4-L02	AOC4-L03	AOC4-M01	AOC4-M02	AOC4-M03	AOC4-M04	AOC4-N01
	SAMPLE	AOC4-40-3207	AOC4-40-3205	AOC4-41-3210	AOC4-42-3177	AOC4-42-3178	AOC4-42-3179	AOC4-42-3181	AOC4-L01-10881	AOC4-L02-10885	AOC4-L03-10889	AOC4-M01-10961	AOC4-M02-10965	AOC4-M03-10969	AOC4-M04-10973	AOC4-N01-11105
	DATE	2/6/2017	2/6/2017	2/2/2017	2/4/2017	2/4/2017	2/4/2017	2/4/2017	5/14/2010	5/14/2010	5/13/2010	9/30/2010	9/30/2010	10/4/2010	10/5/2010	9/30/2010
SAMPLE TOP DEPTH (FT)		0.5	0	0	0	2	5	7	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	59 U	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	59 U	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	120 U	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	59 U	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	8.2 U	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-40	AOC4-40	AOC4-41	AOC4-42	AOC4-42	AOC4-42	AOC4-42	AOC4-L01	AOC4-L02	AOC4-L03	AOC4-M01	AOC4-M02	AOC4-M03	AOC4-M04	AOC4-N01
	SAMPLE	AOC4-40-3207	AOC4-40-3205	AOC4-41-3210	AOC4-42-3177	AOC4-42-3178	AOC4-42-3179	AOC4-42-3181	AOC4-L01-10881	AOC4-L02-10885	AOC4-L03-10889	AOC4-M01-10961	AOC4-M02-10965	AOC4-M03-10969	AOC4-M04-10973	AOC4-N01-11105
	DATE	2/6/2017	2/6/2017	2/2/2017	2/4/2017	2/4/2017	2/4/2017	2/4/2017	5/14/2010	5/14/2010	5/13/2010	9/30/2010	9/30/2010	10/4/2010	10/5/2010	9/30/2010
SAMPLE TOP DEPTH (FT)		0.5	0	0	0	2	5	7	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		1	0.5	0.5	0.5	3	6	7.5	0	0	0	0	0	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	690 UJ	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	28 J	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	59 U	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	59 U	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	8.2 U	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	340 U	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	5.9 U	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-N02	AOC4-N03	AOC4-N04	AOC4-N05	AOC4-002	AOC4-003	AOC4-003	AOC4-004	AOC4-005	AOC4-005	AOC4-006	AOC4-P03	AOC4-P04	AOC4-P05	AOC4-P05
	SAMPLE	AOC4-N02-11109	AOC4-N03-11113	AOC4-N04-11117	AOC4-N05-11058	AOC4-002-11125	AOC4-003-11131	AOC4-025-21131	AOC4-004-11133	AOC4-005-11137	AOC4-020-21137	AOC4-006-11141	AOC4-P03-11209	AOC4-P04-11214	AOC4-P25-21218	AOC4-P05-11218
	DATE	9/30/2010	10/4/2010	10/5/2010	10/5/2010	10/4/2010	10/26/2010	10/26/2010	10/26/2010	10/27/2010	10/27/2010	10/7/2010	10/4/2010	11/19/2010	10/27/2010	10/27/2010
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE							Field Duplicate				Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	5.3 J	140	230	140	67	38	--	480	5 J	--	680	170	4.4 J	43	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.14 U	9.1 U	15	15	7.1 J	5.3 J	--	49	2.1 J	--	21	11 J	2.5 U	--	0.092 U
1,2,3,4,7,8-HxCDD	ng/kg	0.23 U	0.78 U	0.64 U	1 U	1 U	--	1.6 U	5.1 U	0.34 U	--	6.4 J	1 U	0.82 J	--	0.93 J
1,2,3,4,7,8-HxCDF	ng/kg	0.15 U	1.2 U	1.8 U	1.4 U	0.68 U	1.7 U	--	4.2 J	--	0.36 U	2.7 J	1.4 U	0.87 U	--	0.87 U
1,2,3,4,7,8,9-HpCDF	ng/kg	0.23 U	1.3 U	0.58 U	0.32 U	0.95 U	--	2 J	4.2 U	1.1 U	--	2.6 J	0.73 U	1.5 J	--	0.93 J
1,2,3,6,7,8-HxCDD	ng/kg	0.23 U	5.1 J	8.3 J	4.6 J	2.4 U	--	2.2 U	16	--	0.63 J	17	5 J	1.1 U	--	1.5 J
1,2,3,6,7,8-HxCDF	ng/kg	0.14 U	0.58 U	0.89 U	0.47 U	0.6 U	--	1.3 U	2.9 U	--	0.32 U	1.8 J	1.6 J	1.1 U	1.1 J	--
1,2,3,7,8-PeCDD	ng/kg	0.24 U	0.43 U	0.48 U	0.5 U	0.39 U	--	0.67 U	0.62 U	0.29 U	--	0.23 U	0.44 U	0.91 J	--	0.24 U
1,2,3,7,8-PeCDF	ng/kg	0.089 U	0.35 U	0.28 U	0.32 U	0.46 U	0.58 U	--	0.63 U	0.41 U	--	0.35 U	0.46 U	1.2 J	--	0.52 U
1,2,3,7,8,9-HxCDD	ng/kg	0.22 U	1.7 U	0.62 U	2.1 J	1.1 U	--	1.6 U	9.7 J	0.61 U	--	11 J	2.8 J	1.4 U	--	1.4 U
1,2,3,7,8,9-HxCDF	ng/kg	0.18 U	0.34 U	0.59 U	0.48 U	0.81 U	--	1.3 U	0.99 U	1.2 J	--	2.2 J	0.37 U	1.3 J	1.7 J	--
2,3,4,6,7,8-HxCDF	ng/kg	1.3 U	23 U	0.52 U	0.37 U	6.6 U	--	0.66 U	0.37 U	2.1 U	--	0.1 U	0.66 U	37 U	14 U	0.75 U
2,3,4,7,8-PeCDF	ng/kg	0.086 U	0.58 U	0.78 U	0.31 U	0.45 U	--	0.94 U	2.1 U	0.12 U	--	0.34 U	0.44 U	0.5 U	--	0.26 U
2,3,7,8-TCDD	ng/kg	0.18 U	0.2 U	0.39 U	0.42 U	0.33 U	--	0.59 U	0.77 J	--	0.14 U	0.17 J	0.22 U	0.36 U	0.091 U	--
2,3,7,8-TCDF	ng/kg	0.12 U	0.55 U	0.44 U	0.54 J	0.34 U	--	0.36 U	1.4 J	--	0.51 U	0.41 J	0.48 U	0.95 U	--	0.56 U
OCDD	ng/kg	50	1400	2700	1700	630	370	--	4200	630	35	--	5900	1900	23 U	320
OCDF	ng/kg	1.3 U	31	43	40	11 J	--	9.9 U	100	2.5 J	--	41	27	3.2 J	9.2 J	--
TEQ Avian	ng/kg	0.44	2.6	2	2.1	1.5	2.6	--	7	0.93	--	6.5	2.6	2.4	1.6	--
TEQ Human	ng/kg	0.42	4.2	4.9	3.5	2	2.4	--	12	0.66	--	15	4.6	1.8	1.5	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.42	4.2	4.9	3.5	2	2.4	--	12	0.66	--	15	4.6	1.8	1.5	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U	--	2.1 U	2.1 U	--	2 U	2.1 U	2.1 UJ	--	2.1 U
Arsenic	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	2.4	--	1 U	1 U	1 U	--	1.8
Barium	mg/kg	200	170	150	240	150	220	--	190	230	--	230	160	140	200	--
Beryllium	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	1 U	1 U	1 U	--	1 U
Cadmium	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	1 U	1 U	1 UJ	--	1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.43 U	0.42 U	0.41 U	0.42 U	0.41 U	--	0.66	0.41 U	--	0.41 U	0.41 U	11	--	0.41 U
Chromium, total	mg/kg	31	23	36	34	20	33	--	48	--	32	34	27	43	--	25
Cobalt	mg/kg	8.5	6.4	9	8.9	5.6	9.2	--	12	--	9.2	8.1	6.8	8.3	--	8.1
Copper	mg/kg	13	11	15	14	8.7	--	9.7	12	--	13	15	11	10	--	13
Lead	mg/kg	3.3	5	3.9	4.1	4.4	--	7.1	6	--	6.6	34	4.6	5.3	--	6.9
Mercury	mg/kg	0.1 U	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U	--	0.11 U	0.1 U	--	0.1 U	0.1 U	0.1 U	--	0.1 U
Molybdenum	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	1 U	1 U	1 UJ	--	1 U
Nickel	mg/kg	24	17	27	27	15	28	--	36	--	27	24	18	25	--	23
Selenium	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	1 U	1 U	1 UJ	--	1 U
Silver	mg/kg	1 U	1.1 U	1.1 U	1 U	1 U	1 U	--	1.1 U	1 U	--	1 U	1 U	1 U	--	1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U	--	2.1 U	2.1 U	--	2 U	2.1 U	2.1 UJ	--	2.1 U
Vanadium	mg/kg	39	28	42	41	28	44	--	52	46	--	35	34	37	--	39
Zinc	mg/kg	30	30	32	32	43	38	--	45	38	--	59	30	33	36	--
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-N02	AOC4-N03	AOC4-N04	AOC4-N05	AOC4-O02	AOC4-O03	AOC4-O03	AOC4-O04	AOC4-O05	AOC4-O05	AOC4-O06	AOC4-P03	AOC4-P04	AOC4-P05	AOC4-P05
	SAMPLE	AOC4-N02-11109	AOC4-N03-11113	AOC4-N04-11117	AOC4-N05-11058	AOC4-O02-11125	AOC4-O03-11131	AOC4-O25-21131	AOC4-O04-11133	AOC4-O05-11137	AOC4-O20-21137	AOC4-O06-11141	AOC4-P03-11209	AOC4-P04-11214	AOC4-P25-21218	AOC4-P05-11218
	DATE	9/30/2010	10/4/2010	10/5/2010	10/5/2010	10/4/2010	10/26/2010	10/26/2010	10/26/2010	10/27/2010	10/27/2010	10/7/2010	10/4/2010	11/19/2010	10/27/2010	10/27/2010
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE							Field Duplicate			Field Duplicate				Field Duplicate	
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1221	ug/kg	34 U	35 U	35 U	34 U	34 U	34 U	--	35 U	34 U	--	34 U	34 U	34 U	--	34 U
Aroclor 1232	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1242	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1248	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1254	ug/kg	17 U	20	17 U	33	17 U	17 U	--	110	17 U	--	17 U	24	17 U	--	17 U
Aroclor 1260	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	22	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1262	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Aroclor 1268	ug/kg	17 U	18 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	17 U	17 U	17 U	--	17 U
Total PCBs	ug/kg	34 U	47	34 U	58.5	34 U	34 U	--	149	34 U	--	34 U	49.5	34 U	--	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
2-Methyl naphthalene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Acenaphthene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Acenaphthylene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Anthracene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
B(a)P Equivalent	ug/kg	6 U	6.2 U	6.4	5.9 U	6	5.9 U	--	6.1 U	5.9 U	--	5.9 U	6.4	6 U	6	--
Benzo (a) anthracene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Benzo (a) pyrene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Benzo (b) fluoranthene	ug/kg	5.2 U	5.4 U	5.6	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	6.9	5.2 U	--	5.2 U
Benzo (ghi) perylene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Benzo (k) fluoranthene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Chrysene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Fluoranthene	ug/kg	5.2 U	5.4 U	10	5.1 U	7	5.1 U	--	5.3 U	5.1 U	--	5.1 U	9.3	5.2 U	8.6	--
Fluorene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-N02	AOC4-N03	AOC4-N04	AOC4-N05	AOC4-O02	AOC4-O03	AOC4-O03	AOC4-O04	AOC4-O05	AOC4-O05	AOC4-O06	AOC4-P03	AOC4-P04	AOC4-P05	AOC4-P05
	SAMPLE	AOC4-N02-11109	AOC4-N03-11113	AOC4-N04-11117	AOC4-N05-11058	AOC4-O02-11125	AOC4-O03-11131	AOC4-O25-21131	AOC4-O04-11133	AOC4-O05-11137	AOC4-O20-21137	AOC4-O06-11141	AOC4-P03-11209	AOC4-P04-11214	AOC4-P25-21218	AOC4-P05-11218
	DATE	9/30/2010	10/4/2010	10/5/2010	10/5/2010	10/4/2010	10/26/2010	10/26/2010	10/26/2010	10/27/2010	10/27/2010	10/7/2010	10/4/2010	11/19/2010	10/27/2010	10/27/2010
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE							Field Duplicate			Field Duplicate				Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	--	5.2 U
PAH High molecular weight	ug/kg	0	0	23.4	0	12.9	0	--	0	0	--	0	24.1	0	14.4	--
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	--	0	0	--	0	0	0	5.2	--
Phenanthrene	ug/kg	5.2 U	5.4 U	5.3 U	5.1 U	5.2 U	5.1 U	--	5.3 U	5.1 U	--	5.1 U	5.2 U	5.2 U	5.2	--
Pyrene	ug/kg	5.2 U	5.4 U	7.8	5.1 U	5.9	5.1 U	--	5.3 U	5.1 U	--	5.1 U	7.9	5.2 U	5.8	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	340 U	350 U	350 U	340 U	340 U	340 U	--	350 U	340 U	--	340 U	340 U	340 U	--	340 U
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-N02	AOC4-N03	AOC4-N04	AOC4-N05	AOC4-O02	AOC4-O03	AOC4-O03	AOC4-O04	AOC4-O05	AOC4-O05	AOC4-O06	AOC4-P03	AOC4-P04	AOC4-P05	AOC4-P05
	SAMPLE	AOC4-N02-11109	AOC4-N03-11113	AOC4-N04-11117	AOC4-N05-11058	AOC4-O02-11125	AOC4-O03-11131	AOC4-O25-21131	AOC4-O04-11133	AOC4-O05-11137	AOC4-O20-21137	AOC4-O06-11141	AOC4-P03-11209	AOC4-P04-11214	AOC4-P25-21218	AOC4-P05-11218
	DATE	9/30/2010	10/4/2010	10/5/2010	10/5/2010	10/4/2010	10/26/2010	10/26/2010	10/26/2010	10/27/2010	10/27/2010	10/7/2010	10/4/2010	11/19/2010	10/27/2010	10/27/2010
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE							Field Duplicate			Field Duplicate				Field Duplicate	
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-N02	AOC4-N03	AOC4-N04	AOC4-N05	AOC4-O02	AOC4-O03	AOC4-O03	AOC4-O04	AOC4-O05	AOC4-O05	AOC4-O06	AOC4-P03	AOC4-P04	AOC4-P05	AOC4-P05
	SAMPLE	AOC4-N02-11109	AOC4-N03-11113	AOC4-N04-11117	AOC4-N05-11058	AOC4-O02-11125	AOC4-O03-11131	AOC4-O25-21131	AOC4-O04-11133	AOC4-O05-11137	AOC4-O20-21137	AOC4-O06-11141	AOC4-P03-11209	AOC4-P04-11214	AOC4-P25-21218	AOC4-P05-11218
	DATE	9/30/2010	10/4/2010	10/5/2010	10/5/2010	10/4/2010	10/26/2010	10/26/2010	10/26/2010	10/27/2010	10/27/2010	10/7/2010	10/4/2010	11/19/2010	10/27/2010	10/27/2010
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SAMPLE TYPE							Field Duplicate			Field Duplicate				Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-P06	AOC4-P07	AOC4-P08	AOC4-Q04	AOC4-Q05	AOC4-Q05	AOC4-Q06	AOC4-Q07	AOC4-Q08	AOC4-R05	AOC4-R05	AOC4-R06	AOC4-R07	AOC5-1	AOC5-1
	SAMPLE	AOC4-P06-11222	AOC4-P07-11226	AOC4-P08-11231	AOC4-Q04-11253	AOC4-Q05-11257	AOC4-Q25-21257	AOC4-Q06-11262	AOC4-Q07-11266	AOC4-Q08-11270	AOC4-R25-21298	AOC4-R05-11298	AOC4-R06-11301	AOC4-R07-11305	AOC5-1-13000	AOC5-1-13001
	DATE	10/25/2010	10/22/2010	10/22/2010	10/7/2010	10/7/2010	10/7/2010	10/25/2010	10/25/2010	10/22/2010	10/29/2010	10/29/2010	10/7/2010	10/8/2010	1/19/2016	1/19/2016
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
	SAMPLE TYPE						Field Duplicate				Field Duplicate					
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	25	390	37	2000	2400	--	15	970	69	31	--	710 J	1600	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	3 J	19 U	3.6 J	140	150	--	2.6 J	36	6.5 J	13	--	41	67	--	--
1,2,3,4,7,8-HxCDD	ng/kg	1.9 U	62	1.5 U	25	24	--	1.1 U	12 J	1.7 U	3.1 J	--	13	24	--	--
1,2,3,4,7,8-HxCDF	ng/kg	1.1 U	0.98 U	0.66 U	14	15	--	1.5 J	5.1 J	1.8 U	0.26 U	--	5.3 J	6.8 J	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.55 U	4.7 J	1.3 U	12 J	14	--	2.1 U	3.5 U	1.8 U	--	1.8 U	4.2 J	5.2 J	--	--
1,2,3,6,7,8-HxCDD	ng/kg	1.4 U	17	0.98 U	64	66	--	2 U	34	4.1 U	4.8 J	--	24	55	--	--
1,2,3,6,7,8-HxCDF	ng/kg	1.2 U	5.2 U	0.58 U	9.3 J	8.1 J	--	2 U	3.6 U	1.3 U	3.6 J	--	4 J	6.9 U	--	--
1,2,3,7,8-PeCDD	ng/kg	1.7 J	5.6 J	1.3 U	0.48 U	--	0.53 U	1 U	3.4 U	0.3 U	2.5 J	--	0.43 U	0.46 U	--	--
1,2,3,7,8-PeCDF	ng/kg	1.6 J	0.97 U	1.1 U	4.5 J	--	3.9 J	0.94 J	2 U	1.8 U	3.3 J	--	1.5 J	3 J	--	--
1,2,3,7,8,9-HxCDD	ng/kg	1.2 U	6.9 U	1.1 U	42	36	--	2.2 U	19	1.8 U	--	2.9 J	19 J	39	--	--
1,2,3,7,8,9-HxCDF	ng/kg	1.4 U	1.5 U	1 U	0.35 U	--	0.27 U	0.73 U	0.94 U	1.5 U	7.2 J	--	1.1 J	2.3 J	--	--
2,3,4,6,7,8-HxCDF	ng/kg	0.65 U	93 U	0.71 U	140 U	--	200 U	2 J	53 U	1.6 U	2.3 J	--	29 U	44 U	--	--
2,3,4,7,8-PeCDF	ng/kg	1 U	1.7 U	1.3 J	11 J	7.8 J	--	1.3 J	1.7 U	1.2 U	1.1 U	--	2.3 J	2.7 U	--	--
2,3,7,8-TCDD	ng/kg	0.45 U	3.9 U	0.53 U	0.6 U	0.59 U	--	0.71 J	0.96 U	1.1 U	0.25 U	--	0.79 U	1.2 J	--	--
2,3,7,8-TCDF	ng/kg	0.53 J	1.1 U	0.7 J	8.9	--	4 J	0.67 J	1.7 J	0.95 J	0.68 U	--	2.1 J	2 J	--	--
OCDD	ng/kg	190	3900	560	15000	--	14000	89	5700	760	180	--	5200	11000	180	--
OCDF	ng/kg	5.8 J	57	2.5 U	280	380	--	0.77 U	53 U	13 U	27	--	80	90	--	--
TEQ Avian	ng/kg	3.5	19	3.4	41	36	--	4	13	3	--	6.2	12	18	--	--
TEQ Human	ng/kg	3	26	2.3	53	58	--	2.7	24	2.7	5.9	--	19	37	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	3	26	2.3	53	58	--	2.7	24	2.7	5.9	--	19	37	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	8.3	9.8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2.1 UJ	2.1 U	2 U	2 U	--	2 U	2.1 U	2.1 U	--	2 U	2 U	2 UJ	2.2 U	2.1 U
Arsenic	mg/kg	2 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	3.6	1 U	1 U	4.5	3.2
Barium	mg/kg	220	240 J	200	140	130	--	280	310	260	--	300	93	140 J	110	62
Beryllium	mg/kg	1 U	1.1 UJ	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1 U	1 U	1.1 U	1 U
Cadmium	mg/kg	1 U	1.1 UJ	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1 U	1 UJ	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.43 U	0.41 U	2.7	--	0.56	0.41 U	0.41 U	0.43 U	--	0.41 U	0.4 U	0.4 U	1.3	0.71
Chromium, total	mg/kg	35	40	26	65	--	23	37	46	37	38	--	13	31	58	13
Cobalt	mg/kg	9.5	11	8.4	6.9	7.2	--	11	12	11	--	11	3.9	8.5	5.6	2.7
Copper	mg/kg	13	13	10	16	19	--	11	14	15	14	--	11	11	16	4.2
Lead	mg/kg	7.5	7.2	7.3	13	11	--	6.6	8.2	6.6	--	6	8.8	4.5	8.2	2.3
Mercury	mg/kg	0.1 U	0.11 U	0.1 U	0.1 U	0.099 U	--	0.1 U	0.1 U	0.11 U	--	0.1 U	0.1 U	0.099 U	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	1.1 UJ	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1 U	1 UJ	10	1.3
Nickel	mg/kg	29	32	24	18	14	--	30	35	32	--	30	9	27	15	5.5
Selenium	mg/kg	1 U	1.1 UJ	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1 U	1 U	1.1 U	1 U
Silver	mg/kg	1 U	1.1 U	1 U	1 U	1 U	--	1 U	1 U	1.1 U	--	1 U	1 U	1 U	1.1 U	1 U
Thallium	mg/kg	2 U	2.1 UJ	2.1 U	2 U	2 U	--	2 U	2.1 U	2.1 U	--	2 U	2 U	2 UJ	2.2 U	2.1 U
Vanadium	mg/kg	49	52	43	28	26	--	50	54	54	--	53	20	36	22	12
Zinc	mg/kg	41	43	39	77	61 J	--	39	45	40	--	42	37	33	100	14
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	8000	3400
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	26000	16000
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.22 U	0.21 U
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	15000	6800
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6200	3800
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	240	130

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-P06	AOC4-P07	AOC4-P08	AOC4-Q04	AOC4-Q05	AOC4-Q05	AOC4-Q06	AOC4-Q07	AOC4-Q08	AOC4-R05	AOC4-R05	AOC4-R06	AOC4-R07	AOC5-1	AOC5-1
	SAMPLE	AOC4-P06-11222	AOC4-P07-11226	AOC4-P08-11231	AOC4-Q04-11253	AOC4-Q05-11257	AOC4-Q25-21257	AOC4-Q06-11262	AOC4-Q07-11266	AOC4-Q08-11270	AOC4-R25-21298	AOC4-R05-11298	AOC4-R06-11301	AOC4-R07-11305	AOC5-1-13000	AOC5-1-13001
	DATE	10/25/2010	10/22/2010	10/22/2010	10/7/2010	10/7/2010	10/7/2010	10/25/2010	10/25/2010	10/22/2010	10/29/2010	10/29/2010	10/7/2010	10/8/2010	1/19/2016	1/19/2016
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
	SAMPLE TYPE						Field Duplicate				Field Duplicate					
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 J	820
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	1700 J	780
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Aroclor 1221	ug/kg	34 U	35 U	34 U	34 U	33 U	--	34 U	34 U	35 U	--	34 U	33 U	33 U	--	--
Aroclor 1232	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Aroclor 1242	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Aroclor 1248	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Aroclor 1254	ug/kg	17 U	18 U	17 U	400	--	380	17 U	17 U	18 U	19	--	110	51	--	--
Aroclor 1260	ug/kg	17 U	18 U	17 U	120	--	100	17 U	17 U	18 U	--	17 U	34	17	--	--
Aroclor 1262	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Aroclor 1268	ug/kg	17 U	18 U	17 U	17 U	17 U	--	17 U	17 U	18 U	--	17 U	17 U	17 U	--	--
Total PCBs	ug/kg	34 U	36 U	34 U	727	--	627	34 U	44.5	36 U	44.5	--	161	145	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
2-Methyl naphthalene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
Acenaphthene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
Acenaphthylene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
Anthracene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
B(a)P Equivalent	ug/kg	5.9	13	5.9 U	40	--	16	5.9 U	6.2	6.1 U	--	5.9 U	11	16	--	--
Benzo (a) anthracene	ug/kg	5.1 U	9.2	5.1 U	22	--	11	5.1 U	5.1 U	5.3 U	--	5.1 U	6.7	14	--	--
Benzo (a) pyrene	ug/kg	5.1 U	7.5	5.1 U	27	--	10	5.1 U	5.1 U	5.3 U	--	5.1 U	5.7	9	--	--
Benzo (b) fluoranthene	ug/kg	5.1 U	16	5.1 U	61	--	21	5.1 U	5.5	5.3 U	--	5.1 U	19	21	--	--
Benzo (ghi) perylene	ug/kg	5.1 U	8.2	5.1 U	29	--	8.1	5.1 U	5.1 U	5.3 U	--	5.1 U	5.4	6	--	--
Benzo (k) fluoranthene	ug/kg	5.1 U	5.3	5.1 U	21	--	6.4	5.1 U	5.1 U	5.3 U	--	5.1 U	5	6	--	--
Chrysene	ug/kg	5.1 U	12	5.1 U	40	--	16	5.1 U	5.1 U	5.3 U	--	5.1 U	17	18	--	--
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
Fluoranthene	ug/kg	5.8	24	5.1 U	46	--	28	5.1 U	5.1	5.3 U	--	5.1 U	27	42	--	--
Fluorene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	6.8	5.1 U	24	6.7	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5.7	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-P06	AOC4-P07	AOC4-P08	AOC4-Q04	AOC4-Q05	AOC4-Q05	AOC4-Q06	AOC4-Q07	AOC4-Q08	AOC4-R05	AOC4-R05	AOC4-R06	AOC4-R07	AOC5-1	AOC5-1
	SAMPLE	AOC4-P06-11222	AOC4-P07-11226	AOC4-P08-11231	AOC4-Q04-11253	AOC4-Q05-11257	AOC4-Q25-21257	AOC4-Q06-11262	AOC4-Q07-11266	AOC4-Q08-11270	AOC4-R25-21298	AOC4-R05-11298	AOC4-R06-11301	AOC4-R07-11305	AOC5-1-13000	AOC5-1-13001
	DATE	10/25/2010	10/22/2010	10/22/2010	10/7/2010	10/7/2010	10/7/2010	10/25/2010	10/25/2010	10/22/2010	10/29/2010	10/29/2010	10/7/2010	10/8/2010	1/19/2016	1/19/2016
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
	SAMPLE TYPE						Field Duplicate				Field Duplicate					
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.3 U	5.1 U	5.1 U	5 U	--	5.1 U	5.1 U	5.3 U	--	5.1 U	5 U	5 U	--	--
PAH High molecular weight	ug/kg	5.8	107	0	310	--	130	0	10.6	0	--	0	104	152	--	--
PAH Low molecular weight	ug/kg	0	12	0	14	--	13	0	0	0	--	0	8.7	23	--	--
Phenanthrene	ug/kg	5.1 U	12	5.1 U	14	--	13	5.1 U	5.1 U	5.3 U	--	5.1 U	8.7	23	--	--
Pyrene	ug/kg	5.1 U	18	5.1 U	40	--	23	5.1 U	5.1 U	5.3 U	--	5.1 U	18	30	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	340 U	350 U	340 U	340 U	330 U	--	340 U	340 U	350 U	--	340 U	330 U	330 U	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-P06	AOC4-P07	AOC4-P08	AOC4-Q04	AOC4-Q05	AOC4-Q05	AOC4-Q06	AOC4-Q07	AOC4-Q08	AOC4-R05	AOC4-R05	AOC4-R06	AOC4-R07	AOC5-1	AOC5-1
	SAMPLE	AOC4-P06-11222	AOC4-P07-11226	AOC4-P08-11231	AOC4-Q04-11253	AOC4-Q05-11257	AOC4-Q25-21257	AOC4-Q06-11262	AOC4-Q07-11266	AOC4-Q08-11270	AOC4-R25-21298	AOC4-R05-11298	AOC4-R06-11301	AOC4-R07-11305	AOC5-1-13000	AOC5-1-13001
	DATE	10/25/2010	10/22/2010	10/22/2010	10/7/2010	10/7/2010	10/7/2010	10/25/2010	10/25/2010	10/22/2010	10/29/2010	10/29/2010	10/7/2010	10/8/2010	1/19/2016	1/19/2016
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
	SAMPLE TYPE						Field Duplicate				Field Duplicate					
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC4-P06	AOC4-P07	AOC4-P08	AOC4-Q04	AOC4-Q05	AOC4-Q05	AOC4-Q06	AOC4-Q07	AOC4-Q08	AOC4-R05	AOC4-R05	AOC4-R06	AOC4-R07	AOC5-1	AOC5-1
	SAMPLE	AOC4-P06-11222	AOC4-P07-11226	AOC4-P08-11231	AOC4-Q04-11253	AOC4-Q05-11257	AOC4-Q25-21257	AOC4-Q06-11262	AOC4-Q07-11266	AOC4-Q08-11270	AOC4-R25-21298	AOC4-R05-11298	AOC4-R06-11301	AOC4-R07-11305	AOC5-1-13000	AOC5-1-13001
	DATE	10/25/2010	10/22/2010	10/22/2010	10/7/2010	10/7/2010	10/7/2010	10/25/2010	10/25/2010	10/22/2010	10/29/2010	10/29/2010	10/7/2010	10/8/2010	1/19/2016	1/19/2016
SAMPLE TOP DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SAMPLE BOTTOM DEPTH (FT)		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	3
	SAMPLE TYPE						Field Duplicate				Field Duplicate					
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-1	AOC5-1	AOC5-2	AOC5-2	AOC5-2	AOC5-2	AOC5-3	AOC5-3	AOC5-4	AOC5-4	AOC5-4	AOC5-4	AOC5-5	AOC5-5	AOC5-5
	SAMPLE	AOC5-1-13002	AOC5-1-13003	AOC5-2-13004	AOC5-2-Scale	AOC5-2-13005	AOC5-2-13019	AOC5-3-13006	AOC5-3-13007	AOC5-4-13010	AOC5-4-13011	AOC5-4-13021	AOC5-4-13022	AOC5-5-13012	AOC5-5-13013	AOC5-5-13014
	DATE	1/19/2016	1/19/2016	12/8/2015	1/18/2017	12/8/2015	1/18/2017	1/23/2016	1/23/2016	1/23/2016	1/23/2016	1/19/2017	1/19/2017	1/14/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	9	0	0.5	2	5	0	2	0	2	5	6.5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	77000 J	1300 J	--	--	16000 J	20000 J	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	9600 J	120 J	--	--	1400 J	3900 J	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	270 J	3.7 UJ	--	--	62 J	110 J	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	1000 J	7.2 UJ	--	--	78 J	230 J	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	680 J	9.8 J	--	--	80 J	240 J	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	3000 J	41 J	--	--	370 J	1100 J	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	1700 UJ	2.9 UJ	--	--	55 UJ	89 J	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	170 J	2.8 J	--	--	45 J	64 J	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	0.7 UJ	2.6 J	--	--	20 J	50 J	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	560 J	6.9 UJ	--	--	110 J	190 J	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	180 J	5.2 J	--	--	25 J	100 J	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	350 J	590 UJ	--	--	2200 UJ	7400 UJ	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	350 J	3.4 J	--	--	28 J	85 J	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	41 UJ	0.67 UJ	--	--	6.2 UJ	9 UJ	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	1.1 UJ	0.27 UJ	--	--	10 J	1.9 UJ	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	810000 J	17000 J	--	--	160000 J	250000 J	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	22000 J	480 J	--	--	3400 J	14000 J	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	1100	43	--	--	280	690	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	2000	59	--	--	460	970	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	2000	59	--	--	460	970	--
General																
pH	PHUNITS	9.2	8.9	9.8	8.4	9.8	--	8.4	9	8.5	9.5	--	--	9.2	9.5	8.7
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.4 U	2.1 U	--	2.1 U	2.1 U	3.2	2.2 U	2.2 U	--	2.2 U	2.2 U	2.2 U
Arsenic	mg/kg	3.1	3.4	4.2	5.1	3.5	--	5	4.8	18	3.5	6.7	--	4.6	5.9	5.5
Barium	mg/kg	85	93	86	130	67	--	93	94	240	100	320	--	140	120	73
Beryllium	mg/kg	1 U	1 U	1 U	1.2 U	1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1 U	1 U	1.2 U	1 U	--	1.1 U	1.1 U	2.5	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.51	0.51	5.5	8.2	3.4	1.8	4.3	0.42	9.4	0.93	2.2	1.9	8.1	4.8	1.1
Chromium, total	mg/kg	15	6.8	60	170	35	--	95	19	730	45	150	--	190	200	19
Cobalt	mg/kg	3.7	2.2	4.6	6.4	4.2	--	7.6	5.4	8.3	7.7	12	--	4.8	8.5	3.2
Copper	mg/kg	4	3.8	14	24	9.6	--	38	8.9	530	21	79	--	26	41	6.8
Lead	mg/kg	2.1	2.4	17	12	23	--	10	3.8	120	4.5	15	--	51	56	6.1
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.12 U	0.1 U	--	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	--	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.8	1.7	1 U	5.8	1 U	--	1.9	1.1 U	23	1.1 U	2.1	--	23	1.4	5.5
Nickel	mg/kg	8.4	3.6	10	25	7.6	--	28	12	67	24	35	--	11	17	6.4
Selenium	mg/kg	1 U	1 U	1 U	1.2 UJ	1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1 U	1 U	1.2 U	1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.4 U	2.1 U	--	2.1 U	2.1 U	2.3 U	2.2 U	2.2 U	--	2.2 U	2.2 U	2.2 U
Vanadium	mg/kg	15	11	20	32	17	--	34	24	33	35	46	--	22	30	20
Zinc	mg/kg	15	12	130	340	76	--	410	48	1900	120	310	--	250	290	25
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	15000	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	39000	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	28000	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	11000	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	320	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-1	AOC5-1	AOC5-2	AOC5-2	AOC5-2	AOC5-2	AOC5-3	AOC5-3	AOC5-4	AOC5-4	AOC5-4	AOC5-4	AOC5-5	AOC5-5	AOC5-5
	SAMPLE	AOC5-1-13002	AOC5-1-13003	AOC5-2-13004	AOC5-2-Scale	AOC5-2-13005	AOC5-2-13019	AOC5-3-13006	AOC5-3-13007	AOC5-4-13010	AOC5-4-13011	AOC5-4-13021	AOC5-4-13022	AOC5-5-13012	AOC5-5-13013	AOC5-5-13014
	DATE	1/19/2016	1/19/2016	12/8/2015	1/18/2017	12/8/2015	1/18/2017	1/23/2016	1/23/2016	1/23/2016	1/23/2016	1/19/2017	1/19/2017	1/14/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	9	0	0.5	2	5	0	2	0	2	5	6.5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	3400 J	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	1700 J	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	2.2 U	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	5.6 U	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	56 UJ	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	18 R	19 R	--	--	18 R	18 R	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	37 R	38 R	--	--	35 R	36 R	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	18 R	19 R	--	--	18 R	18 R	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	18 R	19 R	--	--	18 R	18 R	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	18 R	19 R	--	--	18 R	18 R	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	18 R	33 J	--	--	1700 J	1300 J	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	67 J	19 R	--	--	18 R	18 R	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	94 JH	61.5 JH	--	--	1730 JH	1330 JH	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	2400 J	5.7 R	--	--	5.3 R	5.5 R	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	2900 J	5.7 R	470	--	5.3 R	5.5 R	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	440 J	5.7 R	370 U	--	5.3 R	26 J	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	5.6 R	5.7 R	370 U	--	5.3 R	5.5 R	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	270 J	5.7 R	370 U	--	5.3 R	48 J	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	2900 JH	14 JH	1000 JH	--	120 JH	410 JH	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	3600 J	11 J	710	--	82 J	500 J	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	1900 J	7.7 J	440	--	87 J	290 J	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	3600 J	16 J	840	--	190 J	480 J	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	970 J	5.7 R	370 U	--	41 J	78 J	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	1300 J	7.3 J	370	--	63 J	200 J	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	2600 J	13 J	560	--	78 J	370 J	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	170 J	5.7 R	370 U	--	5.3 R	15 J	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	6600 J	31 J	1300	--	160 J	860 J	--
Fluorene	ug/kg	--	--	--	--	--	--	--	--	260 J	5.7 R	370 U	--	5.3 R	17 J	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	770 J	5.7 R	370 U	--	35 J	73 J	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-1	AOC5-1	AOC5-2	AOC5-2	AOC5-2	AOC5-2	AOC5-3	AOC5-3	AOC5-4	AOC5-4	AOC5-4	AOC5-4	AOC5-5	AOC5-5	AOC5-5
	SAMPLE	AOC5-1-13002	AOC5-1-13003	AOC5-2-13004	AOC5-2-Scale	AOC5-2-13005	AOC5-2-13019	AOC5-3-13006	AOC5-3-13007	AOC5-4-13010	AOC5-4-13011	AOC5-4-13021	AOC5-4-13022	AOC5-5-13012	AOC5-5-13013	AOC5-5-13014
	DATE	1/19/2016	1/19/2016	12/8/2015	1/18/2017	12/8/2015	1/18/2017	1/23/2016	1/23/2016	1/23/2016	1/23/2016	1/19/2017	1/19/2017	1/14/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	9	0	0.5	2	5	0	2	0	2	5	6.5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	990 J	5.7 R	370 U	--	5.3 R	6.6 J	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	26800	112	5220 JH	--	886	3560	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	12500	20	1460 JH	--	49	508	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	5200 J	20 J	990	--	49 J	410 J	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	5300 J	26 J	1000	--	150 J	690 J	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	780 U	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	460	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1800 U	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-1	AOC5-1	AOC5-2	AOC5-2	AOC5-2	AOC5-2	AOC5-3	AOC5-3	AOC5-4	AOC5-4	AOC5-4	AOC5-4	AOC5-5	AOC5-5	AOC5-5
	SAMPLE	AOC5-1-13002	AOC5-1-13003	AOC5-2-13004	AOC5-2-Scale	AOC5-2-13005	AOC5-2-13019	AOC5-3-13006	AOC5-3-13007	AOC5-4-13010	AOC5-4-13011	AOC5-4-13021	AOC5-4-13022	AOC5-5-13012	AOC5-5-13013	AOC5-5-13014
	DATE	1/19/2016	1/19/2016	12/8/2015	1/18/2017	12/8/2015	1/18/2017	1/23/2016	1/23/2016	1/23/2016	1/23/2016	1/19/2017	1/19/2017	1/14/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	9	0	0.5	2	5	0	2	0	2	5	6.5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-1	AOC5-1	AOC5-2	AOC5-2	AOC5-2	AOC5-2	AOC5-3	AOC5-3	AOC5-4	AOC5-4	AOC5-4	AOC5-4	AOC5-5	AOC5-5	AOC5-5
	SAMPLE	AOC5-1-13002	AOC5-1-13003	AOC5-2-13004	AOC5-2-Scale	AOC5-2-13005	AOC5-2-13019	AOC5-3-13006	AOC5-3-13007	AOC5-4-13010	AOC5-4-13011	AOC5-4-13021	AOC5-4-13022	AOC5-5-13012	AOC5-5-13013	AOC5-5-13014
	DATE	1/19/2016	1/19/2016	12/8/2015	1/18/2017	12/8/2015	1/18/2017	1/23/2016	1/23/2016	1/23/2016	1/23/2016	1/19/2017	1/19/2017	1/14/2016	1/14/2016	1/14/2016
SAMPLE TOP DEPTH (FT)		5	9	0	0.5	2	5	0	2	0	2	5	6.5	0	2	5
SAMPLE BOTTOM DEPTH (FT)		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	10	0.5	0.5	3	6	0.5	3	0.5	3	5.5	7	0.5	3	6
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	370 U	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-5	AOC5-6	AOC5-6	AOC5-6	AOC5-OS2	AOC5-OS2	AOC5-OS3	AOC5-OS3	AOC5-OS4	AOC5-OS4	AOC5-OS4	AOC6-1	AOC6-1	AOC6-1	AOC6-2
	SAMPLE	AOC5-5-13015	AOC5-6-13016	AOC5-6-13017	AOC5-6-13018	AOC5-2-D1	AOC5-2-D2	AOC5-3-D1	AOC5-3-D2	AOC5-99-D2	AOC5-4-D1	AOC5-4-D2	AOC6-1-14000	AOC6-1-14001	AOC6-1-14002	AOC6-2-14003
	DATE	1/14/2016	1/19/2016	1/19/2016	1/19/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/20/2016	1/20/2016	1/20/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		9	0	0.5	2	0	2	0	2	2	0	2	0	2	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
	SAMPLE TYPE			Field Duplicate						Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4300 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	390 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25 J
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25 J
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	28 J
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110 J
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18 J
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15 UJ
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.7 J
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	47 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.6 J
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	840 UJ
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.7 J
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1 UJ
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6 J
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	31000 J
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1200 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	91
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130
General																
pH	PHUNITS	9.4	9.6	9.7	9.6	8.1	9.3	8.1	8.8	8.6	--	--	9.6	9.5	--	8.7
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	--	2.2 U	2.2 U	2.2 U	2.2 U	--	2.1 U
Arsenic	mg/kg	2.7	3.2	4.1	6.4	4.5	4.1	4.4	4	7.6	11	--	5.7	4.3	--	4.6
Barium	mg/kg	50	93	88	66	110	73	110	100	190	210	--	160	--	210	120
Beryllium	mg/kg	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1 U
Chromium, Hexavalent	mg/kg	0.21 U	1.8	1.5	1.6	14	5.4	1	2.5	--	24	18	0.69	0.22 U	--	1.9
Chromium, total	mg/kg	5.2	31 J	40 J	21	160	52	32	70	450	580	--	32	18	--	48
Cobalt	mg/kg	1.7	3.7	4.3	3	6.6	4.7	5.7	5.4	--	--	5.7	8.1	7.9	--	6.5
Copper	mg/kg	2.5	8.7 J	19 J	6.3	41	9.8	15	24	69	140	--	140	11	--	24
Lead	mg/kg	2.6	9.3 J	14 J	13	36	16	5.7	10	96	220	--	16	4.9	--	29
Mercury	mg/kg	0.1 U	0.16	0.22	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	--	0.11 U	0.11 U	0.11 U	0.11 U	--	0.11 U
Molybdenum	mg/kg	1 U	1.4	1.5	1.1 U	3.2	1 U	1.1 U	1.2	2.4	5.6	--	15	1.1 U	--	6.8
Nickel	mg/kg	2.7	6.5 J	9.7 J	5	18	9.5	13	14	17	--	--	12	--	12	13
Selenium	mg/kg	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1 U
Silver	mg/kg	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U	1.1 U	--	1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	2.2 U	2.1 U	--	2.2 U	2.2 U	2.2 U	2.2 U	--	2.1 U
Vanadium	mg/kg	7.8	15	17	27	31	23	31	29	33	--	--	28	32	--	23
Zinc	mg/kg	11	35	33	28	350	150	67	100	420	690	--	170	78 J	--	140
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-5	AOC5-6	AOC5-6	AOC5-6	AOC5-OS2	AOC5-OS2	AOC5-OS3	AOC5-OS3	AOC5-OS4	AOC5-OS4	AOC5-OS4	AOC6-1	AOC6-1	AOC6-1	AOC6-2
	SAMPLE	AOC5-5-13015	AOC5-6-13016	AOC5-6-13017	AOC5-6-13018	AOC5-2-D1	AOC5-2-D2	AOC5-3-D1	AOC5-3-D2	AOC5-99-D2	AOC5-4-D1	AOC5-4-D2	AOC6-1-14000	AOC6-1-14001	AOC6-1-14002	AOC6-2-14003
	DATE	1/14/2016	1/19/2016	1/19/2016	1/19/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/20/2016	1/20/2016	1/20/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		9	0	0.5	2	0	2	0	2	2	0	2	0	2	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
	SAMPLE TYPE			Field Duplicate						Field Duplicate					Field Duplicate	
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	--	17 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	36 U	36 U	--	34 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	--	17 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	--	17 U
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	--	17 U
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	54	18 U	--	420
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	18 U	18 U	--	180
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	81	36 U	--	617
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30 JH
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23 J
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19 J
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51 J
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.5 J
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17 J
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21 J
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39 J
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 J

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-5	AOC5-6	AOC5-6	AOC5-6	AOC5-OS2	AOC5-OS2	AOC5-OS3	AOC5-OS3	AOC5-OS4	AOC5-OS4	AOC5-OS4	AOC6-1	AOC6-1	AOC6-1	AOC6-2
	SAMPLE	AOC5-5-13015	AOC5-6-13016	AOC5-6-13017	AOC5-6-13018	AOC5-2-D1	AOC5-2-D2	AOC5-3-D1	AOC5-3-D2	AOC5-99-D2	AOC5-4-D1	AOC5-4-D2	AOC6-1-14000	AOC6-1-14001	AOC6-1-14002	AOC6-2-14003
	DATE	1/14/2016	1/19/2016	1/19/2016	1/19/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/20/2016	1/20/2016	1/20/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		9	0	0.5	2	0	2	0	2	2	0	2	0	2	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
	SAMPLE TYPE			Field Duplicate						Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.2 R
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	219
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16 J
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38 J
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-5	AOC5-6	AOC5-6	AOC5-6	AOC5-OS2	AOC5-OS2	AOC5-OS3	AOC5-OS3	AOC5-OS4	AOC5-OS4	AOC5-OS4	AOC6-1	AOC6-1	AOC6-1	AOC6-2
	SAMPLE	AOC5-5-13015	AOC5-6-13016	AOC5-6-13017	AOC5-6-13018	AOC5-2-D1	AOC5-2-D2	AOC5-3-D1	AOC5-3-D2	AOC5-99-D2	AOC5-4-D1	AOC5-4-D2	AOC6-1-14000	AOC6-1-14001	AOC6-1-14002	AOC6-2-14003
	DATE	1/14/2016	1/19/2016	1/19/2016	1/19/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/20/2016	1/20/2016	1/20/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		9	0	0.5	2	0	2	0	2	2	0	2	0	2	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
	SAMPLE TYPE			Field Duplicate						Field Duplicate					Field Duplicate	
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC5-5	AOC5-6	AOC5-6	AOC5-6	AOC5-OS2	AOC5-OS2	AOC5-OS3	AOC5-OS3	AOC5-OS4	AOC5-OS4	AOC5-OS4	AOC6-1	AOC6-1	AOC6-1	AOC6-2
	SAMPLE	AOC5-5-13015	AOC5-6-13016	AOC5-6-13017	AOC5-6-13018	AOC5-2-D1	AOC5-2-D2	AOC5-3-D1	AOC5-3-D2	AOC5-99-D2	AOC5-4-D1	AOC5-4-D2	AOC6-1-14000	AOC6-1-14001	AOC6-1-14002	AOC6-2-14003
	DATE	1/14/2016	1/19/2016	1/19/2016	1/19/2016	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	12/5/2013	1/20/2016	1/20/2016	1/20/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		9	0	0.5	2	0	2	0	2	2	0	2	0	2	2	0
SAMPLE BOTTOM DEPTH (FT)		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	0.5	1	3	0.5	3	0.5	3	3	0.5	3	0.5	3	3	0.5
	SAMPLE TYPE			Field Duplicate						Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-2	AOC6-3	AOC6-3	AOC6-3	AOC6-4	AOC6-4	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-6	AOC6-6	AOC6-6	AOC6-7
	SAMPLE	AOC6-2-14004	AOC6-3-14005	AOC6-3-14007	AOC6-3-14006	AOC6-4-14008	AOC6-4-14009	AOC6-5-14010	AOC6-5-14011	AOC6-5-14019	AOC6-5-14020	AOC6-5-14012	AOC6-6-0001	AOC6-6-0002	AOC6-6-0003	AOC6-7-14013
	DATE	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/19/2016	1/19/2016	1/24/2017	1/24/2017	1/19/2016	11/8/2011	11/8/2011	11/8/2011	1/19/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	0	2	0	2	5	9	2	0	2	4	0
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
	SAMPLE TYPE				Field Duplicate							Field Duplicate				
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	1400 J	--	--	--	2300 J	--	2000 J	1700 J	--	--	--	--	--	--	15000 J
1,2,3,4,6,7,8-HpCDF	ng/kg	120 J	--	--	--	230 J	--	170 J	170 J	--	--	--	--	--	--	1900 J
1,2,3,4,7,8-HxCDD	ng/kg	8.8 J	--	--	--	15 J	--	10 J	8.9 J	--	--	--	--	--	--	62 J
1,2,3,4,7,8-HxCDF	ng/kg	8.8 UJ	--	--	--	19 J	--	9.8 J	10 J	--	--	--	--	--	--	88 J
1,2,3,4,7,8,9-HpCDF	ng/kg	8.9 J	--	--	--	16 J	--	14 J	13 UJ	--	--	--	--	--	--	140 J
1,2,3,6,7,8-HxCDD	ng/kg	39 J	--	--	--	66 J	--	45 J	44 J	--	--	--	--	--	--	450 J
1,2,3,6,7,8-HxCDF	ng/kg	6.8 J	--	--	--	13 UJ	--	6.3 J	6.8 J	--	--	--	--	--	--	270 UJ
1,2,3,7,8-PeCDD	ng/kg	5.4 UJ	--	--	--	9.2 UJ	--	5.3 UJ	5.6 UJ	--	--	--	--	--	--	31 UJ
1,2,3,7,8-PeCDF	ng/kg	5.1 J	--	--	--	11 J	--	3.9 UJ	9.6 J	--	--	--	--	--	--	14 J
1,2,3,7,8,9-HxCDD	ng/kg	16 J	--	--	--	26 J	--	18 J	17 J	--	--	--	--	--	--	83 J
1,2,3,7,8,9-HxCDF	ng/kg	3.2 J	--	--	--	4.5 J	--	4 J	3.5 J	--	--	--	--	--	--	18 J
2,3,4,6,7,8-HxCDF	ng/kg	240 UJ	--	--	--	380 UJ	--	390 UJ	410 UJ	--	--	--	--	--	--	77 J
2,3,4,7,8-PeCDF	ng/kg	4.3 J	--	--	--	7.8 J	--	4.3 UJ	3.1 UJ	--	--	--	--	--	--	35 UJ
2,3,7,8-TCDD	ng/kg	0.76 UJ	--	--	--	1.1 UJ	--	0.16 UJ	0.051 UJ	--	--	--	--	--	--	2.3 UJ
2,3,7,8-TCDF	ng/kg	0.24 UJ	--	--	--	6 UJ	--	0.23 UJ	0.1 UJ	--	--	--	--	--	--	7.6 UJ
OCDD	ng/kg	17000 J	--	--	--	24000 J	--	28000 J	23000 J	--	--	--	--	--	--	250000 J
OCDF	ng/kg	350 J	--	--	--	550 J	--	470 J	470 J	--	--	--	--	--	--	11000 J
TEQ Avian	ng/kg	28	--	--	--	50	--	36	36	--	--	--	--	--	--	150
TEQ Human	ng/kg	45	--	--	--	74	--	63	59	--	--	--	--	--	--	360
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	2.5 J	2.3 J	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	45	--	--	--	74	--	63	59	--	--	--	--	--	--	360
General																
pH	PHUNITS	9.4	9.5	9.7	--	8.7	9.2	9.3	8.5	--	--	--	9.4	9.6	10	8.6
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	--	2 U	2.1 U	2.2 U	2.1 U
Arsenic	mg/kg	6	--	4.2	5.1	6.3	2.9	4.5	--	4.6	2.9	4.4	3.5	3.9	3.2	7.2
Barium	mg/kg	120	190	280	--	270	60	110	100	120	35	--	130	140	190	180
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.64	--	0.21 U	0.66	0.48	0.21 U	0.3	0.56	0.22 U	0.2 U	--	1.2	1.7	0.44 U	1.8
Chromium, total	mg/kg	22	--	10	37 J	36	7.6	22	26	11	4.7	--	35	37	13	100
Cobalt	mg/kg	4.2	--	4.7	5.8	9.2	3.6	4.4	5.1	5.6	1.8	--	4.5	4.9	5.5	7
Copper	mg/kg	10	--	6.9	18	250	8.9	27	--	11	4	28	16	17	9.5	180
Lead	mg/kg	5.7	--	4.6	9.9 J	9.8	2	8.3	9.5 J	6.9	2.1	--	11	17	6.1	30
Mercury	mg/kg	0.11 U	0.11 U	0.1 U	--	0.1 U	0.1 U	0.11 U	--	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U
Molybdenum	mg/kg	1.8	--	1.1 U	1.2	11	1 U	2.6	6.9	1.4	1 U	--	1 U	1.9	1.1 U	13
Nickel	mg/kg	8.1	--	6.9	13 J	12	4.7	9	11 J	9.7	2.7	--	9	9.7	9.6	19
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	1.1 U	--	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U
Silver	mg/kg	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	1.1 U	--	1.1 UJ	1 UJ	1 U	1 U	1 U	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	2.1 U	2.1 U	2.2 U	2 U	--	2 U	2.1 U	2.2 U	2.1 U
Vanadium	mg/kg	21	--	22	26 J	25	16	17	20	25	8.2	--	24	26	26	25
Zinc	mg/kg	41	--	26	53 J	110	17	43	39	38	12	--	64 J	70	32	250
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	6200	7000	--	--	--	6500	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	20000	22000	--	--	--	25000	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	0.21 U	--	--	--	0.21 U	1 U	--	--	--
Iron	mg/kg	--	--	--	--	--	--	11000	13000	--	--	--	13000	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	4700	5400	--	--	--	5200 J	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	220	280 J	--	--	--	200 J	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-2	AOC6-3	AOC6-3	AOC6-3	AOC6-4	AOC6-4	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-6	AOC6-6	AOC6-6	AOC6-7
	SAMPLE	AOC6-2-14004	AOC6-3-14005	AOC6-3-14007	AOC6-3-14006	AOC6-4-14008	AOC6-4-14009	AOC6-5-14010	AOC6-5-14011	AOC6-5-14019	AOC6-5-14020	AOC6-5-14012	AOC6-6-0001	AOC6-6-0002	AOC6-6-0003	AOC6-7-14013
	DATE	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/19/2016	1/19/2016	1/24/2017	1/24/2017	1/19/2016	11/8/2011	11/8/2011	11/8/2011	1/19/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	0	2	0	2	5	9	2	0	2	4	0
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
	SAMPLE TYPE					Field Duplicate						Field Duplicate				
ANALYTE		UNITS														
Potassium	mg/kg	--	--	--	--	--	--	1700	1900	--	--	--	1300 J	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	440	--	--	--	880	58	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1 U	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	5.1 U	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	51 U	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	18 U	17 U	17 U	--	18 U	17 U	17 R	17 R	--	--	--	17 U	--	--	18 UJ
Aroclor 1221	ug/kg	35 U	35 U	35 U	--	35 U	34 U	34 R	34 R	--	--	--	34 U	--	--	35 U
Aroclor 1232	ug/kg	18 U	17 U	17 U	--	18 U	17 U	17 R	17 R	--	--	--	17 U	--	--	18 U
Aroclor 1242	ug/kg	18 U	17 U	17 U	--	18 U	17 U	17 R	17 R	--	--	--	17 U	--	--	18 U
Aroclor 1248	ug/kg	18 U	17 U	17 U	--	18 U	17 U	17 R	17 R	--	--	--	17 U	--	--	18 U
Aroclor 1254	ug/kg	250	130	17 U	--	1100	37	17 R	230 J	--	--	--	780	--	--	2800
Aroclor 1260	ug/kg	18 U	17 U	17 U	--	370	17 U	17 R	98 J	--	--	--	17 U	--	--	1100 J
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	17 U	--	--	--
Total PCBs	ug/kg	277	--	34 U	157	1490	62.5	34 R	345 JH	--	--	--	806	--	--	3920
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 R	--	--	--	--	--	5 R	--	--	--	--	12	--	--	5.3 R
2-Methyl naphthalene	ug/kg	5.3 R	--	--	--	--	--	5 R	--	--	--	--	17	--	--	5.3 R
Acenaphthene	ug/kg	8.4 J	--	--	--	--	--	5 R	--	--	--	--	5.1 U	--	--	8.1 J
Acenaphthylene	ug/kg	5.3 R	--	--	--	--	--	5 R	--	--	--	--	5.1 U	--	--	5.3 R
Anthracene	ug/kg	25 J	--	--	--	--	--	5 R	--	--	--	--	5.1 U	--	--	13 J
B(a)P Equivalent	ug/kg	1900 JH	--	--	--	--	--	6.3 JH	--	--	--	--	58	--	--	1000 JH
Benzo (a) anthracene	ug/kg	780 J	--	--	--	--	--	5 R	--	--	--	--	34	--	--	640 J
Benzo (a) pyrene	ug/kg	1300 J	--	--	--	--	--	5 R	--	--	--	--	39	--	--	670 J
Benzo (b) fluoranthene	ug/kg	1800 J	--	--	--	--	--	7.7 J	--	--	--	--	86	--	--	1100 J
Benzo (ghi) perylene	ug/kg	1000 J	--	--	--	--	--	5 R	--	--	--	--	20	--	--	500 J
Benzo (k) fluoranthene	ug/kg	600 J	--	--	--	--	--	5 R	--	--	--	--	29	--	--	380 J
Chrysene	ug/kg	580 J	--	--	--	--	--	5 R	--	--	--	--	44	--	--	650 J
Dibenzo (a,h) anthracene	ug/kg	310 J	--	--	--	--	--	5 R	--	--	--	--	5.1	--	--	110 J
Fluoranthene	ug/kg	560 J	--	--	--	--	--	5 R	--	--	--	--	68	--	--	1300 J
Fluorene	ug/kg	5.3 R	--	--	--	--	--	5 R	--	--	--	--	5.1 U	--	--	5.3 J
Indeno (1,2,3-cd) pyrene	ug/kg	720 J	--	--	--	--	--	5 R	--	--	--	--	18	--	--	390 J

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-2	AOC6-3	AOC6-3	AOC6-3	AOC6-4	AOC6-4	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-6	AOC6-6	AOC6-6	AOC6-7
	SAMPLE	AOC6-2-14004	AOC6-3-14005	AOC6-3-14007	AOC6-3-14006	AOC6-4-14008	AOC6-4-14009	AOC6-5-14010	AOC6-5-14011	AOC6-5-14019	AOC6-5-14020	AOC6-5-14012	AOC6-6-0001	AOC6-6-0002	AOC6-6-0003	AOC6-7-14013
	DATE	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/19/2016	1/19/2016	1/24/2017	1/24/2017	1/19/2016	11/8/2011	11/8/2011	11/8/2011	1/19/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	0	2	0	2	5	9	2	0	2	4	0
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
	SAMPLE TYPE				Field Duplicate							Field Duplicate				
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 R	--	--	--	--	--	5 R	--	--	--	--	5.1 U	6.5 U	--	5.3 R
PAH High molecular weight	ug/kg	8190	--	--	--	--	--	7.7	--	--	--	--	404	--	--	6940
PAH Low molecular weight	ug/kg	193	--	--	--	--	--	--	--	--	--	--	63	0	--	556
Phenanthrene	ug/kg	160 J	--	--	--	--	--	5 R	--	--	--	--	34	--	--	530 J
Pyrene	ug/kg	540 J	--	--	--	--	--	5 R	--	--	--	--	61	--	--	1200 J
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	720 U	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	13	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-2	AOC6-3	AOC6-3	AOC6-3	AOC6-4	AOC6-4	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-6	AOC6-6	AOC6-6	AOC6-7
	SAMPLE	AOC6-2-14004	AOC6-3-14005	AOC6-3-14007	AOC6-3-14006	AOC6-4-14008	AOC6-4-14009	AOC6-5-14010	AOC6-5-14011	AOC6-5-14019	AOC6-5-14020	AOC6-5-14012	AOC6-6-0001	AOC6-6-0002	AOC6-6-0003	AOC6-7-14013
	DATE	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/19/2016	1/19/2016	1/24/2017	1/24/2017	1/19/2016	11/8/2011	11/8/2011	11/8/2011	1/19/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	0	2	0	2	5	9	2	0	2	4	0
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
	SAMPLE TYPE				Field Duplicate							Field Duplicate				
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	--	--	--	1.3 U	--	--
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	--	--	--	49	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	6.5 U	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	6.5 U	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	6.5 U	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	6.5 U	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	65 U	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	130 U	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	65 U	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-2	AOC6-3	AOC6-3	AOC6-3	AOC6-4	AOC6-4	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-5	AOC6-6	AOC6-6	AOC6-6	AOC6-7
	SAMPLE	AOC6-2-14004	AOC6-3-14005	AOC6-3-14007	AOC6-3-14006	AOC6-4-14008	AOC6-4-14009	AOC6-5-14010	AOC6-5-14011	AOC6-5-14019	AOC6-5-14020	AOC6-5-14012	AOC6-6-0001	AOC6-6-0002	AOC6-6-0003	AOC6-7-14013
	DATE	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/20/2016	1/19/2016	1/19/2016	1/24/2017	1/24/2017	1/19/2016	11/8/2011	11/8/2011	11/8/2011	1/19/2016
SAMPLE TOP DEPTH (FT)		2	0	2	0	0	2	0	2	5	9	2	0	2	4	0
SAMPLE BOTTOM DEPTH (FT)		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	0.5	3	0.5	3	6	10	3	0.5	3	5	0.5
	SAMPLE TYPE				Field Duplicate							Field Duplicate				
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	6.5 U	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	680 U	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	65 U	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	65 U	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	340 U	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.5 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-7	AOC6-7	AOC6-7	AOC6-8	AOC6-8	AOC6-8	AOC6-8	AOC6-OS1	AOC7-1	AOC7-1	AOC7-2	AOC7-2	AOC7-2	AOC7-3	AOC7-3
	SAMPLE	AOC6-7-14014	AOC6-7-14021	AOC6-7-14022	AOC6-8-14015	AOC6-8-14016	AOC6-8-14017	AOC6-8-14018	CTB-2-001.110811	AOC7-1-15000	AOC7-1-15001	AOC7-2-15002	AOC7-2-15004	AOC7-2-15003	AOC7-3-15005	AOC7-3-15006
	DATE	1/19/2016	1/24/2017	1/24/2017	1/25/2016	1/25/2016	1/25/2016	1/25/2016	11/8/2011	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/9/2015	12/9/2015
SAMPLE TOP DEPTH (FT)		2	5	9	0	2	5	8	0	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	15000 J	--	--	1000 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	2800 J	--	--	100 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	57 J	--	--	6.1 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	150 J	--	--	9.2 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	200 J	--	--	7.7 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	650 J	--	--	29 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	41 UJ	--	--	4.6 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	29 J	--	--	2.6 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	32 J	--	--	4.1 UJ	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	97 J	--	--	8.9 J	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	52 J	--	--	2.1 J	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	6600 UJ	--	--	200 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	47 J	--	--	5 J	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	3.3 UJ	--	--	0.36 UJ	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.64 UJ	--	--	0.42 UJ	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	230000 J	--	--	14000 J	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	17000 J	--	--	290 J	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	520	--	--	23	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	730	--	--	34	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	730	--	--	34	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	9.7	--	--	9.5	9.8	10	10	8	8.1	8.3	9.1	9.5	--	8.9	8.5
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U
Arsenic	mg/kg	4.6	3.5	1.5	4.5	3.1	5.5	3.8	4.7	3.7	4	--	3.3	4.1	4.4	3.5
Barium	mg/kg	88	110	54	110	120	130	76	180	360	240	--	150	90	130	130
Beryllium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U
Cadmium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	2.2	3.9	0.2 U	1.8	0.21 U	0.24	0.21 U	1.5	0.21 U	0.21 U	--	0.21 U	1.8 J	0.41	0.21 U
Chromium, total	mg/kg	39	83	6.7	27	8.8	10	6.8	38	22	45	--	24	36 J	26	11
Cobalt	mg/kg	3.8	5.4	1.7	4.1	3	3.8	2.8	5.1	8.1	11	7.6	7.9	--	5.3	3.9
Copper	mg/kg	7.8	14	3	8.6	4.3	5.3	4.4	11	9	20	--	9.5	18 J	12	6.4
Lead	mg/kg	14	73	3.1	25	3.8	4.1	2	12	2.5	3.9	--	5.1	32 J	10	3.7
Mercury	mg/kg	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U	--	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	6.8	1 U	1.2	1 U	1.1 U	1 U	7.4	1 U	1.1 U	--	1.1 U	5	2.1	1.1 U
Nickel	mg/kg	6.6	10	2.5	8.3	5	7	3.2	9.1	16	30	13	15	--	12	8.3
Selenium	mg/kg	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U
Silver	mg/kg	1 U	1.1 UJ	1 UJ	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U
Thallium	mg/kg	2.1 U	2.2 U	2	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U
Vanadium	mg/kg	18	26	9.7	24	20	23	15	27	38	48	30	36	--	23	20
Zinc	mg/kg	79	76	14	51	17	24	12	35	42	45	--	43	57 J	34	21
Metals CLP																
Aluminum	mg/kg	--	6000	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	22000	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	0.21 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	15000	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	4600	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	170	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-7	AOC6-7	AOC6-7	AOC6-8	AOC6-8	AOC6-8	AOC6-8	AOC6-OS1	AOC7-1	AOC7-1	AOC7-2	AOC7-2	AOC7-2	AOC7-3	AOC7-3
	SAMPLE	AOC6-7-14014	AOC6-7-14021	AOC6-7-14022	AOC6-8-14015	AOC6-8-14016	AOC6-8-14017	AOC6-8-14018	CTB-2-001.110811	AOC7-1-15000	AOC7-1-15001	AOC7-2-15002	AOC7-2-15004	AOC7-2-15003	AOC7-3-15005	AOC7-3-15006
	DATE	1/19/2016	1/24/2017	1/24/2017	1/25/2016	1/25/2016	1/25/2016	1/25/2016	11/8/2011	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/9/2015	12/9/2015
SAMPLE TOP DEPTH (FT)		2	5	9	0	2	5	8	0	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE		UNITS														
Potassium		mg/kg	--	1800 J	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	510	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	2.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	1.1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	5.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	54 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	18 U	17 U	17 U	17 U	18 U	17 U	--	17 U	18 U	18 U	18 U	--	17 U	18 U
Aroclor 1221	ug/kg	34 U	36 U	34 U	34 U	34 U	35 U	34 U	--	35 U	35 U	35 U	35 U	--	35 U	35 U
Aroclor 1232	ug/kg	17 U	18 U	17 U	17 U	17 U	18 U	17 U	--	17 U	18 U	18 U	18 U	--	17 U	18 U
Aroclor 1242	ug/kg	17 U	18 UJ	17 UJ	17 U	17 U	17 U	17 U	--	17 U	18 U	18 U	18 U	--	17 U	18 U
Aroclor 1248	ug/kg	17 U	18 UJ	17 UJ	17 U	17 U	18 U	17 U	--	17 U	18 U	18 U	18 U	--	17 U	18 U
Aroclor 1254	ug/kg	2000	2000	24	860	36	18 U	45	--	47	18 U	48	20	--	17 U	110
Aroclor 1260	ug/kg	17 U	1200	17 U	17 U	17 U	18 U	17 U	--	23	18 U	46	54	--	17 U	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	2030	3220	49.5	886	61.5	36 U	70.5	--	87	36 U	112	92	--	34 U	137
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 R	--	--	5.1 R	--	--	--	--	5.2 U	5.3 U	--	5.3 U	8.7	5.3 U	5.3 U
2-Methyl naphthalene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	--	5.3 U	6.2	5.3 U	5.3 U
Acenaphthene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
Acenaphthylene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
Anthracene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
B(a)P Equivalent	ug/kg	70 JH	420 U	--	18 JH	--	--	--	--	6 U	6.1 U	--	6.1 U	60	59	6.1 U
Benzo (a) anthracene	ug/kg	58 J	360 U	--	8.1 J	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
Benzo (a) pyrene	ug/kg	52 J	360 U	--	12 J	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	53 U	5.3 U
Benzo (b) fluoranthene	ug/kg	79 J	360 U	--	26 J	--	--	--	--	5.2 U	5.3 U	9.6	5.3 U	--	53 U	5.3 U
Benzo (ghi) perylene	ug/kg	10 J	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	53 U	5.3 U
Benzo (k) fluoranthene	ug/kg	32 J	360 U	--	12 J	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	53 U	5.3 U
Chrysene	ug/kg	47 J	360 U	--	12 J	--	--	--	--	5.2 U	5.3 U	--	5.3 U	8	5.3 U	5.3 U
Dibenzo (a,h) anthracene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	53 U	5.3 U
Fluoranthene	ug/kg	110 J	360 U	--	19 J	--	--	--	--	5.2 U	5.3 U	7.1	5.3 U	--	5.3	5.3 U
Fluorene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	10 J	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	53 U	5.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-7	AOC6-7	AOC6-7	AOC6-8	AOC6-8	AOC6-8	AOC6-8	AOC6-OS1	AOC7-1	AOC7-1	AOC7-2	AOC7-2	AOC7-2	AOC7-3	AOC7-3
	SAMPLE	AOC6-7-14014	AOC6-7-14021	AOC6-7-14022	AOC6-8-14015	AOC6-8-14016	AOC6-8-14017	AOC6-8-14018	CTB-2-001.110811	AOC7-1-15000	AOC7-1-15001	AOC7-2-15002	AOC7-2-15004	AOC7-2-15003	AOC7-3-15005	AOC7-3-15006
	DATE	1/19/2016	1/24/2017	1/24/2017	1/25/2016	1/25/2016	1/25/2016	1/25/2016	11/8/2011	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/9/2015	12/9/2015
SAMPLE TOP DEPTH (FT)		2	5	9	0	2	5	8	0	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 R	360 U	--	5.1 R	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.1 U
PAH High molecular weight	ug/kg	498	0	--	107	--	--	--	--	0	0	--	0	28.8	5.3	0
PAH Low molecular weight	ug/kg	46	0	--	7.1	--	--	--	--	0	0	--	0	14.9	0	0
Phenanthrene	ug/kg	46 J	360 U	--	7.1 J	--	--	--	--	5.2 U	5.3 U	5.3 U	5.3 U	--	5.3 U	5.3 U
Pyrene	ug/kg	100 J	360 U	--	18 J	--	--	--	--	5.2 U	5.3 U	--	5.3 U	9.8	5.3 U	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2-Chlorophenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2-Methylphenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2-Nitroaniline	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
2-Nitrophenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
2,4-Dimethylphenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2,4-Dinitrophenol	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
2,4-Dinitrotoluene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2,6-Dinitrotoluene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
3-Nitroaniline	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
3,3-Dichlorobenzidene	ug/kg	--	720 U	--	--	--	--	--	--	700 U	710 U	710 U	700 U	--	700 U	710 U
4-Bromophenyl phenyl ether	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
4-Chloro-3-methylphenol	ug/kg	--	720 U	--	--	--	--	--	--	700 U	710 U	710 U	700 U	--	700 U	710 U
4-Chloroaniline	ug/kg	--	720 U	--	--	--	--	--	--	700 U	710 U	710 U	700 U	--	700 U	710 U
4-Chlorophenyl phenyl ether	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
4-Methylphenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
4-Nitroaniline	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
4-Nitrophenol	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
Acetophenone	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	760 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
Benzyl alcohol	ug/kg	--	720 U	--	--	--	--	--	--	700 U	710 U	710 U	700 U	--	700 U	710 U
bis (2-chloroethoxy) methane	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Butylbenzylphthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Caprolactam	ug/kg	--	360 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	360 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Di-n-octyl phthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Dibenzofuran	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Diethyl phthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Dimethyl phthalate	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Hexachlorobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Hexachloroethane	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
N-nitrosodiphenylamine	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Pentachlorophenol	ug/kg	--	1800 U	--	--	--	--	--	--	1700 U	1800 U	1800 U	1800 U	--	1800 U	1800 U
Phenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	17	11 U	--	11 U	27	11 U	11 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-7	AOC6-7	AOC6-7	AOC6-8	AOC6-8	AOC6-8	AOC6-8	AOC6-OS1	AOC7-1	AOC7-1	AOC7-2	AOC7-2	AOC7-2	AOC7-3	AOC7-3
	SAMPLE	AOC6-7-14014	AOC6-7-14021	AOC6-7-14022	AOC6-8-14015	AOC6-8-14016	AOC6-8-14017	AOC6-8-14018	CTB-2-001.110811	AOC7-1-15000	AOC7-1-15001	AOC7-2-15002	AOC7-2-15004	AOC7-2-15003	AOC7-3-15005	AOC7-3-15006
	DATE	1/19/2016	1/24/2017	1/24/2017	1/25/2016	1/25/2016	1/25/2016	1/25/2016	11/8/2011	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/9/2015	12/9/2015
SAMPLE TOP DEPTH (FT)		2	5	9	0	2	5	8	0	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	1.3 U	--	0.99 U	--	--	1.1 U
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	37	11 U	--	11 U	33	51	11 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2-Dichlorobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	6.2 U	350 U	5.7 U	--	350 U	5.1 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,2,4-Trichlorobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	6.2 U	350 U	5.7 U	--	350 U	5.1 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,3-Dichlorobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	6.2 U	350 U	5.7 U	--	350 U	5.1 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
1,4-Dichlorobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	6.2 U	350 U	5.7 U	--	350 U	5.1 U
1,4-Dioxane	ug/kg	--	360 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
2,4,5-Trichlorophenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
2,4,6-Trichlorophenol	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	62 U	--	57 U	--	--	51 UJ
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	120 U	--	110 U	--	--	100 U
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	62 U	--	57 U	--	--	51 U
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
bis (2-chloroethyl) ether	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC6-7	AOC6-7	AOC6-7	AOC6-8	AOC6-8	AOC6-8	AOC6-8	AOC6-OS1	AOC7-1	AOC7-1	AOC7-2	AOC7-2	AOC7-2	AOC7-3	AOC7-3
	SAMPLE	AOC6-7-14014	AOC6-7-14021	AOC6-7-14022	AOC6-8-14015	AOC6-8-14016	AOC6-8-14017	AOC6-8-14018	CTB-2-001.110811	AOC7-1-15000	AOC7-1-15001	AOC7-2-15002	AOC7-2-15004	AOC7-2-15003	AOC7-3-15005	AOC7-3-15006
	DATE	1/19/2016	1/24/2017	1/24/2017	1/25/2016	1/25/2016	1/25/2016	1/25/2016	11/8/2011	1/6/2016	1/6/2016	1/6/2016	1/6/2016	1/6/2016	12/9/2015	12/9/2015
SAMPLE TOP DEPTH (FT)		2	5	9	0	2	5	8	0	0	2	0	2	0	0	2
SAMPLE BOTTOM DEPTH (FT)		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	0.5	3	6	9	0.5	0.5	3	0.5	3	0.5	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Hexachlorobutadiene	ug/kg	--	720 U	--	--	--	--	--	--	700 U	6.2 U	710 U	5.7 U	--	700 U	5.1 U
Hexachlorocyclopentadiene	ug/kg	--	720 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	62 U	--	57 U	--	--	51 U
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	62 U	--	57 U	--	--	51 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Nitrobenzene	ug/kg	--	360 U	--	--	--	--	--	--	350 U	350 U	350 U	350 U	--	350 U	350 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	6.2 U	--	5.7 U	--	--	5.1 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC7-4	AOC7-4	AOC7-5	AOC7-5	AOC8-1	AOC8-1	AOC8-2	AOC8-2	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65
	SAMPLE	AOC7-4-15007	AOC7-4-15008	AOC7-5-15009	AOC7-5-15010	AOC8-1-16000	AOC8-1-16001	AOC8-2-16002	AOC8-2-16003	BH-65-10016	BH-65-10017	BH-65-10001	BH-65-10002	BH-65-10003	BH-65-10004	BH-65-10005
	DATE	12/9/2015	12/9/2015	1/6/2016	1/6/2016	1/7/2016	1/7/2016	12/9/2015	12/9/2015	3/24/2011	3/24/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	2	0	2	9	14	19	29	37
SAMPLE BOTTOM DEPTH (FT)		1	3	0.5	3	0.5	3	1	3	0.5	3	10	15	20	30	40
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	10	15	20	30	40
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	1400	510	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	110 U	63 U	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	3.3 U	2.1 U	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	5.8 J	3.4 J	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	6.3 J	3.2 J	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	41	13	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	3.6 U	3 U	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	1.6 U	0.94 U	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	1.5 U	0.78 U	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	15	4 J	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	2.4 U	1.4 J	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	4.4 J	2.7 J	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	2.6 J	1.2 J	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	0.54 J	0.088 U	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	0.95 J	0.6 U	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	11000	6800	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	230	80	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	11	5.1	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	27	11	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	27	11	--	--	--	--	--
General																
pH	PHUNITS	9.8	8.4	9	9.3	--	--	--	--	8.3	8.5	9.4	9.3	9.3	9.6	9.8
Solids	PERC	--	--	--	--	--	--	--	--	96.4	94.6	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.2 U	2.2 U	2.1 U	2.2 U	2.2 UJ	2.1 U	2.1 U	2.1 U	0.26 U	0.26 U	2.1 U	2.1 U	2 U	2 UJ	2.1 U
Arsenic	mg/kg	4.3	3.6	3.6	4.3	4.2	4.6	3.7	3.9	2	2.8	1.7	1.5	1.6	0.99	2.5
Barium	mg/kg	130	110	97	160	120	280	100	83	94	150	95	140	140	130	140
Beryllium	mg/kg	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	0.26 U	0.28	1 U	1 U	1 U	1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	0.26 U	0.26 U	1 U	1 U	1 U	1 U	1.1 U
Chromium, Hexavalent	mg/kg	1.2	0.22 U	0.56	0.98	--	--	--	--	0.52	0.79	0.41 U	0.42 U	0.41 U	0.4 U	0.42 U
Chromium, total	mg/kg	28	17	25	29	45 J	27	31	15	12	17	15	16	24	25	48
Cobalt	mg/kg	13	6.7	7.8	7.4	10	10	5.8	4.7	3.4	4.3	7.1	9	8.4	8.6	14
Copper	mg/kg	11	7.2	10	12	18	17	11	7.1	5.2	8.1	7.4	7.5	7	5.3	17
Lead	mg/kg	4	3.5	3	11	5.5	3.3	8.1	2.8	6.7	20	3.5	3	3	1.8 J	3.8
Mercury	mg/kg	0.11 U	0.11 U	0.11 U	0.11 U	0.31	0.34	0.1 U	0.1 U	0.1 U	0.12 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	2.6	5.1	0.86	0.57	1 U	1 U	1 U	1 UJ	1.1 U
Nickel	mg/kg	15	16	15	18	31	25	12	13	9.7	10	11	12	15	11	33
Selenium	mg/kg	1.1 U	1.1 U	1 U	1.1 U	1.1 UJ	1 U	1 U	1 U	0.26 U	0.26 U	1 U	1 U	1 U	1 UJ	1.1 U
Silver	mg/kg	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	0.26 U	0.26 U	1 U	1 U	1 U	1 U	1.1 U
Thallium	mg/kg	2.2 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	0.26 U	0.26 U	2.1 U	2.1 U	2 U	2 UJ	2.1 U
Vanadium	mg/kg	31	26	38	36	43	39	23	22	13	17	38	35	36	36	50
Zinc	mg/kg	33	32	43	43	53 J	41	28	22	21	28	66	43	50	39	41
Metals CLP																
Aluminum	mg/kg	8400	8900	--	--	13000	12000	--	--	--	--	--	10000	9300	--	--
Calcium	mg/kg	24000	24000	--	--	36000	53000	--	--	--	--	--	17000	9800	--	--
Cyanide	mg/kg	0.22 U	0.22 U	--	--	0.044 U	0.042 U	--	--	--	--	--	--	--	--	--
Iron	mg/kg	19000	17000	--	--	23000	24000	--	--	--	--	--	21000	23000	--	--
Magnesium	mg/kg	7000	7600	--	--	11000	9600	--	--	--	--	--	7000	6400	--	--
Manganese	mg/kg	210	250	--	--	300	330	--	--	--	--	--	350	350	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC7-4	AOC7-4	AOC7-5	AOC7-5	AOC8-1	AOC8-1	AOC8-2	AOC8-2	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65
	SAMPLE	AOC7-4-15007	AOC7-4-15008	AOC7-5-15009	AOC7-5-15010	AOC8-1-16000	AOC8-1-16001	AOC8-2-16002	AOC8-2-16003	BH-65-10016	BH-65-10017	BH-65-10001	BH-65-10002	BH-65-10003	BH-65-10004	BH-65-10005
	DATE	12/9/2015	12/9/2015	1/6/2016	1/6/2016	1/7/2016	1/7/2016	12/9/2015	12/9/2015	3/24/2011	3/24/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	2	0	2	9	14	19	29	37
SAMPLE BOTTOM DEPTH (FT)		1	3	0.5	3	0.5	3	1	3	0.5	3	10	15	20	30	40
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	10	15	20	30	40
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	2000	1700	--	--	2700	2600 J	--	--	--	--	--	4100	3300	--	--
Sodium	mg/kg	630	560	--	--	400	550 J	--	--	--	--	--	650	550	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	18 UJ	18 U	17 U	18 U	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	37 U	36 U	35 U	36 U	--	--	--	--	34 U	35 U	34 U	34 U	34 U	33 U	35 U
Aroclor 1232	ug/kg	18 U	18 U	17 U	18 U	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	18 U	18 U	17 U	18 U	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	18 U	18 U	17 U	18 U	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	18 U	18 U	17 U	37	--	--	--	--	17 U	48	17 U	17 U	17 U	17 U	17 U
Aroclor 1260	ug/kg	18 UJ	18 U	17 U	18 U	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U
Aroclor 1268	ug/kg	18 U	18 U	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	36 U	36 U	34 U	64	--	--	--	--	34 U	73.5	34 U	34 U	34 U	34 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
2-Methyl naphthalene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	6.3	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Acenaphthene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Acenaphthylene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Anthracene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
B(a)P Equivalent	ug/kg	61 U	6.2 U	6.1 U	60 U	--	--	--	--	6.2	17	5.9 U	6 U	5.9 U	5.8 U	6.1 U
Benzo (a) anthracene	ug/kg	53 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	7.3	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Benzo (a) pyrene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	5.1 U	11	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Benzo (b) fluoranthene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	5.5	16	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Benzo (ghi) perylene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	6.5	9.8	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Benzo (k) fluoranthene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	5.1 U	6.3	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Chrysene	ug/kg	53 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	8.7	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Dibenzo (a,h) anthracene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Fluoranthene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.5	14	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Fluorene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	53 U	5.4 U	5.3 U	54 U	--	--	--	--	5.1 U	6.3	5.1 U	5.2 U	5.1 U	5 U	5.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC7-4	AOC7-4	AOC7-5	AOC7-5	AOC8-1	AOC8-1	AOC8-2	AOC8-2	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65
	SAMPLE	AOC7-4-15007	AOC7-4-15008	AOC7-5-15009	AOC7-5-15010	AOC8-1-16000	AOC8-1-16001	AOC8-2-16002	AOC8-2-16003	BH-65-10016	BH-65-10017	BH-65-10001	BH-65-10002	BH-65-10003	BH-65-10004	BH-65-10005
	DATE	12/9/2015	12/9/2015	1/6/2016	1/6/2016	1/7/2016	1/7/2016	12/9/2015	12/9/2015	3/24/2011	3/24/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	2	0	2	9	14	19	29	37
SAMPLE BOTTOM DEPTH (FT)		1	3	0.5	3	0.5	3	1	3	0.5	3	10	15	20	30	40
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	10	15	20	30	40
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 U	4.8 U	5.3 U	5.4 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	5.1 U	5.2 U	4.8 U	4.8 U	4.3 U
PAH High molecular weight	ug/kg	0	0	0	0	--	--	--	--	23	92.4	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	--	0	--	0	0	6.3	0	0	0	0	0
Phenanthrene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.1 U	5.2 U	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Pyrene	ug/kg	5.3 U	5.4 U	5.3 U	5.4 U	--	--	--	--	5.5	13	5.1 U	5.2 U	5.1 U	5 U	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 UJ	710 UJ	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 UJ	710 UJ	--	--
2-Chloro naphthalene	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2-Chlorophenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2-Methylphenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2-Nitroaniline	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2,3,4,6-Tetrachlorophenol	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 U	710 U	--	--
2,4-Dichlorophenol	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2,4-Dinitrophenol	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 UJ	1700 U
2,4-Dinitrotoluene	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2,6-Dinitrotoluene	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
3-Nitroaniline	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3'-Dichlorobenzidene	ug/kg	7300 U	720 U	690 U	720 U	--	--	--	--	680 U	690 U	680 U	690 U	670 U	670 U	700 U
4-Bromophenyl phenyl ether	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
4-Chloro-3-methylphenol	ug/kg	7300 U	720 U	690 U	720 U	--	--	--	--	680 U	690 U	680 U	690 U	670 U	670 U	700 U
4-Chloroaniline	ug/kg	7300 U	720 U	690 U	720 U	--	--	--	--	680 U	690 U	680 U	690 U	670 U	670 U	700 U
4-Chlorophenyl phenyl ether	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
4-Methylphenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
4-Nitroaniline	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 UJ	710 UJ	--	--
Atrazine	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 U	710 U	--	--
Benzaldehyde	ug/kg	7700 U	740 U	--	--	--	--	--	--	--	--	--	730 UJ	710 UJ	--	--
Benzoic acid	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	--	1700 U
Benzyl alcohol	ug/kg	7300 U	720 U	690 U	720 U	--	--	--	--	680 U	690 U	680 U	690 U	670 U	670 U	700 U
bis (2-chloroethoxy) methane	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
bis (2-ethylhexyl) phthalate	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Butylbenzylphthalate	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Caprolactam	ug/kg	3600 U	350 U	--	--	--	--	--	--	--	--	--	340 U	340 U	--	--
Carbazole	ug/kg	3600 U	350 U	--	--	--	--	--	--	--	--	--	340 U	340 U	--	--
Di-n-butyl phthalate	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Di-n-octyl phthalate	ug/kg	36000 U	360 U	350 U	3400 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Dibenzofuran	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Diethyl phthalate	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Dimethyl phthalate	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Hexachlorobenzene	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Hexachloroethane	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
n-Nitroso-di-n-propylamine	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
N-nitrosodiphenylamine	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Pentachlorophenol	ug/kg	18000 U	1800 U	1700 U	1800 U	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	270	11 U	11 U	57	19	10 U	37	10 U	22	32	10 U	10 U	10 U	10 U	11 U

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Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC7-4	AOC7-4	AOC7-5	AOC7-5	AOC8-1	AOC8-1	AOC8-2	AOC8-2	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65
	SAMPLE	AOC7-4-15007	AOC7-4-15008	AOC7-5-15009	AOC7-5-15010	AOC8-1-16000	AOC8-1-16001	AOC8-2-16002	AOC8-2-16003	BH-65-10016	BH-65-10017	BH-65-10001	BH-65-10002	BH-65-10003	BH-65-10004	BH-65-10005
	DATE	12/9/2015	12/9/2015	1/6/2016	1/6/2016	1/7/2016	1/7/2016	12/9/2015	12/9/2015	3/24/2011	3/24/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	2	0	2	9	14	19	29	37
SAMPLE BOTTOM DEPTH (FT)		1	3	0.5	3	0.5	3	1	3	0.5	3	10	15	20	30	40
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	10	15	20	30	40
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	1.1 U	--	1.2 U	--	1.2 U	--	1.1 U	0.89 U	0.89 U	1.3 U	1.1 U	1.2 U	0.95 U	1.3 U
TPH as motor oil	mg/kg	810	11 U	11 U	590	160	10 U	260	10 U	64	83	10 U	10 U	10 U	10 U	11 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1-Dichloroethene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1-Dichloropropene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1,1-Trichloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1,1,2-Tetrachloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1,2-Trichloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,1,2,2-Tetrachloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2-Dibromo-3-chloropropane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2-Dibromoethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2-Dichlorobenzene	ug/kg	3600 U	4.8 U	350 U	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2-Dichloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2-Dichloropropane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2,3-Trichlorobenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2,3-Trichloropropane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2,4-Trichlorobenzene	ug/kg	3600 U	4.8 U	350 U	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,2,4-Trimethylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,3-Dichlorobenzene	ug/kg	3600 U	4.8 U	350 U	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,3-Dichloropropane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,3,5-Trimethylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,4-Dichlorobenzene	ug/kg	3600 U	4.8 U	350 U	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
1,4-Dioxane	ug/kg	350 U	350 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
2-Hexanone	ug/kg	--	48 U	--	--	--	59 U	--	--	--	--	--	59 U	48 U	--	--
2,2-Dichloropropane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
2,4,5-Trichlorophenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
2,4,6-Trichlorophenol	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
4-Isopropyltoluene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Acetone	ug/kg	--	48 U	--	99 U	--	59 U	--	68 U	45 U	45 U	69 U	59 U	48 U	48 U	43 U
Acrolein	ug/kg	--	96 U	--	200 U	--	120 U	--	140 U	90 U	89 U	140 U	120 U	96 U	97 U	85 U
Acrylonitrile	ug/kg	--	48 U	--	99 U	--	59 U	--	68 U	45 U	45 U	69 U	59 U	48 U	48 U	43 U
Benzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
bis (2-chloroethyl) ether	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
bis (2-chloroisopropyl) ether	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Bromobenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Bromochloromethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Bromodichloromethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Bromoform	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Bromomethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Carbon disulfide	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Carbon tetrachloride	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Chloro methane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Chlorobenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Chloroethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Chloroform	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
cis-1,2-Dichloroethene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
cis-1,3-Dichloropropene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Cyclohexane	ug/kg	--	4.8 U	--	--	--	5.9 U	--	--	--	--	--	6.3 U	4.8 U	--	--
Dibromochloromethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U

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Needles, California

	LOCATION	AOC7-4	AOC7-4	AOC7-5	AOC7-5	AOC8-1	AOC8-1	AOC8-2	AOC8-2	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65
	SAMPLE	AOC7-4-15007	AOC7-4-15008	AOC7-5-15009	AOC7-5-15010	AOC8-1-16000	AOC8-1-16001	AOC8-2-16002	AOC8-2-16003	BH-65-10016	BH-65-10017	BH-65-10001	BH-65-10002	BH-65-10003	BH-65-10004	BH-65-10005
	DATE	12/9/2015	12/9/2015	1/6/2016	1/6/2016	1/7/2016	1/7/2016	12/9/2015	12/9/2015	3/24/2011	3/24/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		0	2	0	2	0	2	0	2	0	2	9	14	19	29	37
SAMPLE BOTTOM DEPTH (FT)		1	3	0.5	3	0.5	3	1	3	0.5	3	10	15	20	30	40
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	10	15	20	30	40
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Dichlorodifluoromethane	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Ethyl- benzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Hexachlorobutadiene	ug/kg	7300 U	4.8 U	690 U	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Hexachlorocyclopentadiene	ug/kg	7300 U	700 U	--	--	--	--	--	--	--	--	--	690 UJ	670 UJ	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
Isopropylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Methyl acetate	ug/kg	--	4.8 U	--	--	--	5.9 U	--	--	--	--	--	6.3 U	4.8 U	--	--
Methyl ethyl ketone	ug/kg	--	48 U	--	99 U	--	59 U	--	68 U	45 U	45 U	69 U	59 U	48 U	48 U	43 U
Methyl isobutyl ketone	ug/kg	--	48 U	--	99 U	--	59 U	--	68 U	45 U	45 U	69 U	59 U	48 U	48 U	43 U
Methyl tert-butyl ether (MTBE)	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Methylcyclohexane	ug/kg	--	4.8 U	--	--	--	5.9 U	--	--	--	--	--	6.3 U	4.8 U	--	--
Methylene chloride	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
N-Butylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
N-Propylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Nitrobenzene	ug/kg	3600 U	360 U	350 U	360 U	--	--	--	--	340 U	350 U	340 U	340 U	340 U	330 U	350 U
p-Chlorotoluene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
sec-Butylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Styrene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
tert-Butylbenzene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Tetrachloroethene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Toluene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
trans-1,2-Dichloroethene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
trans-1,3-Dichloropropene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Trichloroethene	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Trichlorofluoromethane (Freon 11)	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Vinyl chloride	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Xylene, m,p-	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Xylene, o-	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U
Xylenes, total	ug/kg	--	4.8 U	--	9.9 U	--	5.9 U	--	6.8 U	4.5 U	4.5 U	6.9 U	5.9 U	4.8 U	4.8 U	4.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-66	BH-66	BH-66	BH-66
	SAMPLE	BH-65-10006	BH-65-10007	BH-65-10008	BH-65-50001	BH-65-10010	BH-65-10011	BH-65-10012	BH-65-10013	BH-65-10014	BH-65-10015	BH-65-10009	BH-66-10101	BH-66-10102	BH-66-10103	BH-66-10104
	DATE	3/17/2011	3/17/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/19/2011	3/19/2011	3/18/2011	3/23/2011	3/23/2011	3/23/2011	4/12/2011
SAMPLE TOP DEPTH (FT)		49	59	69	79	89	99	109	119	129	139	79	0	2	5	14
SAMPLE BOTTOM DEPTH (FT)		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
	SAMPLE TYPE				Field Duplicate											
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	39	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	5.3 U	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.31 J	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.29 U	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.42 U	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	1.2 U	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.28 U	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.21 U	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.076 U	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.41 U	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.1 U	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.4 J	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.19 U	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.055 U	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.19 J	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	530	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	12 J	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.66	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.95	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	0.95	--	--	--
General																
pH	PHUNITS	9	9.1	8.7	8.8	8.4	8.6	8.2	8.5	7.7	8.2	--	8.2	8.5	9.5	9.8
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	95.5	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	0.27 U	0.27 U	0.28 U	2.1 U
Arsenic	mg/kg	2.7	2.4	2.4	2.7	2.4	3.3	2.7	2.9	2.4	2.6	--	1.4	1.3	1.8	--
Barium	mg/kg	90	73	94	--	49	1000	88	50	56	140	110	70	62	76	--
Beryllium	mg/kg	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1.1 U	--	0.27 U	0.27 U	0.33	1 U
Cadmium	mg/kg	1.1 U	1 U	1.1 U	1 U	1.1 U	1 UJ	1.1 U	1 U	1 U	1.1 U	--	0.27 U	0.27 U	0.28 U	1 U
Chromium, Hexavalent	mg/kg	0.43 U	0.42 U	0.42 U	--	0.43 U	0.42 U	0.43 U	0.41 U	0.42 U	0.43 U	0.42 U	0.43 U	0.42 U	0.45 U	0.41 U
Chromium, total	mg/kg	50	40	23	--	20	66	49	50	26	25	61	12	9.1	14	--
Cobalt	mg/kg	12	12	10	--	8.8	16	11	14	8.6	9.7	13	4	3.3	4.9	--
Copper	mg/kg	27	8	14	--	12	18	20	13	20	20	21	5	5	6.2	--
Lead	mg/kg	4.1	3.1	2.9	--	2.8	3.4 J	4.5	2.8	3	2.6	3.7	8.9	3.2	2.6	--
Mercury	mg/kg	0.11 U	0.1 U	0.1 U	--	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1 U	1.1 U	1 U	1.1 U	1 UJ	1.1 U	1 U	1 U	1.1 U	--	0.27 U	0.27 U	0.28 U	1 U
Nickel	mg/kg	29	28	19	--	17	53	34	41	20	21	44 J	11	9.3	11	--
Selenium	mg/kg	1.1 U	1 U	1.1 U	1 U	1.1 U	1 UJ	1.1 U	1 U	1 U	1.1 U	--	0.27 U	0.27 U	0.28 U	1 U
Silver	mg/kg	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1 U	1 U	1.1 U	--	0.27 U	0.27 U	0.28 U	1 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.2 U	2.1 U	0.27 U	0.27 U	0.28 U	2.1 U
Vanadium	mg/kg	50	51	44	--	36	63	50	57	32	38	57	14	11	19	--
Zinc	mg/kg	45	43	43	--	38	51	48	46	36	44	50	16	15	26	--
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-66	BH-66	BH-66	BH-66
	SAMPLE	BH-65-10006	BH-65-10007	BH-65-10008	BH-65-50001	BH-65-10010	BH-65-10011	BH-65-10012	BH-65-10013	BH-65-10014	BH-65-10015	BH-65-10009	BH-66-10101	BH-66-10102	BH-66-10103	BH-66-10104
	DATE	3/17/2011	3/17/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/19/2011	3/19/2011	3/18/2011	3/23/2011	3/23/2011	3/23/2011	4/12/2011
SAMPLE TOP DEPTH (FT)		49	59	69	79	89	99	109	119	129	139	79	0	2	5	14
SAMPLE BOTTOM DEPTH (FT)		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
	SAMPLE TYPE				Field Duplicate											
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1221	ug/kg	35 U	34 U	35 U	--	35 U	35 U	36 U	34 U	34 U	36 U	35 U	35 U	35 U	37 U	34 U
Aroclor 1232	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1242	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1248	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1254	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1260	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	18 U	18 U	18 U	17 U
Aroclor 1262	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	--	--	--	--
Aroclor 1268	ug/kg	18 U	17 U	17 U	--	18 U	17 U	18 U	17 U	17 U	18 U	17 U	--	--	--	--
Total PCBs	ug/kg	36 U	34 U	34 U	--	36 U	34 U	36 U	34 U	34 U	36 U	34 U	36 U	36 U	36 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
2-Methyl naphthalene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2	5.4 U	5.2	5.2	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Acenaphthene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Acenaphthylene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Anthracene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
B(a)P Equivalent	ug/kg	6.1 U	6 U	6.1 U	6 U	6.1 U	6	6.2 U	6	6	6.2 U	--	6.2 U	6.1 U	6.5 U	6 U
Benzo (a) anthracene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Benzo (a) pyrene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Benzo (ghi) perylene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Chrysene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Fluoranthene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Fluorene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-66	BH-66	BH-66	BH-66
	SAMPLE	BH-65-10006	BH-65-10007	BH-65-10008	BH-65-50001	BH-65-10010	BH-65-10011	BH-65-10012	BH-65-10013	BH-65-10014	BH-65-10015	BH-65-10009	BH-66-10101	BH-66-10102	BH-66-10103	BH-66-10104
	DATE	3/17/2011	3/17/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/19/2011	3/19/2011	3/18/2011	3/23/2011	3/23/2011	3/23/2011	4/12/2011
SAMPLE TOP DEPTH (FT)		49	59	69	79	89	99	109	119	129	139	79	0	2	5	14
SAMPLE BOTTOM DEPTH (FT)		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
	SAMPLE TYPE				Field Duplicate											
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 U	5.2 U	5.3 U	4.6 U	5.3 U	4.4 U	5 U	5.2 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
PAH High molecular weight	ug/kg	0	0	0	--	0	0	0	0	0	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	0	--	0	5.2	0	5.2	5.2	0	0	0	0	0	0
Phenanthrene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Pyrene	ug/kg	5.3 U	5.2 U	5.3 U	5.2 U	5.3 U	5.2 U	5.4 U	5.2 U	5.2 U	5.4 U	--	5.4 U	5.3 U	5.6 U	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2-Chlorophenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2-Methylphenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
2-Nitrophenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
2,4-Dimethylphenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2,4-Dinitrophenol	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1800 U	1800 U	1800 U	1900 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
2,6-Dinitrotoluene	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
3-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
3,3-Dichlorobenzidene	ug/kg	700 U	690 U	700 U	--	700 U	690 U	710 U	680 U	690 U	710 U	690 U	710 U	700 U	740 U	--
4-Bromophenyl phenyl ether	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
4-Chloro-3-methylphenol	ug/kg	700 U	690 U	700 U	--	700 U	690 U	710 U	680 U	690 U	710 U	690 U	710 U	700 U	740 U	--
4-Chloroaniline	ug/kg	700 U	690 U	700 U	--	700 U	690 U	710 U	680 U	690 U	710 U	690 U	710 U	700 U	740 U	--
4-Chlorophenyl phenyl ether	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	350 U	360 U	350 U	350 U	350 U	370 U	340 U
4-Methylphenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
4-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
4-Nitrophenol	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
Benzyl alcohol	ug/kg	700 U	690 U	700 U	--	700 U	690 U	710 U	680 U	690 U	710 U	690 U	710 U	700 U	740 U	--
bis (2-chloroethoxy) methane	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Butylbenzylphthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Di-n-octyl phthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Dibenzofuran	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Diethyl phthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Dimethyl phthalate	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Hexachlorobenzene	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Hexachloroethane	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
N-nitrosodiphenylamine	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Pentachlorophenol	ug/kg	1800 U	1700 U	1700 U	--	1800 U	1700 U	1800 U	1700 U	1700 U	1800 U	1700 U	1800 U	1800 U	1900 U	1700 U
Phenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	10 U	11 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	--	11 U	11 U	11 U	30

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-66	BH-66	BH-66	BH-66
	SAMPLE	BH-65-10006	BH-65-10007	BH-65-10008	BH-65-50001	BH-65-10010	BH-65-10011	BH-65-10012	BH-65-10013	BH-65-10014	BH-65-10015	BH-65-10009	BH-66-10101	BH-66-10102	BH-66-10103	BH-66-10104
	DATE	3/17/2011	3/17/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/19/2011	3/19/2011	3/18/2011	3/23/2011	3/23/2011	3/23/2011	4/12/2011
SAMPLE TOP DEPTH (FT)		49	59	69	79	89	99	109	119	129	139	79	0	2	5	14
SAMPLE BOTTOM DEPTH (FT)		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
	SAMPLE TYPE				Field Duplicate											
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.1 U	1.1 U	0.92 U	0.99 U	0.9 U	0.92 U	1 U	0.91 U	1 U	0.91 U	--	0.95 U	0.92 U	0.85 U	1 U
TPH as motor oil	mg/kg	11 U	10 U	11 U	10 U	11 U	10 U	11 U	10 U	10 U	11 U	--	11 U	28	11 U	53
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1-Dichloroethene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1-Dichloropropene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1,1-Trichloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1,1,2-Tetrachloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1,2-Trichloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,1,2,2-Tetrachloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2-Dibromo-3-chloropropane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2-Dibromoethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2-Dichlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2-Dichloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2-Dichloropropane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2,3-Trichlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2,3-Trichloropropane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2,4-Trichlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,2,4-Trimethylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,3-Dichlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,3-Dichloropropane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,3,5-Trimethylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,4-Dichlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
2,4,5-Trichlorophenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	350 U	360 U	350 U	340 U	350 U	370 U	340 U
2,4,6-Trichlorophenol	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
4-Isopropyltoluene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Acetone	ug/kg	60 U	62 U	56 U	46 U	54 U	44 U	50 U	54 U	50 U	46 U	--	48 U	48 U	45 U	52 U
Acrolein	ug/kg	120 U	120 U	110 U	93 U	110 U	89 U	100 U	110 U	99 U	93 U	--	97 U	96 U	90 U	100 U
Acrylonitrile	ug/kg	60 U	62 U	56 U	46 U	54 U	44 U	50 U	54 U	50 U	46 U	--	48 U	48 U	45 U	52 U
Benzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
bis (2-chloroethyl) ether	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Bromobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Bromochloromethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Bromodichloromethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Bromoform	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Bromomethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Carbon disulfide	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Carbon tetrachloride	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Chloro methane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Chlorobenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Chloroethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Chloroform	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
cis-1,2-Dichloroethene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
cis-1,3-Dichloropropene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-65	BH-66	BH-66	BH-66	BH-66
	SAMPLE	BH-65-10006	BH-65-10007	BH-65-10008	BH-65-50001	BH-65-10010	BH-65-10011	BH-65-10012	BH-65-10013	BH-65-10014	BH-65-10015	BH-65-10009	BH-66-10101	BH-66-10102	BH-66-10103	BH-66-10104
	DATE	3/17/2011	3/17/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/19/2011	3/19/2011	3/18/2011	3/23/2011	3/23/2011	3/23/2011	4/12/2011
SAMPLE TOP DEPTH (FT)		49	59	69	79	89	99	109	119	129	139	79	0	2	5	14
SAMPLE BOTTOM DEPTH (FT)		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		50	60	70	80	90	100	110	120	130	140	80	0.5	3	6	15
	SAMPLE TYPE				Field Duplicate											
ANALYTE	UNITS															
Dibromomethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Dichlorodifluoromethane	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Ethyl- benzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Hexachlorobutadiene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
Isopropylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	60 U	62 U	56 U	46 U	54 U	44 U	50 U	54 U	50 U	46 U	--	48 U	48 U	45 U	52 U
Methyl isobutyl ketone	ug/kg	60 U	62 U	56 U	46 U	54 U	44 U	50 U	54 U	50 U	46 U	--	48 U	48 U	45 U	52 U
Methyl tert-butyl ether (MTBE)	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
N-Butylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
N-Propylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Nitrobenzene	ug/kg	350 U	340 U	350 U	--	350 U	350 U	360 U	340 U	340 U	360 U	350 U	350 U	350 U	370 U	340 U
p-Chlorotoluene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
sec-Butylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Styrene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
tert-Butylbenzene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Tetrachloroethene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Toluene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
trans-1,2-Dichloroethene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
trans-1,3-Dichloropropene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Trichloroethene	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Trichlorofluoromethane (Freon 11)	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Vinyl chloride	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Xylene, m,p-	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Xylene, o-	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U
Xylenes, total	ug/kg	6 U	6.2 U	5.6 U	4.6 U	5.4 U	4.4 U	5 U	5.4 U	5 U	4.6 U	--	4.8 U	4.8 U	4.5 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-67
	SAMPLE	BH-66-10105	BH-66-10106	BH-66-10107	BH-66-10108	BH-66-10109	BH-66-10110	BH-66-10111	BH-66-10112	BH-66-10113	BH-66-10114	BH-66-50004	BH-66-10116	BH-66-10115	BH-66-50003	BH-67-10201
	DATE	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011	4/14/2011	4/14/2011	4/12/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		19	29	39	49	59	69	79	89	99	109	119	129	119	14	0
SAMPLE BOTTOM DEPTH (FT)		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.66 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.61 U
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1 U
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.033 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.097 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.09 U
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.24 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.035 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.042 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.068 U
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.039 U
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11 J
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.057 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.024 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27 U
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.5 U
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.35 U
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1
General																
pH	PHUNITS	9.3	9.8	9.3	9.3	9.6	9.2	9.3	9	8.8	9	9.2	8.9	--	--	8.6
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	91
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2.1 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	--	2.2 U
Arsenic	mg/kg	2.4	2.3	2	2 J	1.8	2.2	1.6	2	1.8	1.6	--	2.1	1.7	2.8	3.2
Barium	mg/kg	86	97	68	130	28	34	100	29	80	120	--	51	39 J	100 J	120
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	--	1.1 U
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	--	1.1 U
Chromium, Hexavalent	mg/kg	0.41 U	0.41 U	0.41 U	0.41 U	0.42 U	0.43 U	0.42 U	0.43 U	0.43 U	0.42 U	--	0.43 U	0.41 U	--	0.43 U
Chromium, total	mg/kg	10	7	28	28	25	18	17	18	21	22	23	29	--	15 J	32
Cobalt	mg/kg	2.2	2.2	9.7	9.9	8.2	8.8	8.7	8	7.8	9.1	--	8.3	8	3.5	10
Copper	mg/kg	3	2.6	9.3	9.5	8.1	13	10	10	12	9.7	13	12	--	11	14
Lead	mg/kg	3	2.7	2.7	3	2.9	3.8	2.7	3	3.6	3.4	2.8	2.7	--	3.8	5
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	--	0.11 U	0.1 U	--	0.11 U
Molybdenum	mg/kg	1 U	1 U	1 U	1 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	--	1.1 U
Nickel	mg/kg	4.1	4.1	23	23	16	16	13	15	16	16	15	19	--	6.7	29
Selenium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	--	1.1 U
Silver	mg/kg	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1 U	--	1.1 U
Thallium	mg/kg	2 U	2.1 U	2.1 U	2.1 UJ	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	2.1 U	--	2.2 U
Vanadium	mg/kg	12	12	41	43	35	39	37	32	34	38	--	36	33	15 J	45
Zinc	mg/kg	14	13	38	41	40	44	43	39	38	41	--	35	36	20 J	43
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-67
	SAMPLE	BH-66-10105	BH-66-10106	BH-66-10107	BH-66-10108	BH-66-10109	BH-66-10110	BH-66-10111	BH-66-10112	BH-66-10113	BH-66-10114	BH-66-50004	BH-66-10116	BH-66-10115	BH-66-50003	BH-67-10201
	DATE	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011	4/14/2011	4/14/2011	4/12/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		19	29	39	49	59	69	79	89	99	109	119	129	119	14	0
SAMPLE BOTTOM DEPTH (FT)		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1221	ug/kg	34 U	34 U	34 U	34 U	35 U	36 U	35 U	35 U	35 U	35 U	--	35 U	34 U	--	36 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1254	ug/kg	38	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	18 U	17 U	18 U	18 U	17 U	--	18 U	17 U	--	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18 U
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	18 U
Total PCBs	ug/kg	63.5	34 U	34 U	34 U	34 U	36 U	34 U	36 U	36 U	34 U	--	36 U	34 U	--	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3	5.3 U	--	5.4 U	5.2 U	--	5.4 U
2-Methyl naphthalene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	12 J
Acenaphthene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Acenaphthylene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
B(a)P Equivalent	ug/kg	6.3	6 U	6 U	6 U	6.1 U	6.2 U	6 U	6.1 U	6.1	6.1 U	--	6.2 U	6 U	--	6.2
Benzo (a) anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Benzo (a) pyrene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Benzo (b) fluoranthene	ug/kg	6.5	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Benzo (ghi) perylene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Benzo (k) fluoranthene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Chrysene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Fluoranthene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Fluorene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-67
	SAMPLE	BH-66-10105	BH-66-10106	BH-66-10107	BH-66-10108	BH-66-10109	BH-66-10110	BH-66-10111	BH-66-10112	BH-66-10113	BH-66-10114	BH-66-50004	BH-66-10116	BH-66-10115	BH-66-50003	BH-67-10201
	DATE	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011	4/14/2011	4/14/2011	4/12/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		19	29	39	49	59	69	79	89	99	109	119	129	119	14	0
SAMPLE BOTTOM DEPTH (FT)		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
PAH High molecular weight	ug/kg	11.6	0	0	0	0	0	0	0	0	0	--	0	0	--	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	5.3	0	--	0	0	--	12
Phenanthrene	ug/kg	5.1 U	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Pyrene	ug/kg	5.1	5.2 U	5.2 U	5.2 U	5.3 U	5.4 U	5.2 U	5.3 U	5.3 U	5.3 U	--	5.4 U	5.2 U	--	5.4 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2-Chlorophenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2-Methylphenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
2-Nitrophenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
2,4-Dimethylphenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
2,4-Dinitrotoluene	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2,6-Dinitrotoluene	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
3,3'-Dichlorobenzidene	ug/kg	680 U	690 U	680 U	680 U	700 U	700 U	700 U	700 U	700 U	700 U	--	710 U	680 U	680 U	720 U
4-Bromophenyl phenyl ether	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
4-Chloro-3-methylphenol	ug/kg	680 U	690 U	680 U	690 U	700 U	700 U	700 U	700 U	700 U	700 U	--	710 U	680 U	680 U	720 U
4-Chloroaniline	ug/kg	680 U	690 U	680 U	690 U	700 U	700 U	700 U	700 U	700 U	700 U	--	710 U	680 U	680 U	720 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
4-Methylphenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
Benzyl alcohol	ug/kg	680 U	690 U	680 U	690 U	700 U	700 U	700 U	700 U	700 U	700 U	--	710 U	680 U	680 U	720 U
bis (2-chloroethoxy) methane	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Butylbenzylphthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Di-n-octyl phthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Dibenzofuran	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Diethyl phthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Dimethyl phthalate	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Hexachlorobenzene	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Hexachloroethane	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
N-nitrosodiphenylamine	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	--	1800 U	1700 U	--	1800 U
Phenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	40	10 U	10 U	10 U	11 U	11 U	10 U	11 U	11 U	10 U	--	11 U	10 U	--	12

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-67
	SAMPLE	BH-66-10105	BH-66-10106	BH-66-10107	BH-66-10108	BH-66-10109	BH-66-10110	BH-66-10111	BH-66-10112	BH-66-10113	BH-66-10114	BH-66-50004	BH-66-10116	BH-66-10115	BH-66-50003	BH-67-10201
	DATE	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011	4/14/2011	4/14/2011	4/12/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		19	29	39	49	59	69	79	89	99	109	119	129	119	14	0
SAMPLE BOTTOM DEPTH (FT)		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.3 U	1 U	0.85 U	1.1 U	0.99 U	1 U	0.98 U	1 U	0.99 U	0.98 U	0.93 U	1.1 U	--	--	1 U
TPH as motor oil	mg/kg	92	10 U	10 U	10 U	11 U	11 U	10 U	11 U	11 U	10 U	--	11 U	10 U	--	22
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1-Dichloroethene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1-Dichloropropene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1,1-Trichloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1,1,2-Tetrachloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1,2-Trichloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,1,2,2-Tetrachloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2-Dibromo-3-chloropropane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2-Dibromoethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2-Dichlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2-Dichloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2-Dichloropropane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2,3-Trichlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2,3-Trichloropropane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2,4-Trichlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,2,4-Trimethylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,3-Dichlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,3-Dichloropropane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,3,5-Trimethylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,4-Dichlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
2,4,5-Trichlorophenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
2,4,6-Trichlorophenol	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
4-Isopropyltoluene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Acetone	ug/kg	56 U	51 U	47 U	45 U	43 U	44 U	60 U	54 U	60 U	52 U	--	46 U	49 U	--	46 U
Acrolein	ug/kg	110 U	100 U	95 U	91 U	85 U	88 U	120 U	110 U	120 U	100 U	--	91 U	98 U	--	93 U
Acrylonitrile	ug/kg	56 U	51 U	47 U	45 U	43 U	44 U	60 U	54 U	60 U	52 U	--	46 U	49 U	--	46 U
Benzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
bis (2-chloroethyl) ether	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Bromobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Bromochloromethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Bromodichloromethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Bromoform	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Bromomethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Carbon disulfide	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Carbon tetrachloride	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Chloro methane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Chlorobenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Chloroethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Chloroform	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
cis-1,2-Dichloroethene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
cis-1,3-Dichloropropene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-66	BH-67
	SAMPLE	BH-66-10105	BH-66-10106	BH-66-10107	BH-66-10108	BH-66-10109	BH-66-10110	BH-66-10111	BH-66-10112	BH-66-10113	BH-66-10114	BH-66-50004	BH-66-10116	BH-66-10115	BH-66-50003	BH-67-10201
	DATE	4/12/2011	4/12/2011	4/12/2011	4/12/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/13/2011	4/14/2011	4/14/2011	4/14/2011	4/12/2011	3/17/2011
SAMPLE TOP DEPTH (FT)		19	29	39	49	59	69	79	89	99	109	119	129	119	14	0
SAMPLE BOTTOM DEPTH (FT)		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		20	30	40	50	60	70	80	90	100	110	120	130	120	15	0.5
	SAMPLE TYPE											Field Duplicate			Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Dichlorodifluoromethane	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Ethyl- benzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Hexachlorobutadiene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
Isopropylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	56 U	51 U	47 U	45 U	43 U	44 U	60 U	54 U	60 U	52 U	--	46 U	49 U	--	46 U
Methyl isobutyl ketone	ug/kg	56 U	51 U	47 U	45 U	43 U	44 U	60 U	54 U	60 U	52 U	--	46 U	49 U	--	46 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
N-Butylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
N-Propylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Nitrobenzene	ug/kg	340 U	340 U	340 U	340 U	350 U	350 U	350 U	350 U	350 U	350 U	--	350 U	340 U	--	360 U
p-Chlorotoluene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
sec-Butylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Styrene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
tert-Butylbenzene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Tetrachloroethene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Toluene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
trans-1,2-Dichloroethene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
trans-1,3-Dichloropropene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Trichloroethene	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Vinyl chloride	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Xylene, m,p-	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Xylene, o-	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U
Xylenes, total	ug/kg	5.6 U	5.1 U	4.7 U	4.5 U	4.3 U	4.4 U	6 U	5.4 U	6 U	5.2 U	--	4.6 U	4.9 U	--	4.6 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67
	SAMPLE	BH-67-10202	BH-67-10203	BH-67-10204	BH-67-10205	BH-67-10206	BH-67-10207	BH-67-10208	BH-67-10209	BH-67-10210	BH-67-10211	BH-67-10212	BH-67-10213	BH-67-10214	BH-67-10215	BH-67-10216
	DATE	3/17/2011	3/17/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011
SAMPLE TOP DEPTH (FT)		2	5	9	14	19	29	39	49	59	69	79	89	99	109	119
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	0.28 J	0.27 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	0.26 U	0.21 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.099 U	0.15 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.1 U	0.16 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.082 U	0.094 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.13 U	0.18 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.15 U	0.13 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.18 U	0.22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.25 J	0.33 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.13 U	0.16 J	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.19 U	0.15 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	0.036 U	0.12 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.16 U	0.27 J	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.15 U	0.15 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.33 U	0.35 U	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	0.9 U	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	0.22 U	0.22 U	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	0.47	0.72	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	0.26	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	0.26	0.37	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	8.4	9.4	9.6	9.1	9.1	9.2	9.4	9.2	8	8.4	8.2	8.5	8.8	8.2	8.6
Solids	PERC	93.9	98.5	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2.1 U	2.3 U	2.1 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	2.9	1.9	2.8	2.1	2.6	1 U	1.9	2.7	8.8	2.3	6.9	4.3	3.4	1.6	3
Barium	mg/kg	240	27	66	35	110	220	15	110	190	110	180	74	46	48	44
Beryllium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Cadmium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.4 U	0.42 U	0.41 U	0.41 U	0.41 U	0.4 U	0.42 U	0.47 U	0.41 U	0.44 U	0.78	0.41 U	0.41 U	0.42 U
Chromium, total	mg/kg	11	2.8	4.4	2.4	6.6	18	2.4	12	18	3.2	13	22	22	31	20
Cobalt	mg/kg	5.2	1.4	2.3	1 U	2.2	14	1.1	3.3	4.9	1.4	4.5	8.7	9.5	12	9.7
Copper	mg/kg	3.5	2 U	2.1 U	2 U	2.2	4.5	2 U	2.7	12	2.1 U	6.3	7.1	7.8	8.4	6.6
Lead	mg/kg	1.8	2.2	2.6	1.7	2.6	1 U	2	2.8	10	2.6	6.9	4.4	2.9	3.5	2.9
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.12 U	0.1 U	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.1 U	1 U	1 U	1 U	1.2	4.6	1 U	2.2	3.5	1 U	2.2 U	3.2	3.4	4.9	3.5
Nickel	mg/kg	7.6	2.3	4	1.4	3.3	12	1.5	4.5	13	2	9.3	17	15	19	14
Selenium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Silver	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2 U	2.1 U	2.3 U	2.1 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	31	11	14	7.2	14	56	10	20	28	8.1	23	41	43	52	43
Zinc	mg/kg	28	6.7	12	5.7	12	69	5.5	17	50	7.8	34	39	40	50	44
Metals CLP																
Aluminum	mg/kg	7200	1100	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	23000	22000	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	15000	3600	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	5400	2900	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	210	73	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67
	SAMPLE	BH-67-10202	BH-67-10203	BH-67-10204	BH-67-10205	BH-67-10206	BH-67-10207	BH-67-10208	BH-67-10209	BH-67-10210	BH-67-10211	BH-67-10212	BH-67-10213	BH-67-10214	BH-67-10215	BH-67-10216
	DATE	3/17/2011	3/17/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011
SAMPLE TOP DEPTH (FT)		2	5	9	14	19	29	39	49	59	69	79	89	99	109	119
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	2200	400	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	430	280	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	35 U	33 U	34 U	34 U	34 U	34 U	33 U	35 U	39 U	34 U	36 U	36 U	34 U	34 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U	19 U	17 U	18 U	18 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	17 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	38 U	34 U	36 U	36 U	34 U	34 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
2-Methyl naphthalene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Acenaphthene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Acenaphthylene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Anthracene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
B(a)P Equivalent	ug/kg	6.1 U	5.8 U	6 U	5.9 U	5.9 U	5.9 U	5.9 U	6 U	6.8 U	6 U	6.4 U	6.4 U	6 U	6 U	6 U
Benzo (a) anthracene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Benzo (a) pyrene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Benzo (ghi) perylene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Chrysene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Fluoranthene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Fluorene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67
	SAMPLE	BH-67-10202	BH-67-10203	BH-67-10204	BH-67-10205	BH-67-10206	BH-67-10207	BH-67-10208	BH-67-10209	BH-67-10210	BH-67-10211	BH-67-10212	BH-67-10213	BH-67-10214	BH-67-10215	BH-67-10216
	DATE	3/17/2011	3/17/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011
SAMPLE TOP DEPTH (FT)		2	5	9	14	19	29	39	49	59	69	79	89	99	109	119
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
PAH High molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenanthrene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Pyrene	ug/kg	5.3 U	5 U	5.2 U	5.1 U	5.1 U	5.1 U	5.1 U	5.2 U	5.9 U	5.2 U	5.5 U	5.5 U	5.2 U	5.2 U	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	740 UJ	700 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	740 UJ	700 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 UJ	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	740 U	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	700 U	660 U	690 U	690 U	670 U	670 U	670 U	690 U	780 U	690 U	730 U	690 U	690 U	690 U	680 U
4-Bromophenyl phenyl ether	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	700 U	660 U	690 U	670 U	670 U	670 U	670 U	690 U	780 U	690 U	730 U	720 U	690 U	690 U	680 U
4-Chloroaniline	ug/kg	700 U	660 U	690 U	670 U	670 U	670 U	670 U	690 U	780 U	690 U	730 U	720 U	690 U	690 U	680 U
4-Chlorophenyl phenyl ether	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	740 UJ	700 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	740 U	700 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	740 UJ	700 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	700 U	660 U	690 U	670 U	670 U	670 U	670 U	690 U	780 U	690 U	730 U	720 U	690 U	690 U	680 U
bis (2-chloroethoxy) methane	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Butylbenzylphthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Caprolactam	ug/kg	350 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	350 U	330 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Dibenzofuran	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 UJ	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1900 U	1700 U	1800 U	1800 U	1700 U	1700 U	1700 U
Phenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	12 U	10 U	11 U	11 U	10 U	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67
	SAMPLE	BH-67-10202	BH-67-10203	BH-67-10204	BH-67-10205	BH-67-10206	BH-67-10207	BH-67-10208	BH-67-10209	BH-67-10210	BH-67-10211	BH-67-10212	BH-67-10213	BH-67-10214	BH-67-10215	BH-67-10216
	DATE	3/17/2011	3/17/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011
SAMPLE TOP DEPTH (FT)		2	5	9	14	19	29	39	49	59	69	79	89	99	109	119
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1 U	1.2 U	1.1 U	1.1 U	1.4 U	1 U	1.3 U	1.1 U	1.1 U	1.2 U	1.1 U	0.99 U	0.98 U	1.1 U	0.92 U
TPH as motor oil	mg/kg	11 U	10 U	10 U	10 U	15	10 U	10 U	10 U	12 U	10 U	11 U	11 U	10 U	10 U	10 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1-Dichloroethene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1-Dichloropropene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1,1-Trichloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1,1,2-Tetrachloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1,2-Trichloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,1,2,2-Tetrachloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2-Dibromo-3-chloropropane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2-Dibromoethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2-Dichlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2-Dichloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2-Dichloropropane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2,3-Trichlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2,3-Trichloropropane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2,4-Trichlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,2,4-Trimethylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,3-Dichlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,3-Dichloropropane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,3,5-Trimethylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,4-Dichlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
2-Hexanone	ug/kg	51 U	56 U	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
2,4,5-Trichlorophenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Acetone	ug/kg	51 U	56 U	53 U	55 U	54 U	49 U	57 U	50 U	46 U	58 U	53 U	45 U	44 U	65 U	47 U
Acrolein	ug/kg	100 U	110 U	110 U	110 U	110 U	97 U	110 U	99 U	92 U	120 U	110 U	90 U	88 U	130 U	95 U
Acrylonitrile	ug/kg	51 U	56 U	53 U	55 U	54 U	49 U	57 U	50 U	46 U	58 U	53 U	45 U	44 U	65 U	47 U
Benzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
bis (2-chloroethyl) ether	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Bromobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Bromochloromethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Bromodichloromethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Bromoform	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Bromomethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Carbon disulfide	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Carbon tetrachloride	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Chloro methane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Chlorobenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Chloroethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Chloroform	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
cis-1,2-Dichloroethene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
cis-1,3-Dichloropropene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Cyclohexane	ug/kg	4.9 U	5.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67	BH-67
	SAMPLE	BH-67-10202	BH-67-10203	BH-67-10204	BH-67-10205	BH-67-10206	BH-67-10207	BH-67-10208	BH-67-10209	BH-67-10210	BH-67-10211	BH-67-10212	BH-67-10213	BH-67-10214	BH-67-10215	BH-67-10216
	DATE	3/17/2011	3/17/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011	4/29/2011
SAMPLE TOP DEPTH (FT)		2	5	9	14	19	29	39	49	59	69	79	89	99	109	119
SAMPLE BOTTOM DEPTH (FT)		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	10	15	20	30	40	50	60	70	80	90	100	110	120
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Dichlorodifluoromethane	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Ethyl- benzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Hexachlorobutadiene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Hexachlorocyclopentadiene	ug/kg	700 UJ	660 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	6.3	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Methyl acetate	ug/kg	4.9 U	5.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	51 U	56 U	53 U	55 U	54 U	49 U	57 U	50 U	46 U	58 U	53 U	45 U	44 U	65 U	47 U
Methyl isobutyl ketone	ug/kg	51 U	56 U	53 U	55 U	54 U	49 U	57 U	50 U	46 U	58 U	53 U	45 U	44 U	65 U	47 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Methylcyclohexane	ug/kg	4.9 U	5.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
N-Butylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
N-Propylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Nitrobenzene	ug/kg	350 U	330 U	340 U	340 U	340 U	340 U	330 U	350 U	390 U	340 U	360 U	360 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
sec-Butylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Styrene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
tert-Butylbenzene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Tetrachloroethene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Toluene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
trans-1,2-Dichloroethene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
trans-1,3-Dichloropropene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Trichloroethene	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Vinyl chloride	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Xylene, m,p-	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Xylene, o-	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U
Xylenes, total	ug/kg	5.1 U	5.6 U	5.3 U	5.5 U	5.4 U	4.9 U	5.7 U	5 U	4.6 U	5.8 U	5.3 U	4.5 U	4.4 U	6.5 U	4.7 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68
	SAMPLE	BH-67-10217	BH-67-10218	BH-67-10219	BH-67-10220	BH-67-50007	BH-68-50009	BH-68-10303	BH-68-10301	BH-68-10302	BH-68-10304	BH-68-10305	BH-68-10306	BH-68-10307	BH-68-10308	BH-68-10309
	DATE	4/30/2011	4/30/2011	4/30/2011	4/30/2011	4/30/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
SAMPLE TOP DEPTH (FT)		129	139	149	159	139	0	0	2	5	9	14	19	29	39	49
SAMPLE BOTTOM DEPTH (FT)		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
	SAMPLE TYPE					Field Duplicate	Field Duplicate									
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	0.73 J	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	0.82 J	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	0.63 J	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	0.13 U	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	0.065 U	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	0.05 U	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	0.46 J	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	0.26 U	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	0.72 J	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	0.59 J	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	0.11 U	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	0.73 J	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	0.91 J	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	0.13 U	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	0.33 U	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	7.4 J	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	0.38 U	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	8.5	8.8	8.3	8.3	--	8	--	9.6	9.4	8.4	9.3	9.3	9.2	9.3	9.2
Solids	PERC	--	--	--	--	--	--	91.9	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	--	--	2.2 U	2.1 U	2.3 U	0.26 UJ	0.25 U	0.27 U	0.26 U	0.27 U	0.26 U
Arsenic	mg/kg	3.3	--	2.9	2.4	3.1	--	3.8	3.7	1.8	4.6	1.8	3	2.7	2.6	1.8
Barium	mg/kg	90	39	510	35	--	--	130	55	51	130	14	200	52	55	46
Beryllium	mg/kg	1 U	1 U	1 U	1 U	--	--	1.1 U	1.1 U	1.2 U	0.61	0.25 U	0.46	0.45	0.51	0.37
Cadmium	mg/kg	1 U	1 U	1 U	1 U	--	--	1.1 U	1.1 U	1.2 U	0.26 U	0.25 U	0.27 U	0.26 U	0.27 U	0.26 U
Chromium, Hexavalent	mg/kg	0.42 U	0.42 U	0.41 U	0.41 U	--	--	0.43 U	0.42 U	0.47 U	0.42 U	0.41 U	0.42 U	0.42 U	0.42 U	0.41 U
Chromium, total	mg/kg	26	--	17	19	19	22	--	4.2	4.6	12 J	2.8	31	35	32	16
Cobalt	mg/kg	9.5	--	8.9	10	8.9	7.4	--	1.9	1.9	5.8 J	1.1	8.8	8.8	8.8	6.3
Copper	mg/kg	12	--	10 U	7.3	6.5	12	--	2.1 U	2.5	8.5 J	2	10	12	16	8.5
Lead	mg/kg	2.6	--	1.5	2.3	2.6	5.6	--	2.5	3.5	12 J	2	3.8	3.3	4.5	2.7
Mercury	mg/kg	0.11 U	0.1 U	0.1 U	0.1 U	--	--	0.11 U	0.11 U	0.12 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U
Molybdenum	mg/kg	4.3	--	3.3	3.9	4.2	--	1.1 U	1.1 U	1.2 U	1.2	0.92	0.55	0.45	0.47	0.46
Nickel	mg/kg	17	--	12	13	13	19	--	4.2	3.8	13 J	2.4	21	27	27	12
Selenium	mg/kg	1 U	1 U	1 U	1 U	--	--	1.1 U	1.1 U	1.2 U	0.26 U	0.25 U	0.27 U	0.26 U	0.27 U	0.26 U
Silver	mg/kg	1 U	1 U	1 U	1 U	--	--	1.1 U	1.1 U	1.2 U	0.26 U	0.25 U	0.27 U	0.26 U	0.27 U	0.26 U
Thallium	mg/kg	2.1 U	2.1 U	2.1 U	2.1 U	--	--	2.2 U	2.1 U	2.3 U	0.26 U	0.25 U	0.27 U	0.26 U	0.27 U	0.26 U
Vanadium	mg/kg	41	--	37	44	40	35	--	11	12	27	6.7	39	41	42	29
Zinc	mg/kg	42	--	36	41	43	33	--	11	13	31	6.3	38	38	41	35
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	2000	3100	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	6900	20000	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	6700	5000	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	2600	3600	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	70	130	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68
	SAMPLE	BH-67-10217	BH-67-10218	BH-67-10219	BH-67-10220	BH-67-50007	BH-68-50009	BH-68-10303	BH-68-10301	BH-68-10302	BH-68-10304	BH-68-10305	BH-68-10306	BH-68-10307	BH-68-10308	BH-68-10309
	DATE	4/30/2011	4/30/2011	4/30/2011	4/30/2011	4/30/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
SAMPLE TOP DEPTH (FT)		129	139	149	159	139	0	0	2	5	9	14	19	29	39	49
SAMPLE BOTTOM DEPTH (FT)		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
	SAMPLE TYPE					Field Duplicate	Field Duplicate									
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	540	940	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	320	560	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1221	ug/kg	35 U	35 U	34 U	34 U	--	--	36 U	35 U	38 U	35 U	34 U	35 U	35 U	35 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	--	--	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	18 U	17 U	19 U	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	18 U	17 U	19 U	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	34 U	34 U	--	--	36 U	34 U	38 U	34 U	34 U	34 U	34 U	36 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
2-Methyl naphthalene	ug/kg	52 U	--	52 U	52 U	52 U	--	5.4 U	5.3 U	5.8 U	53 U	51 U	53 U	53 U	53 U	52 U
Acenaphthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Acenaphthylene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
B(a)P Equivalent	ug/kg	6 U	--	6 U	6 U	6 U	--	6.2 U	6.1 U	6.7 U	6.1 U	5.9 U	6.1 U	6.1 U	6.1 U	6 U
Benzo (a) anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Benzo (a) pyrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Benzo (b) fluoranthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Benzo (ghi) perylene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Benzo (k) fluoranthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Chrysene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Fluoranthene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Fluorene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68
	SAMPLE	BH-67-10217	BH-67-10218	BH-67-10219	BH-67-10220	BH-67-50007	BH-68-50009	BH-68-10303	BH-68-10301	BH-68-10302	BH-68-10304	BH-68-10305	BH-68-10306	BH-68-10307	BH-68-10308	BH-68-10309
	DATE	4/30/2011	4/30/2011	4/30/2011	4/30/2011	4/30/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
SAMPLE TOP DEPTH (FT)		129	139	149	159	139	0	0	2	5	9	14	19	29	39	49
SAMPLE BOTTOM DEPTH (FT)		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
	SAMPLE TYPE					Field Duplicate	Field Duplicate									
ANALYTE	UNITS															
Naphthalene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.3 U	5.8 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
PAH High molecular weight	ug/kg	0	0	0	0	--	--	0	0	0	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	0	0	0	--	--	0	0	0	0	0	0	0	0	0
Phenanthrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Pyrene	ug/kg	5.2 U	--	5.2 U	5.2 U	5.2 U	--	5.4 U	5.3 U	5.8 U	5.3 U	5.1 U	5.3 U	5.3 U	5.3 U	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	740 UJ	810 UJ	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	740 UJ	810 UJ	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2-Chlorophenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2-Methylphenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
2-Nitrophenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	740 U	810 U	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
2,4-Dimethylphenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
2,4-Dinitrotoluene	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2,6-Dinitrotoluene	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
3,3-Dichlorobenzidene	ug/kg	690 U	690 U	680 U	680 U	--	710 U	--	700 U	770 U	690 U	670 U	700 U	690 U	700 U	680 U
4-Bromophenyl phenyl ether	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
4-Chloro-3-methylphenol	ug/kg	690 U	690 U	680 U	680 U	--	710 U	--	700 U	770 U	690 U	670 U	700 U	690 U	700 U	680 U
4-Chloroaniline	ug/kg	690 U	690 U	680 U	680 U	--	710 U	--	700 U	770 U	690 U	670 U	700 U	690 U	700 U	680 U
4-Chlorophenyl phenyl ether	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
4-Methylphenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	740 UJ	810 UJ	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	740 U	810 U	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	740 UJ	810 UJ	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
Benzyl alcohol	ug/kg	690 U	690 U	680 U	680 U	--	710 U	--	700 U	770 U	690 U	670 U	700 U	690 U	700 U	680 U
bis (2-chloroethoxy) methane	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Butylbenzylphthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	350 U	380 U	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	350 U	380 U	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Di-n-octyl phthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Dibenzofuran	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Diethyl phthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Dimethyl phthalate	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Hexachlorobenzene	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Hexachloroethane	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
N-nitrosodiphenylamine	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	--	--	1800 U	1700 U	1900 U	1700 U	1700 U	1700 U	1700 U	1800 U	1700 U
Phenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	--	10 U	10 U	10 U	--	11 U	11 U	12 U	11 U	10 U	11 U	11 U	11 U	10 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68
	SAMPLE	BH-67-10217	BH-67-10218	BH-67-10219	BH-67-10220	BH-67-50007	BH-68-50009	BH-68-10303	BH-68-10301	BH-68-10302	BH-68-10304	BH-68-10305	BH-68-10306	BH-68-10307	BH-68-10308	BH-68-10309
	DATE	4/30/2011	4/30/2011	4/30/2011	4/30/2011	4/30/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
SAMPLE TOP DEPTH (FT)		129	139	149	159	139	0	0	2	5	9	14	19	29	39	49
SAMPLE BOTTOM DEPTH (FT)		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
	SAMPLE TYPE					Field Duplicate	Field Duplicate									
ANALYTE	UNITS															
TPH as gasoline	mg/kg	0.99 U	0.9 U	1 U	0.97 U	--	0.96 U	--	1.1 U	1.1 U	1.2 U	1.3 U	1.1 U	0.94 U	1.2 U	0.96 U
TPH as motor oil	mg/kg	10 U	--	10 U	10 U	10 U	--	12	11 U	12 U	11 U	10 U	11 U	11 U	11 U	10 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1-Dichloroethene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1-Dichloropropene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1,1-Trichloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1,1,2-Tetrachloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1,2-Trichloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,1,2,2-Tetrachloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2-Dibromo-3-chloropropane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2-Dibromoethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2-Dichlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2-Dichloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2-Dichloropropane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2,3-Trichlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2,3-Trichloropropane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2,4-Trichlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,2,4-Trimethylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,3-Dichlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,3-Dichloropropane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,3,5-Trimethylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,4-Dichlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	57 U	59 U	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
2,4,5-Trichlorophenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
2,4,6-Trichlorophenol	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
4-Isopropyltoluene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Acetone	ug/kg	57 U	46 U	44 U	48 U	--	46 U	--	57 U	59 U	61 U	56 U	50 U	52 U	52 U	48 U
Acrolein	ug/kg	110 U	93 U	88 U	97 U	--	91 U	--	110 U	120 U	120 U	110 U	99 U	100 U	100 U	96 U
Acrylonitrile	ug/kg	57 U	46 U	44 U	48 U	--	46 U	--	57 U	59 U	61 U	56 U	50 U	52 U	52 U	48 U
Benzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
bis (2-chloroethyl) ether	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Bromobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Bromochloromethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Bromodichloromethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Bromoform	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Bromomethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Carbon disulfide	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Carbon tetrachloride	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Chloro methane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Chlorobenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Chloroethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Chloroform	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
cis-1,2-Dichloroethene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
cis-1,3-Dichloropropene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	5.8 U	5.8 U	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-67	BH-67	BH-67	BH-67	BH-67	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68
	SAMPLE	BH-67-10217	BH-67-10218	BH-67-10219	BH-67-10220	BH-67-50007	BH-68-50009	BH-68-10303	BH-68-10301	BH-68-10302	BH-68-10304	BH-68-10305	BH-68-10306	BH-68-10307	BH-68-10308	BH-68-10309
	DATE	4/30/2011	4/30/2011	4/30/2011	4/30/2011	4/30/2011	3/17/2011	3/17/2011	3/17/2011	3/17/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011
SAMPLE TOP DEPTH (FT)		129	139	149	159	139	0	0	2	5	9	14	19	29	39	49
SAMPLE BOTTOM DEPTH (FT)		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		130	140	150	160	140	0.5	0.5	3	6	10	15	20	30	40	50
	SAMPLE TYPE					Field Duplicate	Field Duplicate									
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Dichlorodifluoromethane	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Ethyl- benzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Hexachlorobutadiene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	700 UJ	770 UJ	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
Isopropylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Methyl acetate	ug/kg	--	--	--	--	--	--	--	5.8 U	5.8 U	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	57 U	46 U	44 U	48 U	--	46 U	--	57 U	59 U	61 U	56 U	50 U	52 U	52 U	48 U
Methyl isobutyl ketone	ug/kg	57 U	46 U	44 U	48 U	--	46 U	--	57 U	59 U	61 U	56 U	50 U	52 U	52 U	48 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	5.8 U	5.8 U	--	--	--	--	--	--
Methylene chloride	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
N-Butylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
N-Propylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Nitrobenzene	ug/kg	340 U	350 U	340 U	340 U	--	--	360 U	350 U	380 U	350 U	340 U	350 U	350 U	350 U	340 U
p-Chlorotoluene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
sec-Butylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Styrene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
tert-Butylbenzene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Tetrachloroethene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Toluene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
trans-1,2-Dichloroethene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
trans-1,3-Dichloropropene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Trichloroethene	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Vinyl chloride	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Xylene, m,p-	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Xylene, o-	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U
Xylenes, total	ug/kg	5.7 U	4.6 U	4.4 U	4.8 U	--	4.6 U	--	5.7 U	5.9 U	6.1 U	5.6 U	5 U	5.2 U	5.2 U	4.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-69	BH-69	BH-69
	SAMPLE	BH-68-10310	BH-68-10311	BH-68-10312	BH-68-10313	BH-68-10314	BH-68-10315	BH-68-10316	BH-68-10317	BH-68-10318	BH-68-10319	BH-68-10320	BH-68-50010	BH-69-10401	BH-69-10402	BH-69-10403
	DATE	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/14/2011	5/14/2011	5/14/2011	5/13/2011	3/18/2011	3/18/2011	5/31/2011
SAMPLE TOP DEPTH (FT)		59	69	79	89	99	109	119	129	139	149	159	99	0	2	5
SAMPLE BOTTOM DEPTH (FT)		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	1900	930	1.5 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	300 U	140 U	1.3 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	16	8.2 J	0.45 U
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	12 J	6.8 J	0.37 U
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	12 J	5.2 J	0.64 U
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	55	28	0.61 U
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	9.4 U	0.34 U
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.6 J	3.9 J	0.16 U
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.12 U	0.053 U	0.36 U
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	27	14	0.58 U
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.7 J	1.9 J	0.88 J
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	12 J	6.7 J	0.59 J
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	3.8 J	2.8 J	0.11 U
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.78 U	0.34 U	0.13 U
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	2.4 J	1.4 U	0.59 U
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	16000	8200	6.3 UJ
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	270	94	4.4 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	26	14	0.76
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	47	25	0.49
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	47	25	0.49
General																
pH	PHUNITS	9.2	9.1	9.1	9.1	9.1	9.1	9	9	8.6	8.6	8.4	--	9	9.1	9.7
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	94.6	89.9	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.26 U	0.27 U	0.26 U	0.26 U	--	2.1 U	2.2 U	2 U
Arsenic	mg/kg	2.6	2.3	2.5	3.3	3.2	1.9	2.4	2.1	3.8	3.8	2.9	--	3.1	2.7	1.7
Barium	mg/kg	100	200	58	44	--	32	58	24	120	68	34	54	140	89	250
Beryllium	mg/kg	0.5	0.53	0.55	0.66	0.67	0.42	0.51	0.39	0.61	0.5	0.41	--	1 U	1.1 U	1 U
Cadmium	mg/kg	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.3	0.27 U	0.26 U	0.26 U	--	1 U	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.42 U	0.42 U	0.42 U	0.43 U	--	0.42 U	0.43 U	0.42 U	0.43 U	0.42 U	0.42 U	0.43 U	0.72	0.45 U	0.41 U
Chromium, total	mg/kg	22	26	36	28	--	16	25	15	45	48	22	38	58	49	63
Cobalt	mg/kg	7.7	8.8	8.6	7.9	--	6.1	8	6.3	11	11	8.8	8.6	12	11	11
Copper	mg/kg	12	13	13	14	18	11	16	8.4	19	19	13	--	20	14	29
Lead	mg/kg	3.8	4.2	4	5.9	5.3	3.4	4.2	2.8	6.1	4.3	3.2	--	9.6	7.4	3.9
Mercury	mg/kg	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	--	0.1 U	0.11 U	0.1 U
Molybdenum	mg/kg	0.45	0.5	0.49	0.62	--	0.38	0.49	0.3	0.87	0.76	0.43	0.68	1 U	1.1 U	1
Nickel	mg/kg	18	20	24	23	--	13	20	12	35	39	19	32	35	33	46
Selenium	mg/kg	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.26 U	0.27 U	0.26 U	0.26 U	--	1 U	1.1 U	1 U
Silver	mg/kg	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.26 U	0.27 U	0.26 U	0.26 U	--	1 U	1.1 U	1 U
Thallium	mg/kg	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.26 U	0.27 U	0.26 U	0.26 U	--	2.1 U	2.2 U	2 U
Vanadium	mg/kg	35	41	40	41	45	31	41	29	48	50	38	--	50	45	55
Zinc	mg/kg	36	39	41	38	44	31	38	31	46	42	38	--	73	61	49
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17000	20000
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	28000	62000
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.26 U
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	23000	30000
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	12000	16000
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	360	520

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-69	BH-69	BH-69
	SAMPLE	BH-68-10310	BH-68-10311	BH-68-10312	BH-68-10313	BH-68-10314	BH-68-10315	BH-68-10316	BH-68-10317	BH-68-10318	BH-68-10319	BH-68-10320	BH-68-50010	BH-69-10401	BH-69-10402	BH-69-10403
	DATE	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/14/2011	5/14/2011	5/14/2011	5/13/2011	3/18/2011	3/18/2011	5/31/2011
SAMPLE TOP DEPTH (FT)		59	69	79	89	99	109	119	129	139	149	159	99	0	2	5
SAMPLE BOTTOM DEPTH (FT)		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	3800	3400
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1700	1500
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	17 U	18 U	17 U
Aroclor 1221	ug/kg	35 U	35 U	35 U	35 U	--	34 U	35 U	35 U	35 U	35 UJ	35 U	35 U	34 U	37 U	34 U
Aroclor 1232	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	17 U	18 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	17 U	18 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	17 U	18 U	17 U
Aroclor 1254	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	67	51	17 U
Aroclor 1260	ug/kg	17 U	17 U	18 U	18 U	18 U	17 U	18 U	17 U	18 U	17 UJ	17 U	--	17 U	18 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	18 U	17 U
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	17 U	18 U	17 U
Total PCBs	ug/kg	34 U	34 U	36 U	36 U	36 U	34 U	36 U	56.5	36 U	34 U	34 U	--	92.5	78	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
2-Methyl naphthalene	ug/kg	53 U	53 U	53 U	53 U	--	52 U	54 U	53 U	53 U	53 U	53 U	54 U	6.3 J	10 J	51 U
Acenaphthene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
Acenaphthylene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
Anthracene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
B(a)P Equivalent	ug/kg	6.1 U	6.1 U	6.1 U	6.1 U	--	6 U	6.2 U	6.1 U	6.1 U	6.1 U	6.1 U	6.2 U	25	17	5.9 U
Benzo (a) anthracene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	12	7.4	5.1 U
Benzo (a) pyrene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	17	10	5.1 U
Benzo (b) fluoranthene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	29	20	5.1 U
Benzo (ghi) perylene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	17	12	5.1 U
Benzo (k) fluoranthene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	10	7.4	5.1 U
Chrysene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	19	12	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
Fluoranthene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	350	20	5.1 U
Fluorene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	5.2 U	5.6 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	15	10	5.1 U

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-69	BH-69	BH-69
	SAMPLE	BH-68-10310	BH-68-10311	BH-68-10312	BH-68-10313	BH-68-10314	BH-68-10315	BH-68-10316	BH-68-10317	BH-68-10318	BH-68-10319	BH-68-10320	BH-68-50010	BH-69-10401	BH-69-10402	BH-69-10403
	DATE	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/14/2011	5/14/2011	5/14/2011	5/13/2011	3/18/2011	3/18/2011	5/31/2011
SAMPLE TOP DEPTH (FT)		59	69	79	89	99	109	119	129	139	149	159	99	0	2	5
SAMPLE BOTTOM DEPTH (FT)		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.2 U	5.6	5.5 U
PAH High molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	0	0	--	497	117	0
PAH Low molecular weight	ug/kg	0	0	0	0	0	0	0	0	0	0	0	--	15.7	21.9	0
Phenanthrene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	9.4	6.3	5.1 U
Pyrene	ug/kg	5.3 U	5.3 U	5.3 U	5.3 U	--	5.2 U	5.4 U	5.3 U	5.3 U	5.3 U	5.3 U	5.4 U	28	18	5.1 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 UJ	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 UJ	720 U
2-Chloro naphthalene	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2-Chlorophenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2-Methylphenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
2-Nitrophenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 U	720 U
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
2,4-Dimethylphenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1700 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
2,4-Dinitrotoluene	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2,6-Dinitrotoluene	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
3-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
3,3-Dichlorobenzidene	ug/kg	700 U	700 U	700 U	700 U	--	690 U	710 U	690 U	700 U	690 U	700 U	710 U	690 U	730 U	680 U
4-Bromophenyl phenyl ether	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
4-Chloro-3-methylphenol	ug/kg	700 U	700 U	700 U	700 U	--	690 U	710 U	690 U	700 U	700 U	690 U	710 U	690 U	730 U	680 U
4-Chloroaniline	ug/kg	700 U	700 U	700 U	700 U	--	690 U	710 U	690 U	700 U	700 U	690 U	710 U	690 U	730 U	680 U
4-Chlorophenyl phenyl ether	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
4-Methylphenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
4-Nitroaniline	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
4-Nitrophenol	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 UJ	720 U
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 U	720 U
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	780 UJ	720 U
Benzoic acid	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
Benzyl alcohol	ug/kg	700 U	700 U	700 U	700 U	--	690 U	710 U	690 U	700 U	700 U	690 U	710 U	690 U	730 U	680 U
bis (2-chloroethoxy) methane	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Butylbenzylphthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	370 U	340 U
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	370 U	340 U
Di-n-butyl phthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Di-n-octyl phthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Dibenzofuran	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Diethyl phthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Dimethyl phthalate	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Hexachlorobenzene	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Hexachloroethane	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
N-nitrosodiphenylamine	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Pentachlorophenol	ug/kg	1700 U	1700 U	1800 U	1800 U	1800 U	1700 U	1800 U	1700 U	1800 U	1700 U	1700 U	--	1700 U	1800 U	1700 U
Phenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	11 U	11 U	11 U	11 U	11 U	10 U	11 U	11 U	11 U	11 U	10 U	--	83	14	10 U

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PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-69	BH-69	BH-69
	SAMPLE	BH-68-10310	BH-68-10311	BH-68-10312	BH-68-10313	BH-68-10314	BH-68-10315	BH-68-10316	BH-68-10317	BH-68-10318	BH-68-10319	BH-68-10320	BH-68-50010	BH-69-10401	BH-69-10402	BH-69-10403
	DATE	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/14/2011	5/14/2011	5/14/2011	5/13/2011	3/18/2011	3/18/2011	5/31/2011
SAMPLE TOP DEPTH (FT)		59	69	79	89	99	109	119	129	139	149	159	99	0	2	5
SAMPLE BOTTOM DEPTH (FT)		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.1 U	1.2 U	0.94 U	0.9 U	--	1 U	1 U	0.91 U	1 U	0.97 U	0.93 U	1 U	1 U	1 U	1 U
TPH as motor oil	mg/kg	11 U	11 U	11 U	11 U	11 U	10 U	11 U	11 U	11 U	11 U	10 U	--	150	33	10 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1-Dichloroethene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1-Dichloropropene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1,1-Trichloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1,1,2-Tetrachloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1,2-Trichloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,1,2,2-Tetrachloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2-Dibromo-3-chloropropane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2-Dibromoethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2-Dichlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2-Dichloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2-Dichloropropane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2,3-Trichlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2,3-Trichloropropane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2,4-Trichlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,2,4-Trimethylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,3-Dichlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,3-Dichloropropane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,3,5-Trimethylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,4-Dichlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	340 U
2-Chlorotoluene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	50 U	55 U
2,2-Dichloropropane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
2,4,5-Trichlorophenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
2,4,6-Trichlorophenol	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
4-Isopropyltoluene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Acetone	ug/kg	51 U	48 U	48 U	55 U	--	57 U	52 U	56 U	52 U	49 U	54 U	44 U	54 U	50 U	55 U
Acrolein	ug/kg	100 U	96 U	96 U	110 U	--	110 U	100 U	110 U	100 U	98 U	110 U	87 U	110 U	100 U	110 U
Acrylonitrile	ug/kg	51 U	48 U	48 U	55 U	--	57 U	52 U	56 U	52 U	49 U	54 U	44 U	54 U	50 U	55 U
Benzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
bis (2-chloroethyl) ether	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Bromobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Bromochloromethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Bromodichloromethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Bromoform	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Bromomethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Carbon disulfide	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Carbon tetrachloride	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Chloro methane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Chlorobenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Chloroethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Chloroform	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
cis-1,2-Dichloroethene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
cis-1,3-Dichloropropene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9 U	4.7 U
Dibromochloromethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-68	BH-69	BH-69	BH-69
	SAMPLE	BH-68-10310	BH-68-10311	BH-68-10312	BH-68-10313	BH-68-10314	BH-68-10315	BH-68-10316	BH-68-10317	BH-68-10318	BH-68-10319	BH-68-10320	BH-68-50010	BH-69-10401	BH-69-10402	BH-69-10403
	DATE	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/14/2011	5/14/2011	5/14/2011	5/13/2011	3/18/2011	3/18/2011	5/31/2011
SAMPLE TOP DEPTH (FT)		59	69	79	89	99	109	119	129	139	149	159	99	0	2	5
SAMPLE BOTTOM DEPTH (FT)		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		60	70	80	90	100	110	120	130	140	150	160	100	0.5	3	6
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Dichlorodifluoromethane	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Ethyl- benzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Hexachlorobutadiene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	730 UJ	680 U
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
Isopropylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Methyl acetate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9 U	4.7 U
Methyl ethyl ketone	ug/kg	51 U	48 U	48 U	55 U	--	57 U	52 U	56 U	52 U	49 U	54 U	44 U	54 U	50 U	55 U
Methyl isobutyl ketone	ug/kg	51 U	48 U	48 U	55 U	--	57 U	52 U	56 U	52 U	49 U	54 U	44 U	54 U	50 U	55 U
Methyl tert-butyl ether (MTBE)	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	4.9 U	4.7 U
Methylene chloride	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
N-Butylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
N-Propylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Nitrobenzene	ug/kg	350 U	350 U	350 U	350 U	--	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	370 U	340 U
p-Chlorotoluene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
sec-Butylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Styrene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
tert-Butylbenzene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Tetrachloroethene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Toluene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
trans-1,2-Dichloroethene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
trans-1,3-Dichloropropene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Trichloroethene	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Trichlorofluoromethane (Freon 11)	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Vinyl chloride	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Xylene, m,p-	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Xylene, o-	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U
Xylenes, total	ug/kg	5.1 U	4.8 U	4.8 U	5.5 U	--	5.7 U	5.2 U	5.6 U	5.2 U	4.9 U	5.4 U	4.4 U	5.4 U	5 U	5.5 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-69	BH-69	BH-69	BH-69	BH-69	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	SAMPLE	BH-69-10404	BH-69-10405	BH-69-10406	BH-69-10407	BH-69-10408	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	DATE	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	11/13/1998	11/13/1998	11/13/1998	4/25/1997	4/25/1997	4/24/1997	4/25/1997	4/24/1997	4/24/1997	4/24/1997
SAMPLE TOP DEPTH (FT)		9	14	19	29	39	2	3	0	3	4.5	0	3	0	0	0
SAMPLE BOTTOM DEPTH (FT)		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	9.6	9.6	9.4	9.7	9.8	9.36	8.7	9.16	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	2 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	2.2	1.9	1.6	1.9	2.8	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	150	170	280	120	170	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	0.42 U	0.41 U	0.41 U	0.4 U	0.43 U	2.5	0.8	32.3	8.3 J	3.4	1.2	1.4	53	16	3.8
Chromium, total	mg/kg	57	45	55	57	48	117	25.7	930	72	35	81	41	2100	330	86
Cobalt	mg/kg	12	10	12	11	8.4	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	25	42	32	46	21	22.3	7.6	33.5	--	--	--	--	--	--	--
Lead	mg/kg	4.3	4	4.2	3.6	4.1	--	--	--	6	4.4	28	5.4	820	200	60
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	1 U	1 U	1 U	1 U	1.1 U	--	--	--	310	52	300	24	720	710	330
Nickel	mg/kg	45	42	43	50	35	19.6	6.1	11.8	--	--	--	--	--	--	--
Selenium	mg/kg	1 U	1 U	1 U	1 U	1.1 U	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg	1 U	1 U	1 U	1 U	1.1 U	--	--	--	--	--	--	--	--	--	--
Thallium	mg/kg	2.1 U	2 U	2 U	2 U	2.1 U	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	59	58	57	74	59	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	53	48	49	50	42	46.9	42.3	53.4	44	20	39	57	180	150	94
Metals CLP																
Aluminum	mg/kg	20000	19000	20000	19000	16000	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	40000	71000	67000	30000	34000	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	0.26 U	0.26 U	0.26 U	0.25 U	0.25 U	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	31000	29000	31000	32000	26000	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	16000	15000	15000	16000	13000	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	420	430	440	410	320	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-69	BH-69	BH-69	BH-69	BH-69	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	SAMPLE	BH-69-10404	BH-69-10405	BH-69-10406	BH-69-10407	BH-69-10408	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	DATE	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	11/13/1998	11/13/1998	11/13/1998	4/25/1997	4/25/1997	4/24/1997	4/25/1997	4/24/1997	4/24/1997	4/24/1997
SAMPLE TOP DEPTH (FT)		9	14	19	29	39	2	3	0	3	4.5	0	3	0	0	0
SAMPLE BOTTOM DEPTH (FT)		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	4000	3400	3600	5500	4500	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	1700	1500	1500	1000	1100	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	35 U	34 U	34 U	34 U	35 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	17 U	17 U	17 U	17 U	18 U	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	34 U	34 U	34 U	36 U	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	53 U	51 U	51 U	51 U	53 U	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	6.1 U	5.9 U	5.9 U	5.9 U	6.1 U	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-69	BH-69	BH-69	BH-69	BH-69	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	SAMPLE	BH-69-10404	BH-69-10405	BH-69-10406	BH-69-10407	BH-69-10408	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	DATE	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	11/13/1998	11/13/1998	11/13/1998	4/25/1997	4/25/1997	4/24/1997	4/25/1997	4/24/1997	4/24/1997	4/24/1997
SAMPLE TOP DEPTH (FT)		9	14	19	29	39	2	3	0	3	4.5	0	3	0	0	0
SAMPLE BOTTOM DEPTH (FT)		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	5.3 U	5.1 U	5.1 U	5.1 U	5.3 U	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	730 U	720 U	710 U	710 U	740 U	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	730 U	720 U	710 U	710 U	740 U	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	690 U	680 U	670 U	670 U	700 U	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	690 U	680 U	670 U	670 U	700 U	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	690 U	680 U	670 U	670 U	700 U	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	730 U	720 U	710 U	710 U	740 U	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	730 U	720 U	710 U	710 U	740 U	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	730 U	720 U	710 U	710 U	740 U	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	690 U	680 U	670 U	670 U	700 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	1700 U	1700 U	1700 U	1800 U	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	10 U	10 U	10 U	11 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-69	BH-69	BH-69	BH-69	BH-69	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	SAMPLE	BH-69-10404	BH-69-10405	BH-69-10406	BH-69-10407	BH-69-10408	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	DATE	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	11/13/1998	11/13/1998	11/13/1998	4/25/1997	4/25/1997	4/24/1997	4/25/1997	4/24/1997	4/24/1997	4/24/1997
SAMPLE TOP DEPTH (FT)		9	14	19	29	39	2	3	0	3	4.5	0	3	0	0	0
SAMPLE BOTTOM DEPTH (FT)		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
	SAMPLE TYPE															
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1.1 U	1.1 U	0.91 U	1 U	0.9 U	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	10 U	10 U	10 U	10 U	11 U	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	54 U	53 U	50 U	64 U	60 U	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	54 U	53 U	50 U	64 U	60 U	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	110 U	110 U	100 U	130 U	120 U	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	54 U	53 U	50 U	64 U	60 U	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	5 U	5.5 U	4.8 U	5.8 U	4.6 U	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	BH-69	BH-69	BH-69	BH-69	BH-69	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	SAMPLE	BH-69-10404	BH-69-10405	BH-69-10406	BH-69-10407	BH-69-10408	JP-10-2	JP-10-3	JP-10-S	JP-1-3	JP-1-4.5	JP-1-S	JP-2-3	JP-2-S	JP-3-S	JP-4-S
	DATE	5/31/2011	5/31/2011	5/31/2011	5/31/2011	5/31/2011	11/13/1998	11/13/1998	11/13/1998	4/25/1997	4/25/1997	4/24/1997	4/25/1997	4/24/1997	4/24/1997	4/24/1997
SAMPLE TOP DEPTH (FT)		9	14	19	29	39	2	3	0	3	4.5	0	3	0	0	0
SAMPLE BOTTOM DEPTH (FT)		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		10	15	20	30	40	2	3	0	3	4.5	0	3	0	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	690 U	680 U	670 U	670 U	700 U	--	--	670 U	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	5 U	5.5 U	4.8 U	ug/kg	4.6 U	--	--	5.8 U	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	54 U	53 U	50 U	64 U	60 U	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	54 U	53 U	50 U	64 U	60 U	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	5 U	5.5 U	4.8 U	ug/kg	4.6 U	--	--	5.8 U	--	--	--	--	--	--	--
Methylene chloride	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	350 U	340 U	340 U	340 U	350 U	--	--	340 U	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	5.4 U	5.3 U	5 U	6.4 U	6 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01	PA-02	PA-07	PA-13	PA-14	PA-15	PA-16	PA-17
	SAMPLE	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01-1	PA-02-1	PA-07-1	PA-13-01	PA-14-01	PA-15-01	PA-16-01	PA-17-01
	DATE	4/24/1997	4/24/1997	4/24/1997	11/13/1998	11/13/1998	11/13/1998	11/13/1998	11/9/2015	11/9/2015	11/9/2015	1/27/2016	1/27/2016	1/27/2016	1/27/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	3	0	1	1	1	1	1	1	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	3	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	SAMPLE TYPE															
	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	2600 J	880 J	330 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	320 J	74 J	11 J
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	21 J	7.2 J	1.2 UJ
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	19 J	6 J	0.51 UJ
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	15 J	5.1 J	0.79 UJ
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	85 J	24 J	6.5 J
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	25 J	7.1 J	0.84 UJ
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	10 J	0.95 UJ	0.86 UJ
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	4 J	2.1 J	0.98 UJ
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	43 J	12 J	3.1 J
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	4.5 J	1.6 J	0.59 UJ
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	340 UJ	110 UJ	19 UJ
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	6.7 J	2.3 J	0.25 UJ
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	0.93 UJ	0.63 UJ	0.091 UJ
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	4.2 J	1.2 UJ	0.77 UJ
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	22000 J	7300 J	2300 J
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	370 J	140 J	24 J
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	58	15	3.2
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	86	25	6.7
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	86	25	6.7
General																
pH	PHUNITS	--	--	--	9.51	8.62	9.44	9.27	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	--	--	--	--	--	--	2 UJ	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	--	--	--	--	--	--	--	3.4	3	4.9	4.8	4.5	4.7	4.1	4
Barium	mg/kg	--	--	--	--	--	--	--	85 J	88	160	200	180	120	150	130
Beryllium	mg/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	mg/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium, Hexavalent	mg/kg	10	12	0.47	3.5	5.9	4	13.7	0.65	2.2	1.9	0.26	0.21 U	1.1	1.3	0.21 U
Chromium, total	mg/kg	89	730	270	48.1	920	135	1340	20	31	66	15	20	170	47	25
Cobalt	mg/kg	--	--	--	--	--	--	--	3.7	4.9	4.9	6.3	5.5	6.6	6.4	7.8
Copper	mg/kg	--	--	--	9.4	316	27.1	40.2	8.5	9.4	19	12	22	26	26	13
Lead	mg/kg	28	52	28	--	--	--	--	9.3	20	17	5.8	10	20	8.5	4.4
Mercury	mg/kg	--	--	--	--	--	--	--	0.1 U	0.15	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	260	210	25	--	--	--	--	1 U	1 U	1.3	1 U	1 U	1 U	1.2	1 U
Nickel	mg/kg	--	--	--	12.2	16.6	17	12	6.9	10	13	11	8.7	14	35	21
Selenium	mg/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	mg/kg	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	--	--	--	--	--	--	--	2 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	--	--	--	--	--	--	--	18	20	22	27	23	25	25	32
Zinc	mg/kg	49	180	100	28.4	133	42.7	158	80	42	170	45	270	120	64	47
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01	PA-02	PA-07	PA-13	PA-14	PA-15	PA-16	PA-17
	SAMPLE	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01-1	PA-02-1	PA-07-1	PA-13-01	PA-14-01	PA-15-01	PA-16-01	PA-17-01
	DATE	4/24/1997	4/24/1997	4/24/1997	11/13/1998	11/13/1998	11/13/1998	11/13/1998	11/9/2015	11/9/2015	11/9/2015	1/27/2016	1/27/2016	1/27/2016	1/27/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	3	0	1	1	1	1	1	1	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	3	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	33 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	260	110	100	22	120	70	300	17 U
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	286	136	126	47.5	146	95.5	326	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Acenaphthene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Anthracene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	9.7 J	5.2 U	5.2 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	38	57	470	67	70	490	58	58 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	16	8.1	230	52 U	52 U	210 J	5.2 U	5.2 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	26	51 U	300	52 U	52 U	350	52 U	52 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	64 J	51 U	640	90	130	720	52 U	52 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	9.5	51 U	170	52 U	52 U	180	52 U	52 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	18 J	51 U	250	52 U	52 U	240	52 U	52 U
Chrysene	ug/kg	--	--	--	--	--	--	--	31	19	410	52	52 U	350	7.6	5.2 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	5.1 U	51 U	68	52 U	52 U	52 U	52 U	52 U
Fluoranthene	ug/kg	--	--	--	--	--	--	--	35	21	540	56 J	37 J	230 J	14	5.2 U
Fluorene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	10	51 U	170	52 U	52 U	180	52 U	52 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01	PA-02	PA-07	PA-13	PA-14	PA-15	PA-16	PA-17
	SAMPLE	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01-1	PA-02-1	PA-07-1	PA-13-01	PA-14-01	PA-15-01	PA-16-01	PA-17-01
	DATE	4/24/1997	4/24/1997	4/24/1997	11/13/1998	11/13/1998	11/13/1998	11/13/1998	11/9/2015	11/9/2015	11/9/2015	1/27/2016	1/27/2016	1/27/2016	1/27/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	3	0	1	1	1	1	1	1	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	3	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.2 U	5.2 U	5.5 J	5.2 U	5.2 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	244	70.1	3310	241	195	2650	33.6	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	11	6.4	180	23	12	165	9.6	0
Phenanthrene	ug/kg	--	--	--	--	--	--	--	11	6.4	180	23 J	12 J	150 J	9.6	5.2 U
Pyrene	ug/kg	--	--	--	--	--	--	--	34	22	530	43 J	28 J	190 J	12	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	670 U	670 U	6700 U	6800 U	6800 U	6900 U	680 U	690 U
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	670 U	670 U	670 U	680 U	680 U	680 U	680 U	690 U
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	670 U	670 U	670 U	680 U	680 U	680 U	680 U	690 U
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 UJ	1700 U	1700 U	1700 U	1700 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	1700 UJ	1700 UJ	1700 UJ	1700 U	1700 U	1700 U	1700 U	1700 U
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	670 U	670 U	670 U	680 U	680 U	680 U	680 U	690 U
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	340 U	340 U	3300 U	3400 U	3400 U	3400 U	340 U	340 U
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	340 U	340 U	3300 U	3400 U	3400 U	3400 U	340 U	340 U
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	3400 U	3400 U	3300 U	3400 U	3400 U	3400 U	340 U	340 U
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U	1700 U
Phenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	10 U	33	63	10 U	10 U	12	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01	PA-02	PA-07	PA-13	PA-14	PA-15	PA-16	PA-17
	SAMPLE	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01-1	PA-02-1	PA-07-1	PA-13-01	PA-14-01	PA-15-01	PA-16-01	PA-17-01
	DATE	4/24/1997	4/24/1997	4/24/1997	11/13/1998	11/13/1998	11/13/1998	11/13/1998	11/9/2015	11/9/2015	11/9/2015	1/27/2016	1/27/2016	1/27/2016	1/27/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	3	0	1	1	1	1	1	1	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	3	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	13	220	360 J	34	50	110	43	31
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01	PA-02	PA-07	PA-13	PA-14	PA-15	PA-16	PA-17
	SAMPLE	JP-5-S	JP-6-S	JP-7-S	JP-8-3	JP-8-S	JP-9-3	JP-9-S	PA-01-1	PA-02-1	PA-07-1	PA-13-01	PA-14-01	PA-15-01	PA-16-01	PA-17-01
	DATE	4/24/1997	4/24/1997	4/24/1997	11/13/1998	11/13/1998	11/13/1998	11/13/1998	11/9/2015	11/9/2015	11/9/2015	1/27/2016	1/27/2016	1/27/2016	1/27/2016	1/27/2016
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	3	0	1	1	1	1	1	1	1	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	3	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	670 U	670 U	670 U	680 U	680 U	680 U	680 U	690 U
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	340 U	340 U	330 U	340 U	340 U	340 U	340 U	340 U
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-22	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS3	PA-OS3	PGE-LT-OS5	PGE-LT-OS5	PGE-LT-OS6	PGE-LT-OS6	PGE-LT-OS7	PGE-LT-OS7
	SAMPLE	PA-22-01	300a-41-1-2001	300a-41-1-1061	300a-41-1-1062	300a-41-1-1063	300a-41-1-1064	300a-41-1-1060	PA-OS3-D1	PA-OS3-D2	PGE-LT5-0.5	PGE-LT5-3.0	PGE-LT6-0.5	PGE-LT6-3.0	PGE-LT7-0.5	PGE-LT7-3.0
	DATE	1/27/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/10/2014	12/10/2014	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	11.5	0	0.5	3	0.5	3	0.5	3	0.5	3
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE		Field Duplicate													
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	8.3	7.9	8	8.8	8.1	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	--	--	--	2 U	--	2.1 U	2.1 U	6.1 UJ	6.2 U	6.1 U	6.2 U	6.1 U	6.1 U
Arsenic	mg/kg	5.3	5.5	--	--	--	3.7	--	3.4	3.9	2.6	3	2.8	3.6	5.4	3.3
Barium	mg/kg	97	200	--	--	--	100	--	130	200	72	180	190	190	180	60
Beryllium	mg/kg	1 U	1 U	--	--	--	1 U	--	1 U	1 U	0.51 U	0.51 U	0.51 U	0.52 U	0.54	0.51 U
Cadmium	mg/kg	1 U	1 U	--	--	--	1 U	--	1 U	1 U	0.51 U	0.51 U	0.51 U	0.52 U	0.51 U	0.51 U
Chromium, Hexavalent	mg/kg	0.21 U	0.4 UJ	--	--	--	0.4 UJ	--	0.7	0.35	0.2 U	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U
Chromium, total	mg/kg	49	35	--	--	--	24	--	31	53	9.1	22	29	25	27	10
Cobalt	mg/kg	5.4	12	--	--	--	5.6	--	6.9	12	5.1 U	8.1	7.9	7.4	8.5	5.1 U
Copper	mg/kg	25	16	--	--	--	10	--	11	13	9.7	20	30	37	37	7.8
Lead	mg/kg	32	4.9	--	--	--	3.3	--	8.5	4.4	3.2	2.4	4.3	4.9	7.4	4.8
Mercury	mg/kg	0.1 U	0.1 UJ	--	--	--	0.1 UJ	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1.2	5.2	--	--	--	2.9	--	1 U	1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Nickel	mg/kg	12	26	--	--	--	19	--	19	37	7.3	14	18	17	23	9.3
Selenium	mg/kg	1 U	1 U	--	--	--	1 U	--	1 U	1.1	0.51 U	0.51 U	0.51 U	0.52 U	0.51 U	0.51 U
Silver	mg/kg	1 U	1 U	--	--	--	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Thallium	mg/kg	2.1 U	2 U	--	--	--	2 U	--	2.1 U	2.1 U	1 U	1.2	1 U	1 U	1 U	1 U
Vanadium	mg/kg	28	46	--	--	--	25	--	36	54	19	44	46	42	41	20
Zinc	mg/kg	140	39	--	--	--	25	--	53	41	18	42	46	46	52	18
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-22	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS3	PA-OS3	PGE-LT-OS5	PGE-LT-OS5	PGE-LT-OS6	PGE-LT-OS6	PGE-LT-OS7	PGE-LT-OS7
	SAMPLE	PA-22-01	300a-41-1-2001	300a-41-1-1061	300a-41-1-1062	300a-41-1-1063	300a-41-1-1064	300a-41-1-1060	PA-OS3-D1	PA-OS3-D2	PGE-LT5-0.5	PGE-LT5-3.0	PGE-LT6-0.5	PGE-LT6-3.0	PGE-LT7-0.5	PGE-LT7-3.0
	DATE	1/27/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/10/2014	12/10/2014	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	11.5	0	0.5	3	0.5	3	0.5	3	0.5	3
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE		Field Duplicate													
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1221	ug/kg	34 U	--	33 U	33 U	33 U	33 U	33 U	34 U	34 U	--	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	17 U	17 U	17 U	17 U	--	17 U	17 U	--	--	--	--	--	--
Aroclor 1254	ug/kg	17 U	21	18	17 U	17 U	48	--	230	22	--	--	--	--	--	--
Aroclor 1260	ug/kg	17 U	--	17 U	17 U	17 U	17 U	17 U	17 U	17 U	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	46.5	43.5	34 U	34 U	73.5	--	256	47.5	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5.2 U	--	51 U	50 U	51 U	50 U	51 U	5.1 U	5.2 U	--	--	--	--	--	--
Acenaphthene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Acenaphthylene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Anthracene	ug/kg	5.2 U	--	5.1 U	5 U	5.1 U	5 U	5.1 U	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
B(a)P Equivalent	ug/kg	6.6	--	5.9 U	5.8 U	5.9 U	6	11	19	6 U	5.9 U	6.1 U	6.2 U	6 U	5.9 U	5.9 U
Benzo (a) anthracene	ug/kg	5.2 U	--	5.1 U	5 U	5.1 U	5	7.1	7.9	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Benzo (a) pyrene	ug/kg	5.2 U	--	5.1 U	5 U	5.1 U	5 U	6.4	13	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Benzo (b) fluoranthene	ug/kg	8.6	--	5.1 U	5 U	5.1 U	5 U	11	26	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Benzo (ghi) perylene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Benzo (k) fluoranthene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	7.9	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Chrysene	ug/kg	5.5	--	5.1 U	5 U	5.1 U	20	8.1	15	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Fluoranthene	ug/kg	7.6	--	5.1 U	5 U	5.1 U	5 U	7.1	24	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Fluorene	ug/kg	5.2 U	5.1 U	5.1 U	5 U	5.1 U	5 U	--	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.2 U	--	5.1 U	5 U	5.1 U	5 U	5.1 U	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-22	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS3	PA-OS3	PGE-LT-OS5	PGE-LT-OS5	PGE-LT-OS6	PGE-LT-OS6	PGE-LT-OS7	PGE-LT-OS7
	SAMPLE	PA-22-01	300a-41-1-2001	300a-41-1-1061	300a-41-1-1062	300a-41-1-1063	300a-41-1-1064	300a-41-1-1060	PA-OS3-D1	PA-OS3-D2	PGE-LT5-0.5	PGE-LT5-3.0	PGE-LT6-0.5	PGE-LT6-3.0	PGE-LT7-0.5	PGE-LT7-3.0
	DATE	1/27/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/10/2014	12/10/2014	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	11.5	0	0.5	3	0.5	3	0.5	3	0.5	3
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE		Field Duplicate													
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	--	51 U	50 U	51 U	50 U	51 U	5.1 U	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
PAH High molecular weight	ug/kg	28.6	--	0	0	0	35	48.1	116	0	0	0	0	0	0	0
PAH Low molecular weight	ug/kg	0	--	0	0	0	0	0	6.5	0	0	0	0	0	0	0
Phenanthrene	ug/kg	5.2 U	--	5.1 U	5 U	5.1 U	5 U	5.1 U	6.5	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Pyrene	ug/kg	6.9	--	5.1 U	5 U	5.1 U	10	8.4	22	5.2 U	5.1 U	5.3 U	5.4 U	5.2 U	5.1 U	5.1 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2-Chlorophenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2-Methylphenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
2-Nitrophenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 UJ	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
3-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	680 U	--	--	--	--	--	--	680 U	690 U	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	680 U	--	--	--	--	--	--	680 U	690 U	--	--	--	--	--	--
4-Chloroaniline	ug/kg	680 U	--	--	--	--	--	--	680 U	690 U	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
4-Methylphenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
4-Nitroaniline	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
4-Nitrophenol	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	1700 U	--	--	--	--	--	--	1700 U	1700 U	--	--	--	--	--	--
Benzyl alcohol	ug/kg	680 U	--	--	--	--	--	--	680 U	690 U	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Dibenzofuran	ug/kg	340 U	--	--	--	--	--	--	340 U	350 UJ	--	--	--	--	--	--
Diethyl phthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Hexachloroethane	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Pentachlorophenol	ug/kg	1700 U	--	330 U	330 U	330 U	330 U	330 U	1700 U	1700 U	--	--	--	--	--	--
Phenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	--	--	--	--	--	--	10 U	10 U	10 U	11 U	11 U	10 U	10 U	10 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-22	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS3	PA-OS3	PGE-LT-OS5	PGE-LT-OS5	PGE-LT-OS6	PGE-LT-OS6	PGE-LT-OS7	PGE-LT-OS7
	SAMPLE	PA-22-01	300a-41-1-2001	300a-41-1-1061	300a-41-1-1062	300a-41-1-1063	300a-41-1-1064	300a-41-1-1060	PA-OS3-D1	PA-OS3-D2	PGE-LT5-0.5	PGE-LT5-3.0	PGE-LT6-0.5	PGE-LT6-3.0	PGE-LT7-0.5	PGE-LT7-3.0
	DATE	1/27/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/10/2014	12/10/2014	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	11.5	0	0.5	3	0.5	3	0.5	3	0.5	3
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE		Field Duplicate													
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	0.99 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U
TPH as motor oil		mg/kg	16	--	--	--	--	--	16	10 U	10 U	11 U	11 U	10 U	10 U	10 U
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2-Dichlorobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 UJ	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	510 UJ	530 UJ	540 UJ	520 UJ	510 UJ	510 UJ
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2,4-Trichlorobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,3-Dichlorobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,4-Dichlorobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 UJ	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	51 UJ	53 UJ	54 UJ	52 UJ	51 UJ	51 UJ
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	100 UJ	110 UJ	110 UJ	100 UJ	100 UJ	100 UJ
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	51 UJ	53 UJ	54 UJ	52 UJ	51 UJ	51 UJ
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
bis (2-chloroethyl) ether	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ

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Dataset for ICS HHERA

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PG&E Topock Compressor Station
Needles, California

	LOCATION	PA-22	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS2	PA-OS3	PA-OS3	PGE-LT-OS5	PGE-LT-OS5	PGE-LT-OS6	PGE-LT-OS6	PGE-LT-OS7	PGE-LT-OS7
	SAMPLE	PA-22-01	300a-41-1-2001	300a-41-1-1061	300a-41-1-1062	300a-41-1-1063	300a-41-1-1064	300a-41-1-1060	PA-OS3-D1	PA-OS3-D2	PGE-LT5-0.5	PGE-LT5-3.0	PGE-LT6-0.5	PGE-LT6-3.0	PGE-LT7-0.5	PGE-LT7-3.0
	DATE	1/27/2016	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	4/6/2011	12/10/2014	12/10/2014	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007
SAMPLE TOP DEPTH (FT)		0	0	2.5	5.5	9.5	11.5	0	0.5	3	0.5	3	0.5	3	0.5	3
SAMPLE BOTTOM DEPTH (FT)		1	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	0.5	3	6	10	12	0.5	0.5	3	0.5	3	0.5	3	0.5	3
	SAMPLE TYPE		Field Duplicate													
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Hexachlorobutadiene	ug/kg	680 U	--	--	--	--	--	--	680 U	690 U	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	100 UJ	110 UJ	110 UJ	100 UJ	100 UJ	100 UJ
Isophorone	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	10 UJ	11 UJ	11 UJ	10 UJ	10 UJ	10 UJ
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	10 UJ	11 UJ	11 UJ	10 UJ	10 UJ	10 UJ
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	10 UJ	11 UJ	11 UJ	10 UJ	10 UJ	10 UJ
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Nitrobenzene	ug/kg	340 U	--	--	--	--	--	--	340 U	350 U	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	5.1 UJ	5.3 UJ	5.4 UJ	5.2 UJ	5.1 UJ	5.1 UJ

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PGE-LT-OS8	PGE-LT-OS8	PGE-LT-OS9	PGE-LT-OS9	PGE-UTOS1	PGE-UTOS1	PGE-UTOS2	PGE-UTOS2	PGE-UTOS3	PGE-UTOS3	PGE-UTOS4	PGE-UTOS4	PS-1	PS-1	PS-10
	SAMPLE	PGE-LT8-0.5	PGE-LT8-3.0	PGE-LT9-0.5	PGE-LT9-3.0	PGE-UT1-0.5	PGE-UT1-3.0	PGE-UT2-0.5	PGE-UT2-3.0	PGE-UT3-0.5	PGE-UT3-3.0	PGE-UT4-0.5	PGE-UT4-3.0	PS-1-0	PS-1-1	PS-10-0
	DATE	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25
Metals																
Antimony	mg/kg	6.2 U	6.1 U	6.2 U	6.2 U	6.2 U	6.1 U	6.2 U	6.2 U	6.3 U	6.4 U	6.2 U	6.3 U	--	--	--
Arsenic	mg/kg	2.5	3.1	2.5	2.8	3.9	4.8	3.9	3	3.3	3.6	3	3.4	--	--	--
Barium	mg/kg	170	98	180	190	190	170	180	69	85	140	160	140	--	--	--
Beryllium	mg/kg	0.51 U	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U	0.53 U	0.52 U	0.52 U	--	--	--
Cadmium	mg/kg	0.51 U	0.51 U	0.52 U	0.56	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U	0.53 U	0.53	0.52 U	--	--	--
Chromium, Hexavalent	mg/kg	0.21 U	0.2 U	0.21 U	0.21 U	0.21 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.48	0.21 U	3.7	3.9	0.51 U
Chromium, total	mg/kg	41	15	26	34	18	15	18	19	14	23	36	22	115	118	20.5
Cobalt	mg/kg	7.4	5.1 U	6.9	8.7	6.1	5.8	5.6	5.1 U	5.3	8.3	5.4	5.5	--	--	--
Copper	mg/kg	14	17	18	35	54	25	29	43	26	22	35	26	92.3	62.6	6.8
Lead	mg/kg	8	4.6	5	6.3	9.4	3.7	56	4.3	8.4	4.8	18	7.5	--	--	--
Mercury	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.41	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U	--	--	--
Molybdenum	mg/kg	4.1 U	4.1 U	4.2 U	4.1 U	4.2 U	4.1 U	4.1 U	4.1 U	4.2 U	4.2 U	6.5	4.2 U	--	--	--
Nickel	mg/kg	24	13	17	25	13	11	12	14	10	23	12	13	9	9.3	6.4
Selenium	mg/kg	0.51 U	0.52	0.52 U	0.51 U	0.52 U	0.51 U	0.52 U	0.51 U	0.86	0.53 U	0.52 U	0.52 U	--	--	--
Silver	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	--	--
Thallium	mg/kg	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	--	--	--
Vanadium	mg/kg	34	28	36	46	33	32	32	26	31	41	30	31	--	--	--
Zinc	mg/kg	38	28	38	46	60	34	51	37	40	39	130	55	336	293	52.4
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9420
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	179

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PGE-LT-OS8	PGE-LT-OS8	PGE-LT-OS9	PGE-LT-OS9	PGE-UTOS1	PGE-UTOS1	PGE-UTOS2	PGE-UTOS2	PGE-UTOS3	PGE-UTOS3	PGE-UTOS4	PGE-UTOS4	PS-1	PS-1	PS-10
	SAMPLE	PGE-LT8-0.5	PGE-LT8-3.0	PGE-LT9-0.5	PGE-LT9-3.0	PGE-UT1-0.5	PGE-UT1-3.0	PGE-UT2-0.5	PGE-UT2-3.0	PGE-UT3-0.5	PGE-UT3-3.0	PGE-UT4-0.5	PGE-UT4-3.0	PS-1-0	PS-1-1	PS-10-0
	DATE	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	5.2 U	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
Acenaphthylene	ug/kg	5.2 U	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
Anthracene	ug/kg	7.7	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
B(a)P Equivalent	ug/kg	340	6.4	6 U	6 U	39	6 U	58	6.2 U	6 U	6.1 U	80	7.6	--	--	--
Benzo (a) anthracene	ug/kg	71	5.5 U	5.2 U	5.2 U	14	5.2 U	19	5.4 U	5.2 U	5.3 U	40	7.2	--	--	--
Benzo (a) pyrene	ug/kg	210	5.5 U	5.2 U	5.2 U	28	5.2 U	44	5.4 U	5.2 U	5.3 U	60	5.3 U	--	--	--
Benzo (b) fluoranthene	ug/kg	580	5.5 U	5.2 U	5.2 U	43	5.2 U	58	5.4 U	5.2 U	5.3 U	88	5.3 U	--	--	--
Benzo (ghi) perylene	ug/kg	160	5.5 U	5.2 U	5.2 U	35	5.2 U	45	5.4 U	5.2 U	5.3 U	56	14	--	--	--
Benzo (k) fluoranthene	ug/kg	130	5.5 U	5.2 U	5.2 U	14	5.2 U	22	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
Chrysene	ug/kg	360	7.1	5.2 U	5.2 U	29	5.2 U	33	5.4 U	5.2 U	5.3 U	46	8.9	--	--	--
Dibenzo (a,h) anthracene	ug/kg	46	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
Fluoranthene	ug/kg	65	9.1	5.2 U	5.2 U	45	5.2 U	53	5.4 U	5.2 U	5.3 U	110	16	--	--	--
Fluorene	ug/kg	5.2 U	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	140	5.5 U	5.2 U	5.2 U	24	5.2 U	35	5.4 U	5.2 U	5.3 U	45	13	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PGE-LT-OS8	PGE-LT-OS8	PGE-LT-OS9	PGE-LT-OS9	PGE-UTOS1	PGE-UTOS1	PGE-UTOS2	PGE-UTOS2	PGE-UTOS3	PGE-UTOS3	PGE-UTOS4	PGE-UTOS4	PS-1	PS-1	PS-10
	SAMPLE	PGE-LT8-0.5	PGE-LT8-3.0	PGE-LT9-0.5	PGE-LT9-3.0	PGE-UT1-0.5	PGE-UT1-3.0	PGE-UT2-0.5	PGE-UT2-3.0	PGE-UT3-0.5	PGE-UT3-3.0	PGE-UT4-0.5	PGE-UT4-3.0	PS-1-0	PS-1-1	PS-10-0
	DATE	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.5 U	5.2 U	5.2 U	5.5 U	5.2 U	5.2 U	5.4 U	5.2 U	5.3 U	5.2 U	5.3 U	--	--	--
PAH High molecular weight	ug/kg	1840	25.6	0	0	274	0	362	0	0	0	543	73.1	--	--	--
PAH Low molecular weight	ug/kg	7.7	0	0	0	13	0	9.1	0	0	0	31	0	--	--	--
Phenanthrene	ug/kg	5.2 U	5.5 U	5.2 U	5.2 U	13	5.2 U	9.1	5.4 U	5.2 U	5.3 U	31	5.3 U	--	--	--
Pyrene	ug/kg	81	9.4	5.2 U	5.2 U	42	5.2 U	53	5.4 U	5.2 U	5.3 U	98	14	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	18	11 U	10 U	10 U	13	10 U	19	11 U	32	11 U	10 U	11 U	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PGE-LT-OS8	PGE-LT-OS8	PGE-LT-OS9	PGE-LT-OS9	PGE-UTOS1	PGE-UTOS1	PGE-UTOS2	PGE-UTOS2	PGE-UTOS3	PGE-UTOS3	PGE-UTOS4	PGE-UTOS4	PS-1	PS-1	PS-10
	SAMPLE	PGE-LT8-0.5	PGE-LT8-3.0	PGE-LT9-0.5	PGE-LT9-3.0	PGE-UT1-0.5	PGE-UT1-3.0	PGE-UT2-0.5	PGE-UT2-3.0	PGE-UT3-0.5	PGE-UT3-3.0	PGE-UT4-0.5	PGE-UT4-3.0	PS-1-0	PS-1-1	PS-10-0
	DATE	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1 U	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	--	--	--
TPH as motor oil	mg/kg	240	36	10 U	10 U	70	10 U	53	11 U	26	11 U	38	11 U	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1-Dichloroethene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1,2-Trichloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2-Dibromoethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2-Dichlorobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2-Dichloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2-Dichloropropane	ug/kg	520 UJ	550 UJ	520 UJ	520 UJ	550 UJ	520 UJ	520 UJ	540 UJ	520 UJ	530 UJ	520 UJ	530 UJ	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2,4-Trichlorobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,2,4-Trimethylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,3-Dichlorobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,4-Dichlorobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	52 UJ	55 UJ	52 UJ	52 UJ	55 UJ	52 UJ	650 J	54 UJ	52 UJ	53 UJ	52 UJ	53 UJ	--	--	--
Acrolein	ug/kg	100 UJ	110 UJ	100 UJ	100 UJ	110 UJ	100 UJ	100 UJ	110 UJ	100 UJ	110 UJ	100 UJ	110 UJ	--	--	--
Acrylonitrile	ug/kg	52 UJ	55 UJ	52 UJ	52 UJ	55 UJ	52 UJ	52 UJ	54 UJ	52 UJ	53 UJ	52 UJ	53 UJ	--	--	--
Benzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Bromoform	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Bromomethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Carbon disulfide	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Carbon tetrachloride	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Chloro methane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Chlorobenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Chloroethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Chloroform	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
cis-1,2-Dichloroethene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PGE-LT-OS8	PGE-LT-OS8	PGE-LT-OS9	PGE-LT-OS9	PGE-UTOS1	PGE-UTOS1	PGE-UTOS2	PGE-UTOS2	PGE-UTOS3	PGE-UTOS3	PGE-UTOS4	PGE-UTOS4	PS-1	PS-1	PS-10
	SAMPLE	PGE-LT8-0.5	PGE-LT8-3.0	PGE-LT9-0.5	PGE-LT9-3.0	PGE-UT1-0.5	PGE-UT1-3.0	PGE-UT2-0.5	PGE-UT2-3.0	PGE-UT3-0.5	PGE-UT3-3.0	PGE-UT4-0.5	PGE-UT4-3.0	PS-1-0	PS-1-1	PS-10-0
	DATE	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/8/2007	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0.5	3	0	1	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Ethyl- benzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	100 UJ	110 UJ	100 UJ	100 UJ	110 UJ	100 UJ	100 UJ	110 UJ	100 UJ	110 UJ	100 UJ	110 UJ	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	11 UJ	10 UJ	11 UJ	--	--	--
Methyl isobutyl ketone	ug/kg	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	11 UJ	10 UJ	11 UJ	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	10 UJ	11 UJ	10 UJ	11 UJ	10 UJ	11 UJ	--	--	--
N-Butylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
N-Propylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Styrene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
tert-Butylbenzene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Tetrachloroethene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Toluene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.8 J	5.4 UJ	5.9 J	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
trans-1,2-Dichloroethene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Xylene, m,p-	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Xylene, o-	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--
Xylenes, total	ug/kg	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.5 UJ	5.2 UJ	5.2 UJ	5.4 UJ	5.2 UJ	5.3 UJ	5.2 UJ	5.3 UJ	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-11	PS-12	PS-13	PS-13	PS-14	PS-15	PS-16	PS-17	PS-17	PS-18	PS-19	PS-2	PS-2	PS-20	PS-3
	SAMPLE	PS-11-0	PS-12-0	PS-13-0	PS-13-3	PS-14-0	PS-15-0	PS-16-0	PS-17-0	PS-17-3	PS-18-0	PS-19-0	PS-2-0	PS-2-3	PS-20-0	PS-3-0
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	3690	--	--	224	--	--	--	--	--
Metals																
Antimony	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, Hexavalent	mg/kg	5.2	7.6	9.8	0.53 U	0.7	9.3	3	0.51 U	0.52 U	0.7	0.51 U	3.1	0.51 U	0.6	3.3
Chromium, total	mg/kg	154	321	88	8.4	34.2	535	505	14.6	12.6	24.6	31.8	72.4	4.9	15.8	350
Cobalt	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	mg/kg	18	13.5	14.8	6.7	31.3	51.6	95.6	8.2	35	12.1	19.6	40.1	18.7	11	59.8
Lead	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	mg/kg	17.6	8.6	6.8	3.6	10.7	14.4	10.6	7.4	9.2	13	17.7	6.3	3.2	10.7	10.1
Selenium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	mg/kg	43	51.8	1250	70.4	82.3	954	685	32.4	44	49.1	69.5	94.6	31.7	45.5	465
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	15200	--	--	17500	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	191	--	--	311	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-11	PS-12	PS-13	PS-13	PS-14	PS-15	PS-16	PS-17	PS-17	PS-18	PS-19	PS-2	PS-2	PS-20	PS-3
	SAMPLE	PS-11-0	PS-12-0	PS-13-0	PS-13-3	PS-14-0	PS-15-0	PS-16-0	PS-17-0	PS-17-3	PS-18-0	PS-19-0	PS-2-0	PS-2-3	PS-20-0	PS-3-0
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-11	PS-12	PS-13	PS-13	PS-14	PS-15	PS-16	PS-17	PS-17	PS-18	PS-19	PS-2	PS-2	PS-20	PS-3
	SAMPLE	PS-11-0	PS-12-0	PS-13-0	PS-13-3	PS-14-0	PS-15-0	PS-16-0	PS-17-0	PS-17-3	PS-18-0	PS-19-0	PS-2-0	PS-2-3	PS-20-0	PS-3-0
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-11	PS-12	PS-13	PS-13	PS-14	PS-15	PS-16	PS-17	PS-17	PS-18	PS-19	PS-2	PS-2	PS-20	PS-3
	SAMPLE	PS-11-0	PS-12-0	PS-13-0	PS-13-3	PS-14-0	PS-15-0	PS-16-0	PS-17-0	PS-17-3	PS-18-0	PS-19-0	PS-2-0	PS-2-3	PS-20-0	PS-3-0
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
TPH as gasoline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH as motor oil	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-11	PS-12	PS-13	PS-13	PS-14	PS-15	PS-16	PS-17	PS-17	PS-18	PS-19	PS-2	PS-2	PS-20	PS-3
	SAMPLE	PS-11-0	PS-12-0	PS-13-0	PS-13-3	PS-14-0	PS-15-0	PS-16-0	PS-17-0	PS-17-3	PS-18-0	PS-19-0	PS-2-0	PS-2-3	PS-20-0	PS-3-0
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999
SAMPLE TOP DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
SAMPLE BOTTOM DEPTH (FT)		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0	0	0	3	0	0	0	0	3	0	0	0	3	0	0
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-8	PS-9	SD-07	SD-07	SD-07	SD-07	SD-07	SD-24	SD-24
	SAMPLE	PS-3-3	PS-4-0	PS-5-0	PS-6-0	PS-7-0	PS-8-0	PS-8-3	PS-9-0	SD-7-D1	SD-7-D2	SD-7-D3	SD-7-D4	SD-7-D5	SD-24-01	SD-24-03
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	12/17/2015	12/17/2015	12/18/2015	12/18/2015	12/18/2015	3/9/2016	3/9/2016
SAMPLE TOP DEPTH (FT)		3	0	0	0	0	0	3	0	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	0	0	0	0	3	0	1	3	6	10	10	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	0	0	0	0	3	0	0.5	3	6	10	10	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	220 J	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	17 UJ	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	3.4 UJ	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5 UJ	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 UJ	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	7.6 UJ	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 UJ	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2.1 UJ	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1 UJ	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.8 UJ	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8 UJ	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	25 UJ	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8 UJ	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	0.32 UJ	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5 UJ	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	2100 J	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	39 J	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	5.3	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6.8	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	6.8	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	--	--	--	--	--	--	--	--	2 U	2 U	2.1 U	2 U	--	2.1 U	2.1 U
Arsenic	mg/kg	--	--	--	--	--	--	--	--	3	4.3	3.8	4	--	4.2	3
Barium	mg/kg	--	--	--	--	--	--	--	--	39	110	40	43	--	140	88
Beryllium	mg/kg	--	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1.1 U
Cadmium	mg/kg	--	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	--	1.2	1.1 U
Chromium, Hexavalent	mg/kg	1.3	1.5	5.9	15.3	0.56 U	12.2	1	1.3	0.2 U	0.24	0.21	--	0.2 U	0.21 U	0.21 U
Chromium, total	mg/kg	83.3	264	386	459	80.5	743	17.3	66.7	5.1	7.1	7.6	15	--	16	11
Cobalt	mg/kg	--	--	--	--	--	--	--	--	2.4	2.9	3.9	3.2	--	4.9	3.9
Copper	mg/kg	14.5	70.2	58	211	44	76.6	30.2	40.4	3.7	6	6.9	4.4	--	58	6.1
Lead	mg/kg	--	--	--	--	--	--	--	--	3.1	190	6.7	8.6	--	22	5.3
Mercury	mg/kg	--	--	--	--	--	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.11 U
Molybdenum	mg/kg	--	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	--	2.5	1.1 U
Nickel	mg/kg	4.2	6.3	7.7	11.3	14.5	12.9	6	12.2	4.1	5.3	7.1	6.2	--	9.6	7.3
Selenium	mg/kg	--	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1.1 U
Silver	mg/kg	--	--	--	--	--	--	--	--	1 U	1 U	1 U	1 U	--	1 U	1.1 U
Thallium	mg/kg	--	--	--	--	--	--	--	--	2 U	2 U	2.1 U	2 U	--	2.1 U	2.1 U
Vanadium	mg/kg	--	--	--	--	--	--	--	--	11	16	25	16	--	20	19
Zinc	mg/kg	114	394	513	1130	181	315	26.9	169	400	47	21	14	--	1000	21
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-8	PS-9	SD-07	SD-07	SD-07	SD-07	SD-07	SD-24	SD-24
	SAMPLE	PS-3-3	PS-4-0	PS-5-0	PS-6-0	PS-7-0	PS-8-0	PS-8-3	PS-9-0	SD-7-D1	SD-7-D2	SD-7-D3	SD-7-D4	SD-7-D5	SD-24-01	SD-24-03
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	12/17/2015	12/17/2015	12/18/2015	12/18/2015	12/18/2015	3/9/2016	3/9/2016
SAMPLE TOP DEPTH (FT)		3	0	0	0	0	0	3	0	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	0	0	0	0	3	0	1	3	6	10	10	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	0	0	0	0	3	0	0.5	3	6	10	10	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE		UNITS														
Potassium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium		mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U	18 U
Aroclor 1221	ug/kg	--	--	--	--	--	--	--	--	34 U	34 U	34 U	34 U	--	35 U	35 U
Aroclor 1232	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U	18 U
Aroclor 1242	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U	18 U
Aroclor 1248	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	17 U	18 U
Aroclor 1254	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	29	18 U
Aroclor 1260	ug/kg	--	--	--	--	--	--	--	--	17 U	17 U	17 U	17 U	--	33	18 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	--	--	--	--	--	34 U	34 U	34 U	34 U	--	79	36 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
2-Methyl naphthalene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
Acenaphthene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
Anthracene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
B(a)P Equivalent	ug/kg	--	--	--	--	--	--	--	--	6.2	57	5.9 U	5.9 U	--	360	6.1 U
Benzo (a) anthracene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1	5.1 U	5.1 U	--	120 J	5.3 U
Benzo (a) pyrene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	51 U	5.1 U	5.1 U	--	260 J	5.3 U
Benzo (b) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	6.1	51 U	5.1 U	5.1 U	--	670 J	5.3 U
Benzo (ghi) perylene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	51 U	5.1 U	5.1 U	--	99 J	5.3 U
Benzo (k) fluoranthene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	51 U	5.1 U	5.1 U	--	240 J	5.3 U
Chrysene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	9.9	5.1 U	5.1 U	--	270 J	5.3 U
Dibenzo (a,h) anthracene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	51 U	5.1 U	5.1 U	--	26 U	5.3 U
Fluoranthene	ug/kg	--	--	--	--	--	--	--	--	5.1	15	5.1 U	5.1 U	--	290 J	5.3 U
Fluorene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	51 U	5.1 U	5.1 U	--	83 J	5.3 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-8	PS-9	SD-07	SD-07	SD-07	SD-07	SD-07	SD-24	SD-24
	SAMPLE	PS-3-3	PS-4-0	PS-5-0	PS-6-0	PS-7-0	PS-8-0	PS-8-3	PS-9-0	SD-7-D1	SD-7-D2	SD-7-D3	SD-7-D4	SD-7-D5	SD-24-01	SD-24-03
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	12/17/2015	12/17/2015	12/18/2015	12/18/2015	12/18/2015	3/9/2016	3/9/2016
SAMPLE TOP DEPTH (FT)		3	0	0	0	0	0	3	0	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	0	0	0	0	3	0	1	3	6	10	10	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	0	0	0	0	3	0	0.5	3	6	10	10	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Naphthalene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	26 U	5.3 U
PAH High molecular weight	ug/kg	--	--	--	--	--	--	--	--	11.2	44	0	0	--	2310	0
PAH Low molecular weight	ug/kg	--	--	--	--	--	--	--	--	0	0	0	0	--	68	0
Phenanthrene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	5.1 U	5.1 U	5.1 U	--	68 J	5.3 U
Pyrene	ug/kg	--	--	--	--	--	--	--	--	5.1 U	14	5.1 U	5.1 U	--	280 J	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	--	--	--	--	--	--	--	10 U	10 U	10 U	10 U	--	37	11 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-8	PS-9	SD-07	SD-07	SD-07	SD-07	SD-07	SD-24	SD-24
	SAMPLE	PS-3-3	PS-4-0	PS-5-0	PS-6-0	PS-7-0	PS-8-0	PS-8-3	PS-9-0	SD-7-D1	SD-7-D2	SD-7-D3	SD-7-D4	SD-7-D5	SD-24-01	SD-24-03
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	12/17/2015	12/17/2015	12/18/2015	12/18/2015	12/18/2015	3/9/2016	3/9/2016
SAMPLE TOP DEPTH (FT)		3	0	0	0	0	0	3	0	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	0	0	0	0	3	0	1	3	6	10	10	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	0	0	0	0	3	0	0.5	3	6	10	10	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	--	--	--	--	--	--	1.1 U	1.1 U	1.1 U	--	--	1.4 U
TPH as motor oil		mg/kg	--	--	--	--	--	--	--	10 U	65	10 U	10 U	--	290	28
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	PS-3	PS-4	PS-5	PS-6	PS-7	PS-8	PS-8	PS-9	SD-07	SD-07	SD-07	SD-07	SD-07	SD-24	SD-24
	SAMPLE	PS-3-3	PS-4-0	PS-5-0	PS-6-0	PS-7-0	PS-8-0	PS-8-3	PS-9-0	SD-7-D1	SD-7-D2	SD-7-D3	SD-7-D4	SD-7-D5	SD-24-01	SD-24-03
	DATE	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	4/13/1999	12/17/2015	12/17/2015	12/18/2015	12/18/2015	12/18/2015	3/9/2016	3/9/2016
SAMPLE TOP DEPTH (FT)		3	0	0	0	0	0	3	0	0	2	5	9	9	0	2
SAMPLE BOTTOM DEPTH (FT)		3	0	0	0	0	0	3	0	1	3	6	10	10	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0	0	0	0	0	3	0	0.5	3	6	10	10	0.5	3
	SAMPLE TYPE													Field Duplicate		
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-28	SD-28	SD-28	SD-28	SD-29	SD-29	SD-29	SD-29	SD-31	SD-31	SD-31	SD-31	SD-OS34	SD-OS34	SD-OS34
	SAMPLE	SD-28-01	SD-28-02	SD-28-03	SD-28-04	SD-29-02	SD-29-01	SD-29-03	SD-29-04	SD-31-01	SD-31-PIPE	SD-31-03	SD-31-02	SD-34-OS1-1001	SD-34-OS1-1005	SD-34-OS1-1002
	DATE	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/4/2017	2/5/2017	2/5/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	12/2/2016	12/2/2016	12/2/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	2	0	4.5	7.5	0	1	2	0	0	0.5	1
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2.2 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	--	2.1 U	6.1	2.1 U
Arsenic	mg/kg	4.7	4.4	3.7	3.8	2.8	3.5	3.1	2.5	--	3.4	3.1	4.7	5.7	9.4	4
Barium	mg/kg	75	110	140	120	68	250	55	110	110	100	89	--	170	1000	100
Beryllium	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U	--	1.1 U	1.4 U	1 U
Cadmium	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	--	1.4	1 U	2	3	10	4.6
Chromium, Hexavalent	mg/kg	0.21 U	0.22 U	0.21 U	0.22 U	0.22 U	0.62	0.21 U	0.21 U	1.4 J	1.6	0.28	--	8.4	3.6	4.3
Chromium, total	mg/kg	13	13	15	13	10	22	5.7	4.3	--	37	15	45 J	160	330	160
Cobalt	mg/kg	5	5.4	6.8	6.4	2.8	5.2	2	1.6	--	5.2	3.9	4.6	4.8	18	4.7
Copper	mg/kg	6.6	9.2	11	10	4.1	9.9	3.4	2.9	--	37	6.1	71 J	470	830	490
Lead	mg/kg	3.7	4.1	2.9	3.4	1.8	8.1	2.2	1.5	--	30	3	31	550	1100	520
Mercury	mg/kg	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.95	25	2.5
Molybdenum	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U	--	7.6	73	1.2
Nickel	mg/kg	10	10	13	12	5.8	11	3	2.3	7.9 J	12	5.5	--	24	210	13
Selenium	mg/kg	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	--	1.1 UJ	1.4 UJ	1 UJ
Silver	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 UJ	1 UJ	1.4 UJ	--	1.1 U	1.4 U	1 U
Thallium	mg/kg	2.1 U	2.2 U	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 UJ	2.1 UJ	2.1 UJ	--	2.1 UJ	2.8 UJ	2.1 UJ
Vanadium	mg/kg	16	19	25	22	12	21	8.7	6.2	17	17	16	--	12	14	9.7
Zinc	mg/kg	30	30	31	28	14	35	12	8.6	180 J	500	39	--	400	1900	400
Metals CLP																
Aluminum	mg/kg	--	--	--	--	3200	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	18000 J	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	0.21 UJ	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	5600 J	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	3400	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	110	--	--	--	--	--	--	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-28	SD-28	SD-28	SD-28	SD-29	SD-29	SD-29	SD-29	SD-31	SD-31	SD-31	SD-31	SD-OS34	SD-OS34	SD-OS34
	SAMPLE	SD-28-01	SD-28-02	SD-28-03	SD-28-04	SD-29-02	SD-29-01	SD-29-03	SD-29-04	SD-31-01	SD-31-PIPE	SD-31-03	SD-31-02	SD-34-OS1-1001	SD-34-OS1-1005	SD-34-OS1-1002
	DATE	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/4/2017	2/4/2017	2/5/2017	2/5/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	12/2/2016	12/2/2016	12/2/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	2	0	4.5	7.5	0	1	2	0	0	0.5	1
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	920 J	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	150 J	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	2.2 U	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	1.1 U	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	5.4 U	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	54 UJ	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	17 U	17 U	17 U	--	18 U	23 U	17 U
Aroclor 1221	ug/kg	35 U	37 U	35 U	35 U	36 U	36 U	35 U	34 U	34 U	34 U	34 U	--	35 U	47 U	35 U
Aroclor 1232	ug/kg	17 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	17 U	17 U	17 U	--	18 U	23 U	17 U
Aroclor 1242	ug/kg	17 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	17 UJ	17 U	17 U	17 U	--	18 U	23 U	17 U
Aroclor 1248	ug/kg	17 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	17 U	17 U	17 U	--	18 U	23 U	17 U
Aroclor 1254	ug/kg	17 U	34	18 U	18 U	18 U	18 U	18 U	17 U	950 J	1100	39	--	18 U	480	17 U
Aroclor 1260	ug/kg	17 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	--	520	17 U	400 J	18 U	23 U	44
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	61	36 U	36 U	36 U	36 U	36 U	34 U	--	1640	64.5	1520	36 U	515	69.5
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	14	5.2 U	9.3 J	5.3 U	120	5.3 U
2-Methyl naphthalene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	16	5.2 U	6.2 J	5.3 U	120	5.3 U
Acenaphthene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	5.2 U	5.2 U	34 J	17	11 U	5.3 U
Acenaphthylene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	5.2 U	5.2 U	76 J	5.3 U	11	5.3 U
Anthracene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	14	8.3	230 J	35	33	5.3 U
B(a)P Equivalent	ug/kg	13	20	12	6.5	6.2 U	7	6.1 U	6 U	--	190	65	2300	640	1200	6.1 U
Benzo (a) anthracene	ug/kg	6.3 J	9.2 J	9 J	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	130	33	1700 J	520 J	410	5.3 U
Benzo (a) pyrene	ug/kg	7.7	13 J	6.1	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	140	48 J	1600 J	480 J	910 J	5.3 U
Benzo (b) fluoranthene	ug/kg	16	24 J	16	5.4	5.4 U	5.4 U	5.3 U	5.2 U	--	280	94	3600 J	960	1700 J	5.3 U
Benzo (ghi) perylene	ug/kg	6	5.9 J	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	1800 J	100	15 J	--	78 J	260 J	5.3 U
Benzo (k) fluoranthene	ug/kg	5.3 U	11 J	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	930 J	80	38 J	--	310 J	810 J	5.3 U
Chrysene	ug/kg	8.1	11	11	5.4 U	5.4 U	5.7	5.3 U	5.2 U	--	140	35	1800 J	600	850	5.3 U
Dibenzo (a,h) anthracene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	5.1 U	5.2 U	5.2 U	--	5.3 U	11 U	5.3 U
Fluoranthene	ug/kg	13	12	14	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	230	46	3000 J	1100	790	5.3 U
Fluorene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	5.2 U	5.2 U	27 J	10	11 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.3 U	5.5 J	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	1500 J	90	15 J	--	94 J	260 J	5.3 U

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	LOCATION	SD-28	SD-28	SD-28	SD-28	SD-29	SD-29	SD-29	SD-29	SD-31	SD-31	SD-31	SD-31	SD-OS34	SD-OS34	SD-OS34
	SAMPLE	SD-28-01	SD-28-02	SD-28-03	SD-28-04	SD-29-02	SD-29-01	SD-29-03	SD-29-04	SD-31-01	SD-31-PIPE	SD-31-03	SD-31-02	SD-34-OS1-1001	SD-34-OS1-1005	SD-34-OS1-1002
	DATE	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/4/2017	2/4/2017	2/5/2017	2/5/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	12/2/2016	12/2/2016	12/2/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	2	0	4.5	7.5	0	1	2	0	0	0.5	1
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Naphthalene	ug/kg	5.3 U	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	5.2 U	5.2 U	6.2 J	5.3 U	19	5.3 U
PAH High molecular weight	ug/kg	69.1	105	68.1	5.4	0	15.7	0	0	--	1410	374	18700	5120	6800	0
PAH Low molecular weight	ug/kg	6.7	0	0	0	0	0	0	0	--	140	25.3	1390	482	443	0
Phenanthrene	ug/kg	6.7	5.5 U	5.4 U	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	840 J	96	17	--	420 J	140	5.3 U
Pyrene	ug/kg	12	13	12	5.4 U	5.4 U	5.4 U	5.3 U	5.2 U	--	220	50	3100 J	980	810	5.3 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	710 U	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	710 U	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	710 U	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	760 U	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	710 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	1800 U	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10 U	11 U	11 U	12	11 U	48	11 U	10 U	85	30	44	--	57	86	20

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-28	SD-28	SD-28	SD-28	SD-29	SD-29	SD-29	SD-29	SD-31	SD-31	SD-31	SD-31	SD-OS34	SD-OS34	SD-OS34
	SAMPLE	SD-28-01	SD-28-02	SD-28-03	SD-28-04	SD-29-02	SD-29-01	SD-29-03	SD-29-04	SD-31-01	SD-31-PIPE	SD-31-03	SD-31-02	SD-34-OS1-1001	SD-34-OS1-1005	SD-34-OS1-1002
	DATE	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/4/2017	2/4/2017	2/5/2017	2/5/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	12/2/2016	12/2/2016	12/2/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	2	0	4.5	7.5	0	1	2	0	0	0.5	1
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.3 U	1.2 U	1.2 U	1.3 U	1.3 UJ	1.5 U	1.2 U	1.3 U	1.1 U	2.4 U	1.2 U	--	1.2 UJ	2.3 U	1.4 U
TPH as motor oil	mg/kg	11	22	14	21	11 U	210	11 U	10 U	250	150	220	--	500	530	150
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	66 U	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	66 UJ	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	130 U	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	66 U	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	6.7 U	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-28	SD-28	SD-28	SD-28	SD-29	SD-29	SD-29	SD-29	SD-31	SD-31	SD-31	SD-31	SD-OS34	SD-OS34	SD-OS34
	SAMPLE	SD-28-01	SD-28-02	SD-28-03	SD-28-04	SD-29-02	SD-29-01	SD-29-03	SD-29-04	SD-31-01	SD-31-PIPE	SD-31-03	SD-31-02	SD-34-OS1-1001	SD-34-OS1-1005	SD-34-OS1-1002
	DATE	2/5/2017	2/5/2017	2/5/2017	2/5/2017	2/4/2017	2/4/2017	2/5/2017	2/5/2017	2/15/2017	2/15/2017	2/15/2017	2/15/2017	12/2/2016	12/2/2016	12/2/2016
SAMPLE TOP DEPTH (FT)		0	2	5	9	2	0	4.5	7.5	0	1	2	0	0	0.5	1
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	10	3	0.5	5	8	0.5	2	3	0.5	0.5	1	1.5
	SAMPLE TYPE												Field Duplicate			
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	710 U	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	6.7 UJ	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	66 U	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	66 U	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	6.7 U	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	360 U	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	6.6 U	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS34	SD-OS34	SD-OS34	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS35	SD-OS35	SD-OS35	SD-OS35A	SD-OS35A	SD-OS35A	SD-OS36	SD-OS36
	SAMPLE	SD-34-OS1-1003	SD-34-OS1-1004	SD-34-OS1-1006	SD-34A-OS1-1001	SD-34A-OS1-1002	SD-34A-OS1-1003	SD-34A-OS1-1004	SD-35-OS1-1001	SD-35-OS1-1002	SD-35-OS1-1003	SD-35A-OS1-1003	SD-35A-OS1-1002	SD-35A-OS1-1001	SD-36-OS1-1001	SD-36-OS1-1002
	DATE	12/3/2016	12/3/2016	12/3/2016	12/2/2016	12/3/2016	12/2/2016	12/2/2016	12/4/2016	12/4/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/1/2016	12/1/2016
SAMPLE TOP DEPTH (FT)		2	5	5	0	1	2	5	0	2	4.5	0	2	4.5	0	2.5
SAMPLE BOTTOM DEPTH (FT)		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	--	2 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U
Arsenic	mg/kg	2.9	2.1	--	3.3	2.9	2.1	2.2	3.4	3.4	2.5	2.9	2.9	3.6	3	2.3
Barium	mg/kg	57	62	--	100	68	50	35	140	160	78	85	100	190	100	43
Beryllium	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U
Cadmium	mg/kg	1 U	1 U	--	1.2	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.3	1.1 U	1 U
Chromium, Hexavalent	mg/kg	0.51	0.8	--	2	1	2.1	0.2 U	2.6	0.52	0.23	0.69	0.28	2.5	1.4	0.21 U
Chromium, total	mg/kg	12	--	9.5 J	28	15	10	3.2	63	18	15	14	11	86	50	5.3
Cobalt	mg/kg	2.9	--	2	4	3.2	1.8	1.5	2.9	3.5	2	3.7	3.4	4	3.7	2.2
Copper	mg/kg	35	42 J	--	170	60	32	6.3	160	12	23	17	5.8	590	15	3.5
Lead	mg/kg	26	--	62 J	84	34	28	3.2	40	3.5	24	12	3	70	25	2.4
Mercury	mg/kg	0.1 U	0.1 U	--	0.13	0.41	0.11	0.1 U	0.33	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Molybdenum	mg/kg	1 U	1 U	--	3.1	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U
Nickel	mg/kg	5.4	4.3	--	9.9	7	5.4	2.1	6.1	5.3	2.7	7.1	5.4	10	7.8	4
Selenium	mg/kg	1 UJ	1 UJ	--	1 UJ	1.1 UJ	1 UJ	1 UJ	1 U	1.1 U	1 UJ	1 UJ	1 UJ	1 UJ	1.1 UJ	1 UJ
Silver	mg/kg	1 U	1 U	--	1 U	1.1 U	1 U	1 U	1 UJ	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U
Thallium	mg/kg	2.1 UJ	2 UJ	--	2 UJ	2.1 UJ	2 UJ	2 UJ	2.1 U	2.1 U	2 UJ	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.1 UJ
Vanadium	mg/kg	10	--	8.3	11	11	6.9	5.7	9.7	15	8.1	12	13	19	15	8.6
Zinc	mg/kg	48	60 J	--	240	67	43	9.5	130	19	35	75	19	220	64	11
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS34	SD-OS34	SD-OS34	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS35	SD-OS35	SD-OS35	SD-OS35A	SD-OS35A	SD-OS35A	SD-OS36	SD-OS36
	SAMPLE	SD-34-OS1-1003	SD-34-OS1-1004	SD-34-OS1-1006	SD-34A-OS1-1001	SD-34A-OS1-1002	SD-34A-OS1-1003	SD-34A-OS1-1004	SD-35-OS1-1001	SD-35-OS1-1002	SD-35-OS1-1003	SD-35A-OS1-1003	SD-35A-OS1-1002	SD-35A-OS1-1001	SD-36-OS1-1001	SD-36-OS1-1002
	DATE	12/3/2016	12/3/2016	12/3/2016	12/2/2016	12/3/2016	12/2/2016	12/2/2016	12/4/2016	12/4/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/1/2016	12/1/2016
SAMPLE TOP DEPTH (FT)		2	5	5	0	1	2	5	0	2	4.5	0	2	4.5	0	2.5
SAMPLE BOTTOM DEPTH (FT)		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1221	ug/kg	34 U	33 U	--	33 U	35 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U	34 U	35 U	35 U
Aroclor 1232	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	--	17 U	17 U	17 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1254	ug/kg	38	--	18	73	17 U	17 U	17 U	130	18 U	17 U	17 U	17 U	120	18 U	17 U
Aroclor 1260	ug/kg	22	17 U	--	17 U	17 U	17 U	17 U	53	18 U	17 U	17 U	17 U	17 U	18 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	77	--	43.5	98.5	34 U	34 U	34 U	200	36 U	34 U	34 U	34 U	146	36 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.2 U	5.1 U	--	13	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
2-Methyl naphthalene	ug/kg	5.2 U	5.1 U	--	14	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
Acenaphthene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
Acenaphthylene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
Anthracene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	8.1 J	5.2 U
B(a)P Equivalent	ug/kg	58	--	75	200	68	27	6.2	71	6.1 U	5.9 U	54	13	580	76	6 U
Benzo (a) anthracene	ug/kg	25	--	35	100	38	12	5.1 U	34	5.3 U	5.1 U	26	5.5	340 J	54 J	5.2 U
Benzo (a) pyrene	ug/kg	44	--	55 J	150	51	18	5.1 U	53	5.3 U	5.1 U	40	7.9	460 J	54 J	5.2 U
Benzo (b) fluoranthene	ug/kg	66	54 J	--	260	76	33	5.8	92	5.3 U	5.1 U	66	14	700 J	120 J	5.2 U
Benzo (ghi) perylene	ug/kg	21	--	22	64	30	16	5.1 U	18	5.3 U	5.1 U	25	5.1	120 J	17 J	5.2 U
Benzo (k) fluoranthene	ug/kg	32	--	32	110	28	11	5.1 U	47	5.3 U	5.1 U	30	6.5	270 J	40 J	5.2 U
Chrysene	ug/kg	41	--	56 J	160	51	21	5.1 U	57	5.3 U	5.1 U	48	9.3	560 J	59 J	5.2 U
Dibenzo (a,h) anthracene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
Fluoranthene	ug/kg	53	--	74 J	230	76	30	5.1 U	77	5.3 U	5.1 U	63	15	930 J	100 J	5.2 U
Fluorene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.1 U	5.3 U	5.2 U
Indeno (1,2,3-cd) pyrene	ug/kg	22	--	24	69	29	15	5.1 U	20	5.3 U	5.1 U	24	5.1 U	130 J	13 J	5.2 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS34	SD-OS34	SD-OS34	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS35	SD-OS35	SD-OS35	SD-OS35A	SD-OS35A	SD-OS35A	SD-OS36	SD-OS36
	SAMPLE	SD-34-OS1-1003	SD-34-OS1-1004	SD-34-OS1-1006	SD-34A-OS1-1001	SD-34A-OS1-1002	SD-34A-OS1-1003	SD-34A-OS1-1004	SD-35-OS1-1001	SD-35-OS1-1002	SD-35-OS1-1003	SD-35A-OS1-1003	SD-35A-OS1-1002	SD-35A-OS1-1001	SD-36-OS1-1001	SD-36-OS1-1002
	DATE	12/3/2016	12/3/2016	12/3/2016	12/2/2016	12/2/2016	12/2/2016	12/2/2016	12/4/2016	12/4/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/1/2016	12/1/2016
SAMPLE TOP DEPTH (FT)		2	5	5	0	1	2	5	0	2	4.5	0	2	4.5	0	2.5
SAMPLE BOTTOM DEPTH (FT)		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Naphthalene	ug/kg	5.2 U	5.1 U	--	5 U	5.3 U	5.1 U	5.1 U	5.2 U	5.3 U	5.1 U	5.1 U	5.1 U	5.8 J	5.3 U	5.2 U
PAH High molecular weight	ug/kg	357	--	480	1370	452	185	5.8	474	0	0	385	77.3	4420	552	0
PAH Low molecular weight	ug/kg	10	--	18	85	23	7.5	0	15	0	0	15	0	279	33.1	0
Phenanthrene	ug/kg	10	8.5	--	58	23	7.5	5.1 U	15	5.3 U	5.1 U	15	5.1 U	250 J	25 J	5.2 U
Pyrene	ug/kg	53	--	72 J	230	73	29	5.1 U	76	5.3 U	5.1 U	63	14	910 J	95 J	5.2 U
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	12	--	17	27	22	13	10 U	22	11	10 U	12	14	39	49	32

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS34	SD-OS34	SD-OS34	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS35	SD-OS35	SD-OS35	SD-OS35A	SD-OS35A	SD-OS35A	SD-OS36	SD-OS36
	SAMPLE	SD-34-OS1-1003	SD-34-OS1-1004	SD-34-OS1-1006	SD-34A-OS1-1001	SD-34A-OS1-1002	SD-34A-OS1-1003	SD-34A-OS1-1004	SD-35-OS1-1001	SD-35-OS1-1002	SD-35-OS1-1003	SD-35A-OS1-1003	SD-35A-OS1-1002	SD-35A-OS1-1001	SD-36-OS1-1001	SD-36-OS1-1002
	DATE	12/3/2016	12/3/2016	12/3/2016	12/2/2016	12/2/2016	12/2/2016	12/2/2016	12/4/2016	12/4/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/1/2016	12/1/2016
SAMPLE TOP DEPTH (FT)		2	5	5	0	1	2	5	0	2	4.5	0	2	4.5	0	2.5
SAMPLE BOTTOM DEPTH (FT)		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.3 U	1.2 U	--	1.3 U	1.5 U	1.2 U	1.3 U	1.3 U	1.3 U	1.5 U	1.1 U	1.2 U	1.3 U	1.5 U	1.3 U
TPH as motor oil	mg/kg	37	14 J	--	150	130	51	12	150	18	26	37	94	320 J	330	100
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS34	SD-OS34	SD-OS34	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS34A	SD-OS35	SD-OS35	SD-OS35	SD-OS35A	SD-OS35A	SD-OS35A	SD-OS36	SD-OS36
	SAMPLE	SD-34-OS1-1003	SD-34-OS1-1004	SD-34-OS1-1006	SD-34A-OS1-1001	SD-34A-OS1-1002	SD-34A-OS1-1003	SD-34A-OS1-1004	SD-35-OS1-1001	SD-35-OS1-1002	SD-35-OS1-1003	SD-35A-OS1-1003	SD-35A-OS1-1002	SD-35A-OS1-1001	SD-36-OS1-1001	SD-36-OS1-1002
	DATE	12/3/2016	12/3/2016	12/3/2016	12/2/2016	12/2/2016	12/2/2016	12/2/2016	12/4/2016	12/4/2016	12/5/2016	12/5/2016	12/5/2016	12/5/2016	12/1/2016	12/1/2016
SAMPLE TOP DEPTH (FT)		2	5	5	0	1	2	5	0	2	4.5	0	2	4.5	0	2.5
SAMPLE BOTTOM DEPTH (FT)		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	6	6	0.5	1.5	3	6	0.5	3	5.5	0.5	3	5.5	0.5	3
	SAMPLE TYPE			Field Duplicate												
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS36	SD-OS38	SD-OS38	SD-OS39	SD-OS39	SD-OS39	SD-OS39	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40
	SAMPLE	SD-36-OS1-1003	SD-38-OS1-1001	SD-38-OS1-1002	SD-39-OS1-1001	SD-39-OS1-1002	SD-39-OS1-1004	SD-39-OS1-1003	SD-40-OS1-1001	SD-40-OS1-1002	SD-40-OS1-1003	SD-40-OS1-1008	SD-40-OS1-1004	SD-40-OS1-1007	SD-40-OS1-1006	SD-40-OS1-1005
	DATE	12/1/2016	12/13/2016	12/13/2016	11/29/2016	11/29/2016	11/29/2016	11/29/2016	12/6/2016	12/6/2016	12/6/2016	12/9/2016	12/9/2016	12/11/2016	12/9/2016	12/9/2016
SAMPLE TOP DEPTH (FT)		5	0	3	0	2.5	0	2.5	0	2	5	5	6	7	9	7
SAMPLE BOTTOM DEPTH (FT)		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
	SAMPLE TYPE						Field Duplicate	Field Duplicate								
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 U	2 UJ	2.1 UJ	2 U	2.1 U	--	--	2 U	2.1 U	2.1 U	2.1 UJ	2.3 UJ	2.1 UJ	2.1 UJ	--
Arsenic	mg/kg	2.3	3.8	3	3.2	3.3	--	--	3.5	3.6	3.9	3.7	3.2	3.5	3.2	--
Barium	mg/kg	51	140	96	110	120	--	--	130	150	99	150	55	130	170	--
Beryllium	mg/kg	1 U	1 U	1.1 U	1 U	1 U	--	--	1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	--
Cadmium	mg/kg	1 U	1 UJ	1.1 UJ	1 U	1 U	--	--	1 U	1.1 U	1 U	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	--
Chromium, Hexavalent	mg/kg	0.2 U	0.2 U	0.3	--	0.21 U	0.52	--	0.2 U	0.21 U	0.21 U	0.21 U	0.23 U	--	0.45	0.65
Chromium, total	mg/kg	5	19	19	--	9.1	30	--	11	11	12	12	23	--	14	20
Cobalt	mg/kg	1.9	4.8	4.1	6.6	3.5	--	--	4.3	4.5	4.6	5.5 J	5.9	--	3.1	4.5
Copper	mg/kg	3.1	10	12	13	--	--	7.1	7.3	7.1	7.1	9.4	63	--	5.3	8.8
Lead	mg/kg	2.1	5.9 J	4.8 J	10	--	--	3.5	3.2	3.2	2.7	4.8 J	8.5 J	2.9 J	1.6 J	--
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	--	0.1 U	0.099 U	--	0.1 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	--
Molybdenum	mg/kg	1 U	1.4	3.8	1 U	1 U	--	--	1 U	1.1 U	1 U	1.1 U	2.2	1.1 U	1.1 U	--
Nickel	mg/kg	3.2	10	6.4	14	6	--	--	7.2	7.5	8	8.7	8	--	4.2	6.7
Selenium	mg/kg	1 UJ	1 UJ	1.1 UJ	1 UJ	1 UJ	--	--	1 UJ	1.1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	--
Silver	mg/kg	1 U	1 U	1.1 U	1 UJ	1 U	--	--	1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	--
Thallium	mg/kg	2 UJ	2 UJ	2.1 UJ	2 UJ	2.1 UJ	--	--	2 UJ	2.1 UJ	2.1 UJ	2.1 UJ	2.3 UJ	2.1 UJ	2.1 UJ	--
Vanadium	mg/kg	8.8	23	19	23	15	--	--	17	19	19	23	17	--	16	19
Zinc	mg/kg	10	32	25	--	--	49	18	24	25	24	30 J	75	--	17	23
Metals CLP																
Aluminum	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS36	SD-OS38	SD-OS38	SD-OS39	SD-OS39	SD-OS39	SD-OS39	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40
	SAMPLE	SD-36-OS1-1003	SD-38-OS1-1001	SD-38-OS1-1002	SD-39-OS1-1001	SD-39-OS1-1002	SD-39-OS1-1004	SD-39-OS1-1003	SD-40-OS1-1001	SD-40-OS1-1002	SD-40-OS1-1003	SD-40-OS1-1008	SD-40-OS1-1004	SD-40-OS1-1007	SD-40-OS1-1006	SD-40-OS1-1005
	DATE	12/1/2016	12/13/2016	12/13/2016	11/29/2016	11/29/2016	11/29/2016	11/29/2016	12/6/2016	12/6/2016	12/6/2016	12/9/2016	12/9/2016	12/11/2016	12/9/2016	12/9/2016
SAMPLE TOP DEPTH (FT)		5	0	3	0	2.5	0	2.5	0	2	5	5	6	7	9	7
SAMPLE BOTTOM DEPTH (FT)		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
	SAMPLE TYPE						Field Duplicate	Field Duplicate								
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	18 U	--	17 U	16 U	--	17 U	17 U	17 U	18 U	19 U	--	17 U	17 U
Aroclor 1221	ug/kg	33 U	33 U	35 U	--	34 U	33 U	--	34 U	35 U	34 U	35 U	38 U	35 U	35 U	--
Aroclor 1232	ug/kg	17 U	17 U	18 U	--	17 U	16 U	--	17 U	17 U	17 U	18 U	19 U	--	17 U	17 U
Aroclor 1242	ug/kg	17 U	17 U	18 U	--	17 U	17 U	--	17 U	17 U	17 U	18 U	19 U	--	17 U	17 U
Aroclor 1248	ug/kg	17 U	17 U	18 U	--	17 U	16 U	--	17 U	17 U	17 U	18 U	19 U	--	17 U	17 U
Aroclor 1254	ug/kg	17 U	68	18 U	95 J	17 U	--	--	17 U	17 U	17 U	18 U	27	--	17 U	17 U
Aroclor 1260	ug/kg	17 U	94	18 U	--	17 U	72 J	--	17 U	17 U	17 U	18 U	19 U	--	17 U	17 U
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	34 U	179	36 U	--	34 U	348	--	34 U	34 U	34 U	36 U	55.5	--	34 U	34 U
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
2-Methyl naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
Acenaphthene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
Acenaphthylene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
Anthracene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
B(a)P Equivalent	ug/kg	5.9 U	48	13	52	6.3	--	--	6.1	12	11	9.3	120	41	6.1 U	--
Benzo (a) anthracene	ug/kg	5.1 U	20	5.3 U	26	5.2 U	--	--	5.1 U	5.3 U	5.2 U	5.3 U	67 J	17	5.3 U	--
Benzo (a) pyrene	ug/kg	5.1 U	35 J	7.8 J	37	5.2 U	--	--	5.1 U	7.1	6.6	5.3	88	28	5.3 U	--
Benzo (b) fluoranthene	ug/kg	5.1 U	64	15 J	--	5.9	90	--	5.1	13	11	7.8	220	68	5.3 U	--
Benzo (ghi) perylene	ug/kg	5.1 U	16 J	5.3 U	14	5.2 U	--	--	5.1 U	5.3 U	5.2	5.3 U	61	18	5.3 U	--
Benzo (k) fluoranthene	ug/kg	5.1 U	36 J	8.2 J	30	5.2 U	--	--	5.1 U	5.3	5.2 U	5.3 U	84	21	5.3 U	--
Chrysene	ug/kg	5.1 U	39	7.1	41	5.2 U	--	--	5.1 U	7.4	6.6	5.7	110	34	5.3 U	--
Dibenzo (a,h) anthracene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
Fluoranthene	ug/kg	5.1 U	43	7.5	51	5.2 U	--	--	5.1 U	8.8	8.3	6.8	85 J	21	5.3 U	--
Fluorene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
Indeno (1,2,3-cd) pyrene	ug/kg	5.1 U	14 J	5.3 U	14	5.2 U	--	--	5.1 U	5.3 U	5.2 U	5.3 U	45 J	17	5.3 U	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS36	SD-OS38	SD-OS38	SD-OS39	SD-OS39	SD-OS39	SD-OS39	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40
	SAMPLE	SD-36-OS1-1003	SD-38-OS1-1001	SD-38-OS1-1002	SD-39-OS1-1001	SD-39-OS1-1002	SD-39-OS1-1004	SD-39-OS1-1003	SD-40-OS1-1001	SD-40-OS1-1002	SD-40-OS1-1003	SD-40-OS1-1008	SD-40-OS1-1004	SD-40-OS1-1007	SD-40-OS1-1006	SD-40-OS1-1005
	DATE	12/1/2016	12/13/2016	12/13/2016	11/29/2016	11/29/2016	11/29/2016	11/29/2016	12/6/2016	12/6/2016	12/6/2016	12/9/2016	12/9/2016	12/11/2016	12/9/2016	12/9/2016
SAMPLE TOP DEPTH (FT)		5	0	3	0	2.5	0	2.5	0	2	5	5	6	7	9	7
SAMPLE BOTTOM DEPTH (FT)		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
	SAMPLE TYPE						Field Duplicate	Field Duplicate								
ANALYTE	UNITS															
Naphthalene	ug/kg	5.1 U	5.1 U	5.3 U	--	5.2 U	5 U	--	5.1 U	5.3 U	5.2 U	5.3 U	5.7 U	5.3 U	5.3 U	--
PAH High molecular weight	ug/kg	0	311	53.8	344	5.9	--	--	5.1	51.1	46	32.7	845	248	0	--
PAH Low molecular weight	ug/kg	0	8.8	0	14	0	--	--	0	0	0	0	21	0	0	--
Phenanthrene	ug/kg	5.1 U	8.8	5.3 U	14	5.2 U	--	--	5.1 U	5.3 U	5.2 U	5.3 U	21 J	5.3 U	5.3 U	--
Pyrene	ug/kg	5.1 U	44	8.2	49	5.2 U	--	--	5.1 U	9.5	8.3	7.1	85 J	24	5.3 U	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	10	24	27	--	11	38	--	10	20	16	21	17	--	13	14

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS36	SD-OS38	SD-OS38	SD-OS39	SD-OS39	SD-OS39	SD-OS39	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40
	SAMPLE	SD-36-OS1-1003	SD-38-OS1-1001	SD-38-OS1-1002	SD-39-OS1-1001	SD-39-OS1-1002	SD-39-OS1-1004	SD-39-OS1-1003	SD-40-OS1-1001	SD-40-OS1-1002	SD-40-OS1-1003	SD-40-OS1-1008	SD-40-OS1-1004	SD-40-OS1-1007	SD-40-OS1-1006	SD-40-OS1-1005
	DATE	12/1/2016	12/13/2016	12/13/2016	11/29/2016	11/29/2016	11/29/2016	11/29/2016	12/6/2016	12/6/2016	12/6/2016	12/9/2016	12/9/2016	12/11/2016	12/9/2016	12/9/2016
SAMPLE TOP DEPTH (FT)		5	0	3	0	2.5	0	2.5	0	2	5	5	6	7	9	7
SAMPLE BOTTOM DEPTH (FT)		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
	SAMPLE TYPE						Field Duplicate	Field Duplicate								
ANALYTE	UNITS															
TPH as gasoline	mg/kg	1.2 U	1.2 U	1.4 U	--	--	1.2 U	1.1 U	1.2 U	1.5 U	1.3 U	1.4 U	1.2 U	1.2 U	1.5 U	--
TPH as motor oil	mg/kg	40	94	87	170	19	--	--	20	79	52	57	150	--	24	55
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS36	SD-OS38	SD-OS38	SD-OS39	SD-OS39	SD-OS39	SD-OS39	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40	SD-OS40
	SAMPLE	SD-36-OS1-1003	SD-38-OS1-1001	SD-38-OS1-1002	SD-39-OS1-1001	SD-39-OS1-1002	SD-39-OS1-1004	SD-39-OS1-1003	SD-40-OS1-1001	SD-40-OS1-1002	SD-40-OS1-1003	SD-40-OS1-1008	SD-40-OS1-1004	SD-40-OS1-1007	SD-40-OS1-1006	SD-40-OS1-1005
	DATE	12/1/2016	12/13/2016	12/13/2016	11/29/2016	11/29/2016	11/29/2016	11/29/2016	12/6/2016	12/6/2016	12/6/2016	12/9/2016	12/9/2016	12/11/2016	12/9/2016	12/9/2016
SAMPLE TOP DEPTH (FT)		5	0	3	0	2.5	0	2.5	0	2	5	5	6	7	9	7
SAMPLE BOTTOM DEPTH (FT)		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		6	0.5	4	0.5	3	0.5	3	0.5	3	5.5	6	7	8	10	8
	SAMPLE TYPE						Field Duplicate	Field Duplicate								
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS41	SD-OS41	SD-OS41	SD-OS41	SWMU11-1	SWMU11-1	SWMU11-2	SWMU11-2	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-4	SWMU11-4	SWMU11-5
	SAMPLE	SD-41-OS1-1001	SD-41-OS1-1002	SD-41-OS1-1003	SD-41-OS1-1004	SWMU11-1-32000	SWMU11-1-32001	SWMU11-2-32002	SWMU11-2-32003	SWMU11-3-32004	SWMU11-3-32005	SWMU11-3-32010	SWMU11-3-32011	SWMU11-4-32006	SWMU11-4-32007	SWMU11-5-32008
	DATE	12/13/2016	12/13/2016	12/14/2016	12/14/2016	1/19/2016	1/19/2016	1/26/2016	1/26/2016	1/19/2016	1/19/2016	1/18/2017	1/18/2017	1/25/2016	1/25/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	0	2	0	2	5	9	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	--	--	--	--	--	5500 J	34000 J	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	--	--	--	--	--	470 J	4.2 UJ	--	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	38 J	140 J	--	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	35 J	3.2 UJ	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	--	--	--	--	--	28 J	120 J	--	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	--	--	--	--	--	160 J	730 J	--	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	28 J	130 J	--	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	--	--	--	--	--	--	--	--	26 J	100 J	--	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	7.6 J	14 UJ	--	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	--	--	--	--	--	66 J	270 J	--	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	--	--	--	--	--	7.6 J	25 J	--	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	--	--	--	--	--	630 UJ	2500 UJ	--	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	--	--	--	--	--	--	--	--	12 J	41 J	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--	2.7 UJ	7.7 UJ	--	--	--	--	--
2,3,7,8-TCDF	ng/kg	--	--	--	--	--	--	--	--	6.9 J	9.4 J	--	--	--	--	--
OCDD	ng/kg	--	--	--	--	--	--	--	--	47000 J	360000 J	--	--	--	--	--
OCDF	ng/kg	--	--	--	--	--	--	--	--	860 J	3900 J	--	--	--	--	--
TEQ Avian	ng/kg	--	--	--	--	--	--	--	--	110	410	--	--	--	--	--
TEQ Human	ng/kg	--	--	--	--	--	--	--	--	170	820	--	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	--	--	--	--	--	170	820	--	--	--	--	--
General																
pH	PHUNITS	--	--	--	--	8.8	7.7	11	10	8.2	7.8	--	--	10	9.3	9.2
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.1 U	2.2 U	2.1 U	2.1 U	2.2 U	2.2 U	2.1 U	--	2.2 U	2.1 U	2.1 U
Arsenic	mg/kg	3	3.3	3.6	3.5	5.1	4.3	4	3.7	5.8	4.5	3	--	4.7	4.3	4.9
Barium	mg/kg	110	160	170	150	93	60	100	120	120	110	59	--	220	330	110
Beryllium	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Cadmium	mg/kg	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.2 U	0.21 U	0.32	1.5	3.4	0.54	2	1.7	2.7	5.4	1	0.69	1.8	0.47	1.8
Chromium, total	mg/kg	11	17	26	58	64	14	35	40	70	87	12	--	37	17	63
Cobalt	mg/kg	5	5.4	5.9	5.1	4.4	3.2	4.9	6.8	5.9	4	2.1	--	6.2	7.9	5
Copper	mg/kg	8.6	8.7	12	9.5	58	10	27	15	33	14	6.6	--	16	11	17
Lead	mg/kg	7.2 J	3.1 J	35 J	8.8 J	32	6.2	9.7	3.8	59	30	2.7	--	12	1.3	13
Mercury	mg/kg	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U	--	0.11 U	0.11 U	0.11 U
Molybdenum	mg/kg	1 U	1.2	7.6	4.7	1.8	1.1 U	1.9	1.1 U	2.5	1.1 U	1.1 U	--	1.1 U	1.1 U	2.2
Nickel	mg/kg	7.9	9.9	11	8.9	12	7.7	12	15	15	9.3	4.6	--	11	9.1	9.9
Selenium	mg/kg	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 UJ	--	1.1 U	1.1 U	1.1 U
Silver	mg/kg	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	--	1.1 U	1.1 U	1.1 U
Thallium	mg/kg	2 UJ	2.1 UJ	2.3 UJ	2.2 UJ	2.1 U	2.2 U	2.1 U	2.1 U	2.2 U	2.2 U	2.1 U	--	2.2 U	2.1 U	2.1 U
Vanadium	mg/kg	20	25	26	24	20	12	22	25	22	15	9.3	--	30	39	22
Zinc	mg/kg	26	25	36	30	170	53	53	27	140	79	28	--	54	36	89
Metals CLP																
Aluminum	mg/kg	--	--	--	--	5800	5200	--	--	--	--	3400	--	--	--	--
Calcium	mg/kg	--	--	--	--	20000	19000	--	--	--	--	16000	--	--	--	--
Cyanide	mg/kg	--	--	--	--	0.22 U	0.22 U	--	--	--	--	--	--	--	--	--
Iron	mg/kg	--	--	--	--	12000	8600	--	--	--	--	5200	--	--	--	--
Magnesium	mg/kg	--	--	--	--	4600	3600	--	--	--	--	3100	--	--	--	--
Manganese	mg/kg	--	--	--	--	180	170	--	--	--	--	120	--	--	--	--

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Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS41	SD-OS41	SD-OS41	SD-OS41	SWMU11-1	SWMU11-1	SWMU11-2	SWMU11-2	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-4	SWMU11-4	SWMU11-5
	SAMPLE	SD-41-OS1-1001	SD-41-OS1-1002	SD-41-OS1-1003	SD-41-OS1-1004	SWMU11-1-32000	SWMU11-1-32001	SWMU11-2-32002	SWMU11-2-32003	SWMU11-3-32004	SWMU11-3-32005	SWMU11-3-32010	SWMU11-3-32011	SWMU11-4-32006	SWMU11-4-32007	SWMU11-5-32008
	DATE	12/13/2016	12/13/2016	12/14/2016	12/14/2016	1/19/2016	1/19/2016	1/26/2016	1/26/2016	1/19/2016	1/19/2016	1/18/2017	1/18/2017	1/25/2016	1/25/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	0	2	0	2	5	9	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Potassium	mg/kg	--	--	--	--	1500	1200	--	--	--	--	800 J	--	--	--	--
Sodium	mg/kg	--	--	--	--	1200	850	--	--	--	--	450 J	--	--	--	--
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Endrin	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	2.1 U	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	--	--	--	--	--	1.1 U	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	--	--	--	--	--	5.3 U	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--	--	--	--	--	--	53 UJ	--	--	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	17 U	17 U	19 U	18 U	--	--	--	--	18 R	18 R	--	--	--	--	--
Aroclor 1221	ug/kg	33 U	35 U	37 U	35 U	--	--	--	--	35 R	36 R	--	--	--	--	--
Aroclor 1232	ug/kg	17 U	17 U	19 U	18 U	--	--	--	--	18 R	18 R	--	--	--	--	--
Aroclor 1242	ug/kg	17 U	17 U	19 U	18 U	--	--	--	--	18 R	18 R	--	--	--	--	--
Aroclor 1248	ug/kg	17 U	17 U	19 U	18 U	--	--	--	--	18 R	18 R	--	--	--	--	--
Aroclor 1254	ug/kg	22	17 U	110	18 U	--	--	--	--	120 J	24 J	--	--	--	--	--
Aroclor 1260	ug/kg	58	17 U	53	20	--	--	--	--	78 J	39 J	--	--	--	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	97	34 U	182	47	--	--	--	--	216 JH	81 JH	--	--	--	--	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	82 J	5.4 R	--	--	--	--	--
2-Methyl naphthalene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	84 J	5.4 R	350 U	--	--	--	--
Acenaphthene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	5.3 R	5.4 R	350 U	--	--	--	--
Acenaphthylene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	5.3 R	5.4 R	350 U	--	--	--	--
Anthracene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	6 J	6.1 J	350 U	--	--	--	--
B(a)P Equivalent	ug/kg	19	6.1 U	28	7.3	--	--	--	--	250 JH	380 JH	400 U	--	--	--	--
Benzo (a) anthracene	ug/kg	6.7	5.3 U	12	5.4 U	--	--	--	--	140 J	180 J	350 U	--	--	--	--
Benzo (a) pyrene	ug/kg	12 J	5.3 U	19 J	5.4 U	--	--	--	--	190 J	290 J	350 U	--	--	--	--
Benzo (b) fluoranthene	ug/kg	30 J	5.3 U	42 J	13 J	--	--	--	--	350 J	450 J	350 U	--	--	--	--
Benzo (ghi) perylene	ug/kg	5 U	5.3 U	12 J	5.4 U	--	--	--	--	170 J	190 J	350 U	--	--	--	--
Benzo (k) fluoranthene	ug/kg	9.4 J	5.3 U	17 J	5.7 J	--	--	--	--	150 J	190 J	350 U	--	--	--	--
Chrysene	ug/kg	15	5.3 U	20	6.5	--	--	--	--	150 J	200 J	350 U	--	--	--	--
Dibenzo (a,h) anthracene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	7.8 J	9.4 J	350 U	--	--	--	--
Fluoranthene	ug/kg	19	5.3 U	29	9.3	--	--	--	--	200 J	210 J	350 U	--	--	--	--
Fluorene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	5.3 R	5.4 R	350 U	--	--	--	--
Indeno (1,2,3-cd) pyrene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	52 J	140 J	350 U	--	--	--	--

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PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS41	SD-OS41	SD-OS41	SD-OS41	SWMU11-1	SWMU11-1	SWMU11-2	SWMU11-2	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-4	SWMU11-4	SWMU11-5
	SAMPLE	SD-41-OS1-1001	SD-41-OS1-1002	SD-41-OS1-1003	SD-41-OS1-1004	SWMU11-1-32000	SWMU11-1-32001	SWMU11-2-32002	SWMU11-2-32003	SWMU11-3-32004	SWMU11-3-32005	SWMU11-3-32010	SWMU11-3-32011	SWMU11-4-32006	SWMU11-4-32007	SWMU11-5-32008
	DATE	12/13/2016	12/13/2016	12/14/2016	12/14/2016	1/19/2016	1/19/2016	1/26/2016	1/26/2016	1/19/2016	1/19/2016	1/18/2017	1/18/2017	1/25/2016	1/25/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	0	2	0	2	5	9	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Naphthalene	ug/kg	5 U	5.3 U	5.6 U	5.4 U	--	--	--	--	9.5 J	5.4 R	7.5 U	--	--	--	--
PAH High molecular weight	ug/kg	112	0	180	44.2	--	--	--	--	1600	2080	0	--	--	--	--
PAH Low molecular weight	ug/kg	6	0	8.6	0	--	--	--	--	239	47.1	0	--	--	--	--
Phenanthrene	ug/kg	6	5.3 U	8.6	5.4 U	--	--	--	--	57 J	41 J	350 U	--	--	--	--
Pyrene	ug/kg	20	5.3 U	29	9.7	--	--	--	--	190 J	220 J	350 U	--	--	--	--
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
1,2,4,5-Tetrachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
2-Chloro naphthalene	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2-Chlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
2-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2,3,4,6-Tetrachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
2,4-Dichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
2,4-Dimethylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2,4-Dinitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
2,4-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2,6-Dinitrotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
3-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
3,3-Dichlorobenzidene	ug/kg	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
4-Chloroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
4-Methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
4-Nitroaniline	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
4-Nitrophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	740 U	--	--	--	--
Benzoic acid	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
Benzyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
bis (2-chloroethoxy) methane	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
bis (2-ethylhexyl) phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Butylbenzylphthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Caprolactam	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Carbazole	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Di-n-butyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Di-n-octyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Dibenzofuran	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Diethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Dimethyl phthalate	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
n-Nitroso-di-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
N-nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	1700 U	--	--	--	--
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	140	77	240	35	--	--	--	--	--	--	--	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS41	SD-OS41	SD-OS41	SD-OS41	SWMU11-1	SWMU11-1	SWMU11-2	SWMU11-2	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-4	SWMU11-4	SWMU11-5
	SAMPLE	SD-41-OS1-1001	SD-41-OS1-1002	SD-41-OS1-1003	SD-41-OS1-1004	SWMU11-1-32000	SWMU11-1-32001	SWMU11-2-32002	SWMU11-2-32003	SWMU11-3-32004	SWMU11-3-32005	SWMU11-3-32010	SWMU11-3-32011	SWMU11-4-32006	SWMU11-4-32007	SWMU11-5-32008
	DATE	12/13/2016	12/13/2016	12/14/2016	12/14/2016	1/19/2016	1/19/2016	1/26/2016	1/26/2016	1/19/2016	1/19/2016	1/18/2017	1/18/2017	1/25/2016	1/25/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	0	2	0	2	5	9	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
	SAMPLE TYPE															
ANALYTE		UNITS														
TPH as gasoline		mg/kg	1.3 U	1.4 U	1.5 U	1.7 U	--	--	--	--	--	--	--	--	--	--
TPH as motor oil		mg/kg	300	150	590	120	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2-Dibromoethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2-Dichloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2,3-Trichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,2,4-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,3-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
1,4-Dioxane	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	75 U	--	--	--	--
2,2-Dichloropropane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
4-Isopropyltoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Acetone	ug/kg	--	--	--	--	--	--	--	--	--	--	75 U	--	--	--	--
Acrolein	ug/kg	--	--	--	--	--	--	--	--	--	--	150 U	--	--	--	--
Acrylonitrile	ug/kg	--	--	--	--	--	--	--	--	--	--	75 U	--	--	--	--
Benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
bis (2-chloroethyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
bis (2-chloroisopropyl) ether	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Bromobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Bromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Bromodichloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Bromoform	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Bromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Carbon disulfide	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Carbon tetrachloride	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Chloro methane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Chlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Chloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Chloroform	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Cyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Dibromochloromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SD-OS41	SD-OS41	SD-OS41	SD-OS41	SWMU11-1	SWMU11-1	SWMU11-2	SWMU11-2	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-3	SWMU11-4	SWMU11-4	SWMU11-5
	SAMPLE	SD-41-OS1-1001	SD-41-OS1-1002	SD-41-OS1-1003	SD-41-OS1-1004	SWMU11-1-32000	SWMU11-1-32001	SWMU11-2-32002	SWMU11-2-32003	SWMU11-3-32004	SWMU11-3-32005	SWMU11-3-32010	SWMU11-3-32011	SWMU11-4-32006	SWMU11-4-32007	SWMU11-5-32008
	DATE	12/13/2016	12/13/2016	12/14/2016	12/14/2016	1/19/2016	1/19/2016	1/26/2016	1/26/2016	1/19/2016	1/19/2016	1/18/2017	1/18/2017	1/25/2016	1/25/2016	1/20/2016
SAMPLE TOP DEPTH (FT)		0	2	5	8	0	2	0	2	0	2	5	9	0	2	0
SAMPLE BOTTOM DEPTH (FT)		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		0.5	3	6	8.5	0.5	3	0.5	3	0.5	3	6	10	0.5	3	0.5
	SAMPLE TYPE															
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Dichlorodifluoromethane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Ethyl- benzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	700 U	--	--	--	--
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
Isopropylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Methyl acetate	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Methyl ethyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	75 U	--	--	--	--
Methyl isobutyl ketone	ug/kg	--	--	--	--	--	--	--	--	--	--	75 U	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Methylcyclohexane	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Methylene chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
N-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
N-Propylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	350 U	--	--	--	--
p-Chlorotoluene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
sec-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Styrene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
tert-Butylbenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Tetrachloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Toluene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Trichloroethene	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Vinyl chloride	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Xylene, m,p-	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Xylene, o-	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--
Xylenes, total	ug/kg	--	--	--	--	--	--	--	--	--	--	7.5 U	--	--	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU11-5	SWMU5-1	SWMU5-1	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU8-1
	SAMPLE	SWMU11-5-32009	SWMU5-1-29000	SWMU5-1-29001	SWMU5-2-29002	SWMU5-2-29003	SWMU5-2-29005	SWMU5-2-29004	SWMU5-2-29007	SWMU5-2-29006	SWMU6-1-30000	SWMU6-1-30001	SWMU6-1-30002	SWMU6-1-30003	SWMU6-1-30004	SWMU8-1-31000
	DATE	1/20/2016	12/8/2015	12/8/2015	12/7/2015	12/7/2015	1/12/2017	12/7/2015	1/12/2017	1/12/2017	12/7/2015	12/7/2015	12/7/2015	1/12/2017	1/12/2017	12/9/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	5	2	9	5	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)		3	1	3	0.5	3	6	3	10	6	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	6	3	10	6	0.5	3	6	10	10	0.5
	SAMPLE TYPE							Field Duplicate		Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Dioxins																
1,2,3,4,6,7,8-HpCDD	ng/kg	--	--	--	1600 J	1300 J	--	--	--	--	--	--	--	--	--	39 J
1,2,3,4,6,7,8-HpCDF	ng/kg	--	--	--	84 J	86 J	--	--	--	--	--	--	--	--	--	6.3 UJ
1,2,3,4,7,8-HxCDD	ng/kg	--	--	--	4.4 UJ	6.2 J	--	--	--	--	--	--	--	--	--	0.28 UJ
1,2,3,4,7,8-HxCDF	ng/kg	--	--	--	7.1 UJ	0.86 UJ	--	--	--	--	--	--	--	--	--	0.43 UJ
1,2,3,4,7,8,9-HpCDF	ng/kg	--	--	--	5 UJ	6.3 J	--	--	--	--	--	--	--	--	--	0.38 UJ
1,2,3,6,7,8-HxCDD	ng/kg	--	--	--	32 J	28 J	--	--	--	--	--	--	--	--	--	0.94 UJ
1,2,3,6,7,8-HxCDF	ng/kg	--	--	--	3.3 UJ	6.6 J	--	--	--	--	--	--	--	--	--	0.41 UJ
1,2,3,7,8-PeCDD	ng/kg	--	--	--	3.5 J	3.2 UJ	--	--	--	--	--	--	--	--	--	0.26 UJ
1,2,3,7,8-PeCDF	ng/kg	--	--	--	2.4 J	3 J	--	--	--	--	--	--	--	--	--	0.21 UJ
1,2,3,7,8,9-HxCDD	ng/kg	--	--	--	9.8 J	12 J	--	--	--	--	--	--	--	--	--	0.5 UJ
1,2,3,7,8,9-HxCDF	ng/kg	--	--	--	2.3 UJ	0.99 UJ	--	--	--	--	--	--	--	--	--	0.5 UJ
2,3,4,6,7,8-HxCDF	ng/kg	--	--	--	190 UJ	100 UJ	--	--	--	--	--	--	--	--	--	7 UJ
2,3,4,7,8-PeCDF	ng/kg	--	--	--	4.4 J	2.8 J	--	--	--	--	--	--	--	--	--	0.18 UJ
2,3,7,8-TCDD	ng/kg	--	--	--	0.65 UJ	0.23 UJ	--	--	--	--	--	--	--	--	--	0.14 UJ
2,3,7,8-TCDF	ng/kg	--	--	--	1.7 UJ	1.7 J	--	--	--	--	--	--	--	--	--	0.13 UJ
OCDD	ng/kg	--	--	--	19000 J	12000 J	--	--	--	--	--	--	--	--	--	440 J
OCDF	ng/kg	--	--	--	150 J	110 J	--	--	--	--	--	--	--	--	--	14 UJ
TEQ Avian	ng/kg	--	--	--	25	17	--	--	--	--	--	--	--	--	--	0.94
TEQ Human	ng/kg	--	--	--	42	31	--	--	--	--	--	--	--	--	--	1.3
TEQ Human (lab)	ng/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEQ Mammals	ng/kg	--	--	--	42	31	--	--	--	--	--	--	--	--	--	1.3
General																
pH	PHUNITS	9.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Solids	PERC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																
Antimony	mg/kg	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	--	--	--	2.1 U	2.1 U	2.1 U	2.1 U	--	2.2 U
Arsenic	mg/kg	5.7	2.3	2.2	3.3	--	3.1	2.7	--	--	2.9	2.4	2.1	3.5	--	2.9
Barium	mg/kg	140	84	88	100	180	88	--	--	--	110	140	180	110	--	62
Beryllium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1.1 U	--	--	--	1 U	1 U	1 U	1 U	--	1.1 U
Cadmium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1.1 U	--	--	--	1 U	1 U	1 U	1 U	--	1.1 U
Chromium, Hexavalent	mg/kg	2.4	0.41	0.4	0.21 U	--	--	0.73	--	--	0.23	0.64	0.91	--	--	0.22 U
Chromium, total	mg/kg	67	13	14	11	--	32	36	--	--	11	29	43	90	--	54
Cobalt	mg/kg	4.1	4	5.7	3.8	--	7.2	6.5	--	--	4.4	8.6	6.2	6.8	--	12
Copper	mg/kg	18	8.2	7.4	7.6	13	13	--	--	--	8	12	10	12	--	21
Lead	mg/kg	13	4.2	7.8	4.7	--	3.1	8	--	--	4.4	4.8	4.3	5	--	2.9
Mercury	mg/kg	0.11 U	0.1 U	0.1 U	0.1 U	--	0.11 U	0.98 J	--	--	0.1 U	1.2	0.18	0.1 U	--	0.11 U
Molybdenum	mg/kg	4.8	1 U	1 U	1 U	1 U	1.1 U	--	--	--	1 U	1 U	1 U	1.1	--	1.1 U
Nickel	mg/kg	7.1	8.8	9.2	7.6	16	15	--	--	--	9.9	15	16	12	--	39
Selenium	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1.1 U	--	--	--	1 U	1 U	1 U	1 UJ	--	1.1 U
Silver	mg/kg	1.1 U	1 U	1 U	1 U	1 U	1.1 U	--	--	--	1 U	1 U	1 U	1 U	--	1.1 U
Thallium	mg/kg	2.1 U	2 U	2.1 U	2.1 U	2.1 U	2.1 U	--	--	--	2.1 U	2.1 U	2.1 U	2.1 U	--	2.2 U
Vanadium	mg/kg	22	18	22	20	29	29	--	--	--	19	31	24	30	--	47
Zinc	mg/kg	93	22	25	23	--	43	46	--	--	22	44	44	71	--	45
Metals CLP																
Aluminum	mg/kg	--	5200	6600	--	--	9500	--	--	--	5400	10000	7600	8200	--	16000
Calcium	mg/kg	--	15000	30000	--	--	28000	--	--	--	15000	27000	21000	19000	--	36000
Cyanide	mg/kg	--	0.21 U	0.21 U	--	--	0.22 UJ	--	--	--	0.21 U	0.21 UJ	0.21 U	0.21 UJ	--	0.22 U
Iron	mg/kg	--	9100	15000	--	--	21000	--	--	--	11000	20000	15000	17000	--	31000
Magnesium	mg/kg	--	4100	4700	--	--	7500	--	--	--	4700	8000	6500	6500	--	13000
Manganese	mg/kg	--	140	160	--	--	260	--	--	--	250	240	200	250	--	290

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU11-5	SWMU5-1	SWMU5-1	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU8-1
	SAMPLE	SWMU11-5-32009	SWMU5-1-29000	SWMU5-1-29001	SWMU5-2-29002	SWMU5-2-29003	SWMU5-2-29005	SWMU5-2-29004	SWMU5-2-29007	SWMU5-2-29006	SWMU6-1-30000	SWMU6-1-30001	SWMU6-1-30002	SWMU6-1-30003	SWMU6-1-30004	SWMU8-1-31000
	DATE	1/20/2016	12/8/2015	12/8/2015	12/7/2015	12/7/2015	1/12/2017	12/7/2015	1/12/2017	1/12/2017	12/7/2015	12/7/2015	12/7/2015	1/12/2017	1/12/2017	12/9/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	5	2	9	5	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)		3	1	3	0.5	3	6	3	10	6	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	6	3	10	6	0.5	3	6	10	10	0.5
	SAMPLE TYPE							Field Duplicate		Field Duplicate					Field Duplicate	
ANALYTE		UNITS														
Potassium	mg/kg	--	1500	1700	--	--	2000	--	--	--	1100	2300	1700	2400 J	--	2900
Sodium	mg/kg	--	450	180	--	--	590	--	--	--	480	600	470	450 J	--	410
Pesticides																
4,4-DDD	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
4,4-DDE	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
4,4-DDT	ug/kg	--	--	--	--	--	5.6	--	--	--	--	--	--	2.1 U	--	--
Aldrin	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
alpha-BHC	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--	1.7	--	--	--	--	--	--	1 U	--	--
beta-BHC	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
delta-BHC	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
Dieldrin	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
Endo sulfan I	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
Endo sulfan II	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
Endrin	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
Endrin ketone	ug/kg	--	--	--	--	--	2.1 U	--	--	--	--	--	--	2.1 U	--	--
gamma-BHC	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--	2.2	--	--	--	--	--	--	1 U	--	--
Heptachlor	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--	1.1 U	--	--	--	--	--	--	1 U	--	--
Methoxy chlor	ug/kg	--	--	--	--	--	5.4 U	--	--	--	--	--	--	5.2 U	--	--
Toxaphene	ug/kg	--	--	--	--	--	54 UJ	--	--	--	--	--	--	52 UJ	--	--
Polychlorinated Biphenyls																
Aroclor 1016	ug/kg	--	--	--	17 R	17 R	18 U	--	17 U	--	--	--	--	17 U	--	--
Aroclor 1221	ug/kg	--	--	--	34 R	34 R	35 U	--	34 U	--	--	--	--	34 U	--	--
Aroclor 1232	ug/kg	--	--	--	17 R	17 R	18 U	--	17 U	--	--	--	--	17 U	--	--
Aroclor 1242	ug/kg	--	--	--	17 R	17 R	18 U	--	17 U	--	--	--	--	17 U	--	--
Aroclor 1248	ug/kg	--	--	--	17 R	17 R	18 U	--	17 U	--	--	--	--	17 U	--	--
Aroclor 1254	ug/kg	--	--	--	17 R	17 R	27	--	17 U	--	--	--	--	--	180	--
Aroclor 1260	ug/kg	--	--	--	17 R	17 R	18 U	--	17 U	--	--	--	--	17 U	--	--
Aroclor 1262	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1268	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	ug/kg	--	--	--	34 R	34 R	54	--	34 U	--	--	--	--	--	206	--
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
2-Methyl naphthalene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
Acenaphthene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
Acenaphthylene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
Anthracene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
B(a)P Equivalent	ug/kg	--	57	60	580	--	22	5800	16	--	59	58	14	--	28	60
Benzo (a) anthracene	ug/kg	--	5.8	52 U	52 U	52 U	11 J	--	8.7 J	--	51 U	6.3	8	--	15 J	5.4 U
Benzo (a) pyrene	ug/kg	--	51 U	52 U	520 U	520 U	--	--	9.7	5.4	51 U	52 U	9	--	19	54 U
Benzo (b) fluoranthene	ug/kg	--	51 U	52 U	520 U	520 U	31	--	23	--	51 U	52 U	17	--	44	54 U
Benzo (ghi) perylene	ug/kg	--	51 U	52 U	520 U	520 U	7.9	--	5.2 U	--	51 U	52 U	5.2 U	--	7.3	54 U
Benzo (k) fluoranthene	ug/kg	--	51 U	52 U	520 U	520 U	6.5	--	5.9	--	51 U	52 U	7	--	13	54 U
Chrysene	ug/kg	--	9.5	52 U	52 U	52 U	--	--	11	6.5	51 U	9	12	--	21	5.4 U
Dibenzo (a,h) anthracene	ug/kg	--	51 U	52 U	520 U	520 U	5.4 U	--	5.2 U	--	51 U	52 U	5.2 U	5.2 U	--	54 U
Fluoranthene	ug/kg	--	15	16	23 J	--	--	640 J	15	7.6	6.8 J	14	20	--	32	5.4 U
Fluorene	ug/kg	--	5.1 U	5.2 U	5.2 U	5.2 U	5.4 U	--	5.2 U	--	5.1 U	5.2 U	5.2 U	5.2 U	--	5.4 U
Indeno (1,2,3-cd) pyrene	ug/kg	--	51 U	52 U	520 U	520 U	7.2	--	5.2 U	--	51 U	52 U	5.2 U	7	--	54 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU11-5	SWMU5-1	SWMU5-1	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU8-1
	SAMPLE	SWMU11-5-32009	SWMU5-1-29000	SWMU5-1-29001	SWMU5-2-29002	SWMU5-2-29003	SWMU5-2-29005	SWMU5-2-29004	SWMU5-2-29007	SWMU5-2-29006	SWMU6-1-30000	SWMU6-1-30001	SWMU6-1-30002	SWMU6-1-30003	SWMU6-1-30004	SWMU8-1-31000
	DATE	1/20/2016	12/8/2015	12/8/2015	12/7/2015	12/7/2015	1/12/2017	12/7/2015	1/12/2017	1/12/2017	12/7/2015	12/7/2015	12/7/2015	1/12/2017	1/12/2017	12/9/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	5	2	9	5	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)		3	1	3	0.5	3	6	3	10	6	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	6	3	10	6	0.5	3	6	10	10	0.5
	SAMPLE TYPE							Field Duplicate		Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Naphthalene	ug/kg	--	5.1 U	4.7 U	5.2 U	--	5.4 U	4.6 U	5.2 U	--	5.1 U	4.4 U	4.7 U	5.2 U	--	5.4 U
PAH High molecular weight	ug/kg	--	44.3	31	45	--	128	1200	88.3	--	13.3	42.3	94	--	190	7.5
PAH Low molecular weight	ug/kg	--	0	0	5.8	--	5.7	280	0	--	0	0	0	--	11	0
Phenanthrene	ug/kg	--	5.1 U	5.2 U	5.8 J	--	5.7	280 J	5.2 U	--	5.1 U	5.2 U	5.2 U	8.7	--	5.4 U
Pyrene	ug/kg	--	14	15	22 J	--	--	560 J	15	7.9	6.5 J	13	21	--	32	7.5
Semi-Volatile Organic Compounds																
1,1'-Biphenyl	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
1,2,4,5-Tetrachlorobenzene	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
2-Chloro naphthalene	ug/kg	--	3400 U	3400 U	3400 U	3400 U	3400 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2-Chlorophenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2-Methylphenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2-Nitroaniline	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
2-Nitrophenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2,3,4,6-Tetrachlorophenol	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
2,4-Dichlorophenol	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
2,4-Dimethylphenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2,4-Dinitrophenol	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
2,4-Dinitrotoluene	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2,6-Dinitrotoluene	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
3-Nitroaniline	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
3,3'-Dichlorobenzidene	ug/kg	--	6700 U	6800 U	6800 U	6900 U	710 U	--	--	--	670 U	690 U	690 U	690 U	--	710 U
4-Bromophenyl phenyl ether	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
4-Chloro-3-methylphenol	ug/kg	--	6700 U	6800 U	6800 U	6900 U	710 U	--	--	--	670 U	690 U	690 U	690 U	--	710 U
4-Chloroaniline	ug/kg	--	6700 U	6800 U	6800 U	6900 U	710 U	--	--	--	670 U	690 U	690 U	690 U	--	710 U
4-Chlorophenyl phenyl ether	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
4-Methylphenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
4-Nitroaniline	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
4-Nitrophenol	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
4,6-Dinitro-2-methylphenol	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
Acetophenone	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
Atrazine	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
Benzaldehyde	ug/kg	--	7100 U	7300 U	--	--	750 U	--	--	--	720 U	730 U	730 U	730 U	--	760 U
Benzoic acid	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
Benzyl alcohol	ug/kg	--	6700 U	6800 U	6800 U	6900 U	710 U	--	--	--	670 U	690 U	690 U	690 U	--	710 U
bis (2-chloroethoxy) methane	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
bis (2-ethylhexyl) phthalate	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	3400 U	3500 U	340 U	340 U	--	360 U
Butylbenzylphthalate	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	3400 U	3500 U	340 U	340 U	--	360 U
Caprolactam	ug/kg	--	3400 U	3400 U	--	--	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Carbazole	ug/kg	--	3400 U	3400 U	--	--	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Di-n-butyl phthalate	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Di-n-octyl phthalate	ug/kg	--	34000 U	34000 U	34000 U	34000 U	360 U	--	--	--	3400 U	3500 U	340 U	340 U	--	3600 U
Dibenzofuran	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Diethyl phthalate	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Dimethyl phthalate	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Hexachlorobenzene	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Hexachloroethane	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
n-Nitroso-di-n-propylamine	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
N-nitrosodiphenylamine	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Pentachlorophenol	ug/kg	--	17000 U	17000 U	17000 U	17000 U	1800 U	--	--	--	1700 U	1700 U	1700 U	1700 U	--	1800 U
Phenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Total Petroleum Hydrocarbons																
TPH as diesel	mg/kg	--	46	38	74	43	--	--	--	--	42	10 U	10 U	--	--	130

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU11-5	SWMU5-1	SWMU5-1	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU8-1
	SAMPLE	SWMU11-5-32009	SWMU5-1-29000	SWMU5-1-29001	SWMU5-2-29002	SWMU5-2-29003	SWMU5-2-29005	SWMU5-2-29004	SWMU5-2-29007	SWMU5-2-29006	SWMU6-1-30000	SWMU6-1-30001	SWMU6-1-30002	SWMU6-1-30003	SWMU6-1-30004	SWMU8-1-31000
	DATE	1/20/2016	12/8/2015	12/8/2015	12/7/2015	12/7/2015	1/12/2017	12/7/2015	1/12/2017	1/12/2017	12/7/2015	12/7/2015	12/7/2015	1/12/2017	1/12/2017	12/9/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	5	2	9	5	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)		3	1	3	0.5	3	6	3	10	6	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	6	3	10	6	0.5	3	6	10	10	0.5
	SAMPLE TYPE							Field Duplicate		Field Duplicate					Field Duplicate	
ANALYTE		UNITS														
TPH as gasoline		mg/kg	--	--	0.97 U	--	0.93 U	--	--	--	--	0.9 U	0.99 U	--	--	--
TPH as motor oil		mg/kg	--	360	450	500	430	--	--	--	320	45	35	--	--	220
Volatile Organic Compounds																
1,1-Dichloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1-Dichloroethene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1-Dichloropropene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1,1-Trichloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1,1,2-Tetrachloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1,2-Trichloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,1,2,2-Tetrachloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2-Dibromo-3-chloropropane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2-Dibromoethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2-Dichlorobenzene	ug/kg	--	3400 U	4.7 U	3400 U	--	360 U	4.6 U	--	--	340 U	4.4 U	4.7 U	6.7 U	--	360 U
1,2-Dichloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2-Dichloropropane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2,3-Trichlorobenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2,3-Trichloropropane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,2,4-Trichlorobenzene	ug/kg	--	3400 U	4.7 U	3400 U	--	360 U	4.6 U	--	--	340 U	4.4 U	4.7 U	6.7 U	--	360 U
1,2,4-Trimethylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,3-Dichlorobenzene	ug/kg	--	3400 U	4.7 U	3400 U	--	360 U	4.6 U	--	--	340 U	4.4 U	4.7 U	6.7 U	--	360 U
1,3-Dichloropropane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,3,5-Trimethylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
1,4-Dichlorobenzene	ug/kg	--	3400 U	4.7 U	3400 U	--	360 U	4.6 U	--	--	340 U	4.4 U	4.7 U	6.7 U	--	360 U
1,4-Dioxane	ug/kg	--	340 U	340 U	--	--	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2-Chlorotoluene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
2-Hexanone	ug/kg	--	--	47 U	--	--	--	--	--	--	--	44 U	47 U	67 U	--	--
2,2-Dichloropropane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
2,4,5-Trichlorophenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
2,4,6-Trichlorophenol	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
4-Isopropyltoluene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Acetone	ug/kg	--	--	47 U	--	--	--	46 U	--	--	--	44 U	47 U	67 U	--	--
Acrolein	ug/kg	--	--	93 U	--	93 U	--	--	--	--	--	88 U	94 U	130 U	--	--
Acrylonitrile	ug/kg	--	--	47 U	--	--	--	46 U	--	--	--	44 U	47 U	67 U	--	--
Benzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
bis (2-chloroethyl) ether	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
bis (2-chloroisopropyl) ether	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Bromobenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Bromochloromethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Bromodichloromethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Bromoform	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Bromomethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Carbon disulfide	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Carbon tetrachloride	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Chloro methane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Chlorobenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Chloroethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Chloroform	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
cis-1,2-Dichloroethene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
cis-1,3-Dichloropropene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Cyclohexane	ug/kg	--	--	4.7 U	--	--	--	--	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Dibromochloromethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU11-5	SWMU5-1	SWMU5-1	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU5-2	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU6-1	SWMU8-1
	SAMPLE	SWMU11-5-32009	SWMU5-1-29000	SWMU5-1-29001	SWMU5-2-29002	SWMU5-2-29003	SWMU5-2-29005	SWMU5-2-29004	SWMU5-2-29007	SWMU5-2-29006	SWMU6-1-30000	SWMU6-1-30001	SWMU6-1-30002	SWMU6-1-30003	SWMU6-1-30004	SWMU8-1-31000
	DATE	1/20/2016	12/8/2015	12/8/2015	12/7/2015	12/7/2015	1/12/2017	12/7/2015	1/12/2017	1/12/2017	12/7/2015	12/7/2015	12/7/2015	1/12/2017	1/12/2017	12/9/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2	5	2	9	5	0	2	5	9	9	0
SAMPLE BOTTOM DEPTH (FT)		3	1	3	0.5	3	6	3	10	6	1	3	6	10	10	1
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3	6	3	10	6	0.5	3	6	10	10	0.5
	SAMPLE TYPE							Field Duplicate		Field Duplicate					Field Duplicate	
ANALYTE	UNITS															
Dibromomethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Dichlorodifluoromethane	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Ethyl- benzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Hexachlorobutadiene	ug/kg	--	6700 U	4.7 U	6800 U	--	710 U	4.6 U	--	--	670 U	4.4 U	4.7 U	6.7 U	--	710 U
Hexachlorocyclopentadiene	ug/kg	--	6700 U	6800 U	--	--	710 U	--	--	--	670 U	690 U	690 U	690 U	--	710 U
Isobutyl alcohol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
Isopropylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Methyl acetate	ug/kg	--	--	4.7 U	ug/kg	--	--	--	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Methyl ethyl ketone	ug/kg	--	--	47 U	--	--	--	46 U	--	--	--	44 U	47 U	67 U	--	--
Methyl isobutyl ketone	ug/kg	--	--	47 U	--	--	--	46 U	--	--	--	44 U	47 U	67 U	--	--
Methyl tert-butyl ether (MTBE)	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Methylcyclohexane	ug/kg	--	--	4.7 U	ug/kg	--	--	--	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Methylene chloride	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
N-Butylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
N-Propylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Nitrobenzene	ug/kg	--	3400 U	3400 U	3400 U	3400 U	360 U	--	--	--	340 U	350 U	340 U	340 U	--	360 U
p-Chlorotoluene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
sec-Butylbenzene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Styrene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
tert-Butylbenzene	ug/kg	--	--	4.7 U	ug/kg	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Tetrachloroethene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Toluene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
trans-1,2-Dichloroethene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
trans-1,3-Dichloropropene	ug/kg	--	--	4.7 U	ug/kg	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Trichloroethene	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Trichlorofluoromethane (Freon 11)	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Vinyl chloride	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Xylene, m,p-	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Xylene, o-	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--
Xylenes, total	ug/kg	--	--	4.7 U	--	--	--	4.6 U	--	--	--	4.4 U	4.7 U	6.7 U	--	--

Abbreviations:
-- = not applicable
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
J = estimated value
U = not detected at specified reporting limit
UJ = not detected at specified reporting limit; reporting limit
AOC = area of concern
BHC = benzene hexachloride
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
TPH = total petroleum hydrocarbon
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyls

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU8-1	Units4.3-1	Units4.3-1	Units4.3-2	Units4.3-2
	SAMPLE	SWMU8-1-31001	Units 4.3-1-33000	Units 4.3-1-33001	Units 4.3-2-33002	Units 4.3-2-33003
	DATE	12/9/2015	12/7/2015	12/7/2015	12/7/2015	12/7/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3
	SAMPLE TYPE					
ANALYTE	UNITS					
Dioxins						
1,2,3,4,6,7,8-HpCDD	ng/kg	34 J	--	--	--	--
1,2,3,4,6,7,8-HpCDF	ng/kg	4.4 UJ	--	--	--	--
1,2,3,4,7,8-HxCDD	ng/kg	0.2 UJ	--	--	--	--
1,2,3,4,7,8-HxCDF	ng/kg	0.24 UJ	--	--	--	--
1,2,3,4,7,8,9-HpCDF	ng/kg	0.45 UJ	--	--	--	--
1,2,3,6,7,8-HxCDD	ng/kg	0.2 UJ	--	--	--	--
1,2,3,6,7,8-HxCDF	ng/kg	0.23 UJ	--	--	--	--
1,2,3,7,8-PeCDD	ng/kg	0.15 UJ	--	--	--	--
1,2,3,7,8-PeCDF	ng/kg	0.11 UJ	--	--	--	--
1,2,3,7,8,9-HxCDD	ng/kg	0.44 UJ	--	--	--	--
1,2,3,7,8,9-HxCDF	ng/kg	0.27 UJ	--	--	--	--
2,3,4,6,7,8-HxCDF	ng/kg	6.2 UJ	--	--	--	--
2,3,4,7,8-PeCDF	ng/kg	0.11 UJ	--	--	--	--
2,3,7,8-TCDD	ng/kg	0.11 UJ	--	--	--	--
2,3,7,8-TCDF	ng/kg	0.099 UJ	--	--	--	--
OCDD	ng/kg	350 J	--	--	--	--
OCDF	ng/kg	10 J	--	--	--	--
TEQ Avian	ng/kg	0.71	--	--	--	--
TEQ Human	ng/kg	1	--	--	--	--
TEQ Human (lab)	ng/kg	--	--	--	--	--
TEQ Mammals	ng/kg	1	--	--	--	--
General						
pH	PHUNITS	--	9.4	9	9.2	8.6
Solids	PERC	--	--	--	--	--
Sulfate	mg/kg	--	--	--	--	--
Metals						
Antimony	mg/kg	2.2 U	2.1 U	2.1 U	2.1 U	2.1 UJ
Arsenic	mg/kg	2.4	3.4	2.3	2.4	2.2
Barium	mg/kg	160	120	150	130	140
Beryllium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Cadmium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Chromium, Hexavalent	mg/kg	0.22 U	0.26	0.45	0.36	0.6
Chromium, total	mg/kg	51	19	22	26	21
Cobalt	mg/kg	13	5.4	5.1	5.6	5
Copper	mg/kg	18	14	9.1	12	8.9
Lead	mg/kg	2.3	5.9	6.5	5.6	4.5
Mercury	mg/kg	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U
Molybdenum	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1.1 U
Nickel	mg/kg	40	15	11	17	11
Selenium	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1.1 UJ
Silver	mg/kg	1.1 U	1.1 U	1.1 U	1 U	1.1 UJ
Thallium	mg/kg	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U
Vanadium	mg/kg	54	24	24	26	22
Zinc	mg/kg	43	31	28	31	28
Metals CLP						
Aluminum	mg/kg	18000	8000	7700	7900	6700
Calcium	mg/kg	39000	20000	33000	18000	23000
Cyanide	mg/kg	0.22 U	0.21 U	0.21 U	0.21 U	0.21 U
Iron	mg/kg	38000	16000	14000	15000	13000
Magnesium	mg/kg	15000	6100	5800	6000	5300
Manganese	mg/kg	330	190	180	200	160

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU8-1	Units4.3-1	Units4.3-1	Units4.3-2	Units4.3-2
	SAMPLE	SWMU8-1-31001	Units 4.3-1-33000	Units 4.3-1-33001	Units 4.3-2-33002	Units 4.3-2-33003
	DATE	12/9/2015	12/7/2015	12/7/2015	12/7/2015	12/7/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3
	SAMPLE TYPE					
ANALYTE	UNITS					
Potassium	mg/kg	3200	1700	1900	2100	1800
Sodium	mg/kg	490	340	180	300	280
Pesticides						
4,4-DDD	ug/kg	--	--	--	--	--
4,4-DDE	ug/kg	--	--	--	--	--
4,4-DDT	ug/kg	--	--	--	--	--
Aldrin	ug/kg	--	--	--	--	--
alpha-BHC	ug/kg	--	--	--	--	--
alpha-Chlordane	ug/kg	--	--	--	--	--
beta-BHC	ug/kg	--	--	--	--	--
delta-BHC	ug/kg	--	--	--	--	--
Dieldrin	ug/kg	--	--	--	--	--
Endo sulfan I	ug/kg	--	--	--	--	--
Endo sulfan II	ug/kg	--	--	--	--	--
Endosulfan sulfate	ug/kg	--	--	--	--	--
Endrin	ug/kg	--	--	--	--	--
Endrin aldehyde	ug/kg	--	--	--	--	--
Endrin ketone	ug/kg	--	--	--	--	--
gamma-BHC	ug/kg	--	--	--	--	--
gamma-Chlordane	ug/kg	--	--	--	--	--
Heptachlor	ug/kg	--	--	--	--	--
Heptachlor Epoxide	ug/kg	--	--	--	--	--
Methoxy chlor	ug/kg	--	--	--	--	--
Toxaphene	ug/kg	--	--	--	--	--
Polychlorinated Biphenyls						
Aroclor 1016	ug/kg	--	17 U	17 UJ	17 U	17 U
Aroclor 1221	ug/kg	--	35 U	35 U	35 U	35 U
Aroclor 1232	ug/kg	--	17 U	17 U	17 U	17 U
Aroclor 1242	ug/kg	--	17 U	17 U	17 U	17 U
Aroclor 1248	ug/kg	--	17 U	17 U	17 U	17 U
Aroclor 1254	ug/kg	--	17 U	130	17 U	43
Aroclor 1260	ug/kg	--	17 U	69 J	17 U	45
Aroclor 1262	ug/kg	--	17 U	17 U	17 U	17 U
Aroclor 1268	ug/kg	--	17 U	17 U	17 U	17 U
Total PCBs	ug/kg	--	34 U	216	34 U	105
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
2-Methyl naphthalene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
Acenaphthene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
Acenaphthylene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
Anthracene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
B(a)P Equivalent	ug/kg	6.2 U	61	590	580	390
Benzo (a) anthracene	ug/kg	5.4 U	53 U	53 U	52 U	53 U
Benzo (a) pyrene	ug/kg	5.4 U	53 U	530 U	520 U	350 U
Benzo (b) fluoranthene	ug/kg	5.4 U	53 U	530 U	520 U	350 U
Benzo (ghi) perylene	ug/kg	5.4 U	53 U	530 U	520 U	350 U
Benzo (k) fluoranthene	ug/kg	5.4 U	53 U	530 U	520 U	350 U
Chrysene	ug/kg	5.4 U	53 U	53 U	52 U	53 U
Dibenzo (a,h) anthracene	ug/kg	5.4 U	53 U	530 U	520 U	350 U
Fluoranthene	ug/kg	5.4 U	8.8 J	49	20 J	17 J
Fluorene	ug/kg	5.4 U	5.3 U	5.3 U	5.2 U	5.3 U
Indeno (1,2,3-cd) pyrene	ug/kg	5.4 U	53 U	530 U	520 U	350 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU8-1	Units4.3-1	Units4.3-1	Units4.3-2	Units4.3-2
	SAMPLE	SWMU8-1-31001	Units 4.3-1-33000	Units 4.3-1-33001	Units 4.3-2-33002	Units 4.3-2-33003
	DATE	12/9/2015	12/7/2015	12/7/2015	12/7/2015	12/7/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3
	SAMPLE TYPE					
ANALYTE	UNITS					
Naphthalene	ug/kg	4.8 U	5.3 U	4.6 U	5.2 U	4.8 U
PAH High molecular weight	ug/kg	0	20.8	97	38	35
PAH Low molecular weight	ug/kg	0	0	12	6.3	0
Phenanthrene	ug/kg	5.4 U	5.3 U	12	6.3 J	5.3 U
Pyrene	ug/kg	5.4 U	12 J	48	18 J	18 J
Semi-Volatile Organic Compounds						
1,1'-Biphenyl	ug/kg	760 U	740 U	740 U	730 UJ	74 U
1,2,4,5-Tetrachlorobenzene	ug/kg	760 U	740 U	740 U	730 UJ	74 U
2-Chloro naphthalene	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2-Chlorophenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2-Methylphenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
2-Nitrophenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2,3,4,6-Tetrachlorophenol	ug/kg	760 U	740 U	740 U	730 UJ	74 U
2,4-Dichlorophenol	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
2,4-Dimethylphenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2,4-Dinitrophenol	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
2,4-Dinitrotoluene	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2,6-Dinitrotoluene	ug/kg	360 U	350 U	350 U	350 UJ	35 U
3-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
3,3-Dichlorobenzidene	ug/kg	720 U	7000 U	7000 U	6900 U	700 U
4-Bromophenyl phenyl ether	ug/kg	360 U	350 U	350 U	350 UJ	35 U
4-Chloro-3-methylphenol	ug/kg	720 U	700 U	700 U	690 UJ	70 U
4-Chloroaniline	ug/kg	720 U	700 U	700 U	690 UJ	70 U
4-Chlorophenyl phenyl ether	ug/kg	360 U	350 U	350 U	350 UJ	35 U
4-Methylphenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
4-Nitroaniline	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
4-Nitrophenol	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
Acetophenone	ug/kg	760 U	740 U	740 U	730 UJ	74 U
Atrazine	ug/kg	760 U	740 U	740 U	730 UJ	74 U
Benzaldehyde	ug/kg	760 U	740 U	740 U	730 UJ	74 U
Benzoic acid	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
Benzyl alcohol	ug/kg	720 U	700 U	700 U	690 UJ	70 U
bis (2-chloroethoxy) methane	ug/kg	360 U	350 U	350 U	350 UJ	35 U
bis (2-ethylhexyl) phthalate	ug/kg	360 U	3500 U	3500 U	3500 U	350 U
Butylbenzylphthalate	ug/kg	360 U	3500 U	3500 U	3500 U	350 U
Caprolactam	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Carbazole	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Di-n-butyl phthalate	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Di-n-octyl phthalate	ug/kg	360 U	3500 U	3500 U	3500 U	350 U
Dibenzofuran	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Diethyl phthalate	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Dimethyl phthalate	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Hexachlorobenzene	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Hexachloroethane	ug/kg	360 U	350 U	350 U	350 UJ	35 U
n-Nitroso-di-n-propylamine	ug/kg	360 U	350 U	350 U	350 UJ	35 U
N-nitrosodiphenylamine	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Pentachlorophenol	ug/kg	1800 U	1700 U	1700 U	1700 UJ	170 U
Phenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Total Petroleum Hydrocarbons						
TPH as diesel	mg/kg	11 U	18	24	53	22

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU8-1	Units4.3-1	Units4.3-1	Units4.3-2	Units4.3-2
	SAMPLE	SWMU8-1-31001	Units 4.3-1-33000	Units 4.3-1-33001	Units 4.3-2-33002	Units 4.3-2-33003
	DATE	12/9/2015	12/7/2015	12/7/2015	12/7/2015	12/7/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3
	SAMPLE TYPE					
ANALYTE	UNITS					
TPH as gasoline	mg/kg	0.9 U	--	0.83 UJ	--	0.92 U
TPH as motor oil	mg/kg	11 U	170	370	710	290
Volatile Organic Compounds						
1,1-Dichloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1-Dichloroethene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1-Dichloropropene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1,1-Trichloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1,1,2-Tetrachloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1,2-Trichloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,1,2,2-Tetrachloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2-Dibromo-3-chloropropane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2-Dibromoethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2-Dichlorobenzene	ug/kg	4.8 U	350 U	4.6 U	350 UJ	4.8 U
1,2-Dichloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2-Dichloropropane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2,3-Trichlorobenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2,3-Trichloropropane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,2,4-Trichlorobenzene	ug/kg	4.8 U	350 U	4.6 U	350 UJ	4.8 U
1,2,4-Trimethylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,3-Dichlorobenzene	ug/kg	4.8 U	350 U	4.6 U	350 UJ	4.8 U
1,3-Dichloropropane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,3,5-Trimethylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
1,4-Dichlorobenzene	ug/kg	4.8 U	350 U	4.6 U	350 UJ	4.8 U
1,4-Dioxane	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2-Chlorotoluene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
2-Hexanone	ug/kg	48 U	--	46 U	--	48 U
2,2-Dichloropropane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
2,4,5-Trichlorophenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
2,4,6-Trichlorophenol	ug/kg	360 U	350 U	350 U	350 UJ	35 U
4-Isopropyltoluene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Acetone	ug/kg	48 U	--	46 U	--	48 U
Acrolein	ug/kg	96 U	--	92 U	--	96 U
Acrylonitrile	ug/kg	48 U	--	46 U	--	48 U
Benzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
bis (2-chloroethyl) ether	ug/kg	360 U	350 U	350 U	350 UJ	35 U
bis (2-chloroisopropyl) ether	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Bromobenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Bromochloromethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Bromodichloromethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Bromoform	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Bromomethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Carbon disulfide	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Carbon tetrachloride	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Chloro methane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Chlorobenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Chloroethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Chloroform	ug/kg	4.8 U	--	4.6 U	--	4.8 U
cis-1,2-Dichloroethene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
cis-1,3-Dichloropropene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Cyclohexane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Dibromochloromethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U

Table ICS-A1.1
Dataset for ICS HHERA

Soil Human Health and Ecological Risk Assessm
PG&E Topock Compressor Station
Needles, California

	LOCATION	SWMU8-1	Units4.3-1	Units4.3-1	Units4.3-2	Units4.3-2
	SAMPLE	SWMU8-1-31001	Units 4.3-1-33000	Units 4.3-1-33001	Units 4.3-2-33002	Units 4.3-2-33003
	DATE	12/9/2015	12/7/2015	12/7/2015	12/7/2015	12/7/2015
SAMPLE TOP DEPTH (FT)		2	0	2	0	2
SAMPLE BOTTOM DEPTH (FT)		3	1	3	1	3
DEEPEST BASELINE GROUP FOR RISK ASSESSMENT		3	0.5	3	0.5	3
	SAMPLE TYPE					
ANALYTE	UNITS					
Dibromomethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Dichlorodifluoromethane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Ethyl- benzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Hexachlorobutadiene	ug/kg	4.8 U	700 U	4.6 U	690 UJ	4.8 U
Hexachlorocyclopentadiene	ug/kg	720 U	700 U	700 U	690 UJ	70 U
Isobutyl alcohol	ug/kg	--	--	--	--	--
Isophorone	ug/kg	360 U	350 U	350 U	350 UJ	35 U
Isopropylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Methyl acetate	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Methyl ethyl ketone	ug/kg	48 U	--	46 U	--	48 U
Methyl isobutyl ketone	ug/kg	48 U	--	46 U	--	48 U
Methyl tert-butyl ether (MTBE)	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Methylcyclohexane	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Methylene chloride	ug/kg	4.8 U	--	4.6 U	--	4.8 U
N-Butylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
N-Propylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Nitrobenzene	ug/kg	360 U	350 U	350 U	350 UJ	35 U
p-Chlorotoluene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
sec-Butylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Styrene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
tert-Butylbenzene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Tetrachloroethene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Toluene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
trans-1,2-Dichloroethene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
trans-1,3-Dichloropropene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Trichloroethene	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Trichlorofluoromethane (Freon 11)	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Vinyl chloride	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Xylene, m,p-	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Xylene, o-	ug/kg	4.8 U	--	4.6 U	--	4.8 U
Xylenes, total	ug/kg	4.8 U	--	4.6 U	--	4.8 U

Table ICS-A1.2
Soil Gas Dataset for Inside the Compressor Station (ICS) Potential Exposure Area HHRA

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

	LOCATION	AOC13-11	AOC13-11	AOC13-16	AOC13-16	AOC13-5	AOC13-5	AOC13-6	AOC13-6	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1	AOC26-1
	SAMPLE ID	AOC13-11-SG04	AOC13-11-SG04_021117	AOC13-16-SG04	AOC13-16-SG04_021117	AOC13-5-SG04	AOC13-5-SG04_021017	AOC13-6-SG04	AOC13-6-SG04_021017	AOC26-1-SG05	AOC26-1-SG05_021217	AOC26-1-SG25	AOC26-1-SG25_022117	AOC26-1-SG25_022117	AOC26-1-SG50	AOC26-1-SG50_021317
	SAMPLE DATE	1/13/2016	2/11/2017	1/14/2016	2/11/2017	1/13/2016	2/10/2017	1/13/2016	2/10/2017	1/14/2016	2/12/2017	1/14/2016	2/21/2017	2/21/2017	1/14/2016	2/13/2017
	SAMPLE DEPTH (FT BGS)	2	2	5	5	2	2	2	2	5	5	24	24	24	49	49
	SAMPLE TYPE	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary	Field Duplicate	Primary	Primary
ANALYTE	UNITS															
1,1,1-Trichloroethane	mg/m ³	0.0040 U	0.0037 U	0.0048 U	0.0037 U	0.0041 U	0.0037 U	0.0039 U	0.0042 U	0.0041 U	0.0037 U	0.0040 U	0.037 U	0.037 U	0.0041 U	0.0037 U
1,1,2,2-Tetrachloroethane	mg/m ³	0.0050 U	0.0046 U	0.0061 U	0.0046 U	0.0051 U	0.0046 U	0.0049 U	0.0052 U	0.0051 U	0.0047 U	0.0051 U	0.046 U	0.046 U	0.0051 U	0.0046 U
1,1,2-Trichloroethane	mg/m ³	0.0040 U	0.0037 U	0.0048 U	0.0037 U	0.0041 U	0.0037 U	0.0039 U	0.0042 U	0.0041 U	0.0037 U	0.0040 U	0.037 U	0.037 U	0.0041 U	0.0037 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/m ³	0.0056 U	0.0051 U	0.0068 U	0.0051 U	0.0057 U	0.0051 U	0.0055 U	0.0058 U	0.0057 U	0.0053 U	0.0057 U	0.052 U	0.052 U	0.0057 U	0.0051 U
1,1-Dichloroethane	mg/m ³	0.0029 U	0.0027 U	0.0036 U	0.0027 U	0.0030 U	0.0027 U	0.0029 U	0.0031 U	0.0030 U	0.0028 U	0.0030 U	0.027 U	0.027 U	0.0030 U	0.0027 U
1,1-Dichloroethene	mg/m ³	0.0029 U	0.0027 U	0.0035 U	0.0027 U	0.0030 U	0.0027 U	0.0028 U	0.0030 U	0.0030 U	0.0027 U	0.0029 U	0.027 U	0.027 U	0.0030 U	0.0046
1,2,4-Trichlorobenzene	mg/m ³	0.027 U	0.025 UJ	0.033 U	0.025 UJ	0.028 U	0.025 UJ	0.028 U	0.028 UJ	0.028 U	0.025 UJ	0.027 U	0.25 UJ	0.25 UJ	0.028 U	0.025 UJ
1,2,4-Trimethylbenzene	mg/m ³	0.0036 U	0.0033 U	0.0043 U	0.0033 U	0.0037 U	0.0033 U	0.0035 U	0.0037 U	0.0037 U	0.0034 U	0.0036 U	0.033 U	0.033 U	0.0037 U	0.0033 U
1,2-Dibromoethane (EDB)	mg/m ³	0.0056 U	0.0052 U	0.0068 U	0.0052 U	0.0058 U	0.0052 U	0.0055 U	0.0058 U	0.0058 U	0.0053 U	0.0057 U	0.052 U	0.052 U	0.0058 U	0.0052 U
1,2-Dichlorobenzene	mg/m ³	0.0044 U	0.0040 U	0.0053 U	0.0040 U	0.0045 U	0.0040 U	0.0043 U	0.0046 U	0.0045 U	0.0041 U	0.0045 U	0.041 U	0.041 U	0.0045 U	0.0040 U
1,2-Dichloroethane	mg/m ³	0.0029 U	0.0027 U	0.0036 U	0.0027 U	0.0030 U	0.0027 U	0.0029 U	0.0031 U	0.0030 U	0.0028 U	0.0030 U	0.027 U	0.027 U	0.0030 U	0.0027 U
1,2-Dichloropropane	mg/m ³	0.0034 U	0.0031 U	0.0041 U	0.0031 U	0.0035 U	0.0031 U	0.0033 U	0.0035 U	0.0035 U	0.0032 U	0.0034 U	0.031 U	0.031 U	0.0035 U	0.0031 U
1,2-Dichlorotetrafluoroethane (Freon 114)	mg/m ³	0.020 U	0.019 U	0.025 U	0.019 U	0.021 U	0.019 U	0.020 U	0.021 U	0.021 U	0.021 U	0.019 U	0.021 U	0.19 U	0.19 U	0.021 U
1,3,5-Trimethylbenzene	mg/m ³	0.0036 U	0.0033 U	0.0043 U	0.0033 U	0.0037 U	0.0033 U	0.0035 U	0.0037 U	0.0037 U	0.0037 U	0.0036 U	0.033 U	0.033 U	0.0037 U	0.0033 U
1,3-Dichlorobenzene	mg/m ³	0.0044 U	0.0040 U	0.0053 U	0.0040 U	0.0045 U	0.0040 U	0.0043 U	0.0046 U	0.0046 U	0.0046 J	0.0041 U	0.0069 J	0.041 U	0.0041 U	0.0040 U
1,4-Dichlorobenzene	mg/m ³	0.0044 U	0.0040 U	0.0053 U	0.0040 U	0.0045 U	0.0040 U	0.0043 U	0.0046 U	0.0045 U	0.0041 U	0.0045 U	0.041 U	0.041 U	0.0045 U	0.0040 U
2-Butanone (MEK)	mg/m ³	0.0050	0.013	0.0071	0.011	0.0062	0.0061	0.0042 U	0.0045 U	0.0044 U	0.026	0.0044 U	0.040 U	0.040 U	0.0062 J	0.038
2-Hexanone	mg/m ³	0.0060 U	0.0055 U	0.0073 U	0.0055 U	0.0062 U	0.0055 U	0.0059 U	0.0062 U	0.0062 U	0.0056 U	0.0061 U	0.055 U	0.055 U	0.0062 U	0.0055 U
4-Ethyltoluene	mg/m ³	0.0036 U	0.0033 U	0.0043 U	0.0033 U	0.0037 U	0.0033 U	0.0035 U	0.0037 U	0.0037 U	0.0037 U	0.0034 U	0.0036 U	0.033 U	0.0037 U	0.0033 U
4-Methyl-2-pentanone (MIBK)	mg/m ³	0.0060 U	0.0055 U	0.0073 U	0.0055 U	0.0062 U	0.0055 U	0.0059 U	0.0062 U	0.0062 U	0.0056 U	0.0061 U	0.055 U	0.055 U	0.0062 U	0.0055 U
Acetone	mg/m ³	0.039	0.033	0.055	0.064	0.042	0.031	0.028	0.018	0.052 J	0.088	0.052 J	0.16 J	0.21 J	0.059 J	0.10
Benzene	mg/m ³	0.0023 U	0.0021 U	0.0028 U	0.0021 U	0.0024 U	0.0021 U	0.0023 U	0.0024 U	0.0034 J	0.0022 U	0.059 J	0.18 J	0.17 J	0.053 J	0.0060
Benzylchloride	mg/m ³	0.0075 U	0.0069 U	0.0092 U	0.0069 U	0.0078 U	0.0069 U	0.0074 U	0.0079 U	0.0078 U	0.0071 U	0.0077 U	0.070 U	0.070 U	0.0078 U	0.0069 U
Bromodichloromethane	mg/m ³	0.0049 U	0.0045 U	0.0059 U	0.0045 U	0.0050 U	0.0045 U	0.0048 U	0.0051 U	0.0050 U	0.0046 U	0.0050 U	0.045 U	0.045 U	0.0050 U	0.0045 U
Bromoform	mg/m ³	0.0075 U	0.0069 U	0.0092 U	0.0069 U	0.0078 U	0.0069 U	0.0074 U	0.0079 U	0.0078 U	0.0071 U	0.0077 U	0.070 U	0.070 U	0.0078 U	0.0069 U
Bromomethane	mg/m ³	0.0028 U	0.0026 U	0.0034 U	0.0026 U	0.0029 U	0.0026 U	0.0028 U	0.0030 U	0.0029 U	0.0027 U	0.0029 U	0.026 U	0.026 U	0.0029 U	0.0026 U
Carbon Disulfide	mg/m ³	0.0023 U	0.0044	0.0028 U	0.0045	0.0023 U	0.0045	0.0022 U	0.0051	0.0041 J	0.0047	0.071 J	0.064 J	0.062 J	0.074 J	0.0051
Carbon Tetrachloride	mg/m ³	0.0046 U	0.0042 U	0.0056 U	0.0042 U	0.0047 U	0.0042 U	0.0045 U	0.0048 U	0.0047 U	0.0043 U	0.0047 U	0.043 U	0.043 U	0.011 J	0.061
Chlorobenzene	mg/m ³	0.0033 U	0.0031 U	0.0041 U	0.0031 U	0.0035 U	0.0031 U	0.0033 U	0.0035 U	0.0035 U	0.0032 U	0.0034 U	0.031 U	0.031 U	0.0035 U	0.0031 U
Chlorodibromomethane	mg/m ³	0.0062 U	0.0057 U	0.0075 U	0.0057 U	0.0064 U	0.0057 U	0.0061 U	0.0065 U	0.0064 U	0.0058 U	0.0063 U	0.058 U	0.058 U	0.0064 U	0.0057 U
Chloroethane	mg/m ³	0.0019 U	0.0018 U	0.0023 U	0.0018 U	0.0020 U	0.0018 U	0.0019 U	0.0020 U	0.0020 U	0.0018 U	0.0019 U	0.018 U	0.018 U	0.0020 U	0.0018 U
Chloroform	mg/m ³	0.0035 U	0.0033 U	0.0043 U	0.0033 U	0.0037 U	0.0050	0.0035 U	0.0037 U	0.0037 U	0.0033 U	0.0036 U	0.033 U	0.033 U	0.0037 U	0.047
Chloromethane	mg/m ³	0.0015 U	0.0014 U	0.0018 U	0.0014 U	0.0015 U	0.0014 U	0.0015 U	0.0016 U	0.0028 J	0.0014 U	0.0042 J	0.014 U	0.014 U	0.0042 J	0.0014 U
cis-1,2-Dichloroethene	mg/m ³	0.0029 U	0.0027 U	0.0035 U	0.0027 U	0.0030 U	0.0027 U	0.0028 U	0.0030 U	0.0030 U	0.0027 U	0.0029 U	0.027 U	0.027 U	0.0030 U	0.0027 U
cis-1,3-Dichloropropene	mg/m ³	0.0033 U	0.0030 U	0.0040 U	0.0030 U	0.0034 U	0.0030 U	0.0033 U	0.0035 U	0.0034 U	0.0031 U	0.0034 U	0.031 U	0.031 U	0.0034 U	0.0030 U
Dichlorodifluoromethane (Freon 12)	mg/m ³	0.0036 U	0.0033 U	0.0044 U	0.0033 U	0.0037 U	0.0033 U	0.0035 U	0.0038 U	0.0037 U	0.0034 U	0.0037 U	0.033 U	0.033 U	0.0037 U	0.0033 U
Ethylbenzene	mg/m ³	0.0032 U	0.0029 U	0.0038 U	0.0029 U	0.0033 U	0.0029 U	0.0031 U	0.0033 U	0.0033 U	0.0030 U	0.0033 J	0.12 J	0.11 J	0.0033 U	0.0029 U
Hexachlorobutadiene	mg/m ³	0.016 U	0.014 U	0.019 U	0.014 U	0.016 U	0.014 U	0.015 U	0.016 U	0.016 U	0.015 U	0.016 U	0.14 U	0.14 U	0.016 U	0.014 U
m,p-Xylenes	mg/m ³	0.0063 U	0.0058 U	0.0077 U	0.0058 U	0.0065 U	0.0058 U	0.0062 U	0.0066 U	0.0065 U	0.0060 U	0.0064 U	0.20 J	0.19 J	0.0065 U	0.0058 U
Methyl tert-butyl ether (MTBE)	mg/m ³	0.011 U	0.0097 U	0.013 U	0.0097 U	0.011 U	0.0097 U	0.010 U	0.011 U	0.011 U	0.0099 U	0.011 U	0.097 U	0.097 U	0.011 U	0.0097 U
Methylene Chloride	mg/m ³	0.0050 U	0.0047 U	0.0062 U	0.0088	0.0052 U	0.0047 U	0.0050 U	0.0053 U	0.0052 U	0.0048 U	0.0051 U	0.047 U	0.047 U	0.0052 U	0.0047 U
o-Xylene	mg/m ³	0.0032 U	0.0029 U	0.0038 U	0.0029 U	0.0033 U	0.0029 U	0.0031 U	0.0033 U	0.0033 U	0.0030 U	0.0032 U	0.068 J	0.063 J	0.0033 U	0.0029 U
Styrene	mg/m ³	0.0031 U	0.0029 U	0.0038 U	0.0029 U	0.0032 U	0.0029 U	0.0030 U	0.0032 U	0.0032 U	0.0029 U	0.0032 U	0.029 U	0.029 U	0.0032 U	0.0029 U
Tetrachloroethene	mg/m ³	0.0049 U	0.0045 U	0.0060 U	0.0045 U	0.0051 U	0.0082	0.0048 U	0.0052 U	0.0051 U	0.010	0.011 J	0.12 J	0.11 J	0.0066 J	0.34
Toluene	mg/m ³	0.0093	0.0025 U	0.016	0.0025 U	0.015	0.0025 U	0.0067	0.0029 U	0.011 J	0.0026 U	0.084 J	0.62 J	0.56 J	0.063 J	0.010
trans-1,2-Dichloroethene	mg/m ³	0.0029 U	0.0027 U	0.0035 U	0.0027 U	0.0030 U	0.0027 U	0.0028 U	0.0030 U	0.0030 U	0.0027 U	0.0029 U	0.027 U	0.027 U	0.0030 U	0.0027 U
trans-1,3-Dichloropropene	mg/m ³	0.0033 U	0.0030 U	0.0040 U	0.0030 U	0.0034 U	0.0030 U	0.0033 U	0.0035 U	0.0034 U	0.0031 U	0.0034 U	0.031 U	0.031 U	0.0034 U	0.0030 U
Trichloroethene	mg/m ³	0.0039 U	0.0036 U	0.0048 U	0.0036 U	0.0040 U	0.0036 U	0.0039 U	0.0041 U	0.0040 U	0.0037 U	0.0040 U	0.036 U	0.036 U	0.0040 U	0.0076
Trichlorofluoromethane (Freon 11)	mg/m ³	0.0041 U	0.0038 U	0.0050 U	0.0038 U	0.0042 U	0.0038 U	0.0040 U	0.0043 U	0.0042 U	0.0039 U	0.0042 U	0.038 U	0.038 U	0.0042 U	0.0038 U
Vinyl Acetate	mg/m ³	0.0051 U	0.0047 U	0.0062 U	0.0047 U	0.0053 U	0.0047 U	0.0050 U	0.0053 U	0.0053 U	0.0048 U	0.0052 U	0.048 U	0.048 U	0.0053 U	0.0047 U
Vinyl Chloride	mg/m ³	0.0019 U	0.0017 U	0.0023 U	0.0017 U	0.0019 U	0.0017 U	0.0018 U	0.0019 U	0.0019 U	0.0018 U	0.0019 U	0.017 U	0.017 U	0.0019 U	0.0017 U

Abbreviations:
mg/m³ = milligrams per cubic meter
J = estimated value
FT BGS = feet below ground surface
U = not detected at specified reporting limit
UJ = not detection at specified reporting limit; reporting limit is estimated.

ICS-A3 Appendix Figure List

Exposure Unit: INSIDE TOPOCK COMPRESSOR STATION

Reference Figure: ICS-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
ICS-A3.1	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
ICS-A3.2	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
ICS-A3.3	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
ICS-A3.4	0 - 0.5 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
ICS-A3.5	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ARSENIC
ICS-A3.6	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	BARIIUM
ICS-A3.7	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CADMIUM
ICS-A3.8	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
ICS-A3.9	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
ICS-A3.10	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COBALT
ICS-A3.11	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	COPPER
ICS-A3.12	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	LEAD
ICS-A3.13	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	MERCURY
ICS-A3.14	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
ICS-A3.15	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	NICKEL
ICS-A3.16	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	VANADIUM
ICS-A3.17	0 - 0.5 FEET BELOW GROUND SURFACE	METAL	ZINC
ICS-A3.18	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
ICS-A3.19	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	CYANIDE
ICS-A3.20	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	IRON
ICS-A3.21	0 - 0.5 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
ICS-A3.22	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	1-METHYL NAPHTHALENE
ICS-A3.23	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
ICS-A3.24	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHENE
ICS-A3.25	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
ICS-A3.26	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
ICS-A3.27	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
ICS-A3.28	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
ICS-A3.29	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
ICS-A3.30	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
ICS-A3.31	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
ICS-A3.32	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
ICS-A3.33	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
ICS-A3.34	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
ICS-A3.35	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	FLUORENE
ICS-A3.36	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
ICS-A3.37	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	NAPHTHALENE
ICS-A3.38	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
ICS-A3.39	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
ICS-A3.40	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
ICS-A3.41	0 - 0.5 FEET BELOW GROUND SURFACE	PAHS	PYRENE
ICS-A3.42	0 - 0.5 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
ICS-A3.43	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
ICS-A3.44	0 - 0.5 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
ICS-A3.45	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
ICS-A3.46	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
ICS-A3.47	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
ICS-A3.48	0 - 3 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
ICS-A3.49	0 - 3 FEET BELOW GROUND SURFACE	METAL	ANTIMONY
ICS-A3.50	0 - 3 FEET BELOW GROUND SURFACE	METAL	ARSENIC
ICS-A3.51	0 - 3 FEET BELOW GROUND SURFACE	METAL	BARIIUM
ICS-A3.52	0 - 3 FEET BELOW GROUND SURFACE	METAL	CADMIUM
ICS-A3.53	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
ICS-A3.54	0 - 3 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
ICS-A3.55	0 - 3 FEET BELOW GROUND SURFACE	METAL	COBALT
ICS-A3.56	0 - 3 FEET BELOW GROUND SURFACE	METAL	COPPER
ICS-A3.57	0 - 3 FEET BELOW GROUND SURFACE	METAL	LEAD
ICS-A3.58	0 - 3 FEET BELOW GROUND SURFACE	METAL	MERCURY
ICS-A3.59	0 - 3 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
ICS-A3.60	0 - 3 FEET BELOW GROUND SURFACE	METAL	NICKEL
ICS-A3.61	0 - 3 FEET BELOW GROUND SURFACE	METAL	SELENIUM
ICS-A3.62	0 - 3 FEET BELOW GROUND SURFACE	METAL	SILVER
ICS-A3.63	0 - 3 FEET BELOW GROUND SURFACE	METAL	THALLIUM
ICS-A3.64	0 - 3 FEET BELOW GROUND SURFACE	METAL	VANADIUM
ICS-A3.65	0 - 3 FEET BELOW GROUND SURFACE	METAL	ZINC
ICS-A3.66	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
ICS-A3.67	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	CYANIDE
ICS-A3.68	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	IRON
ICS-A3.69	0 - 3 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE

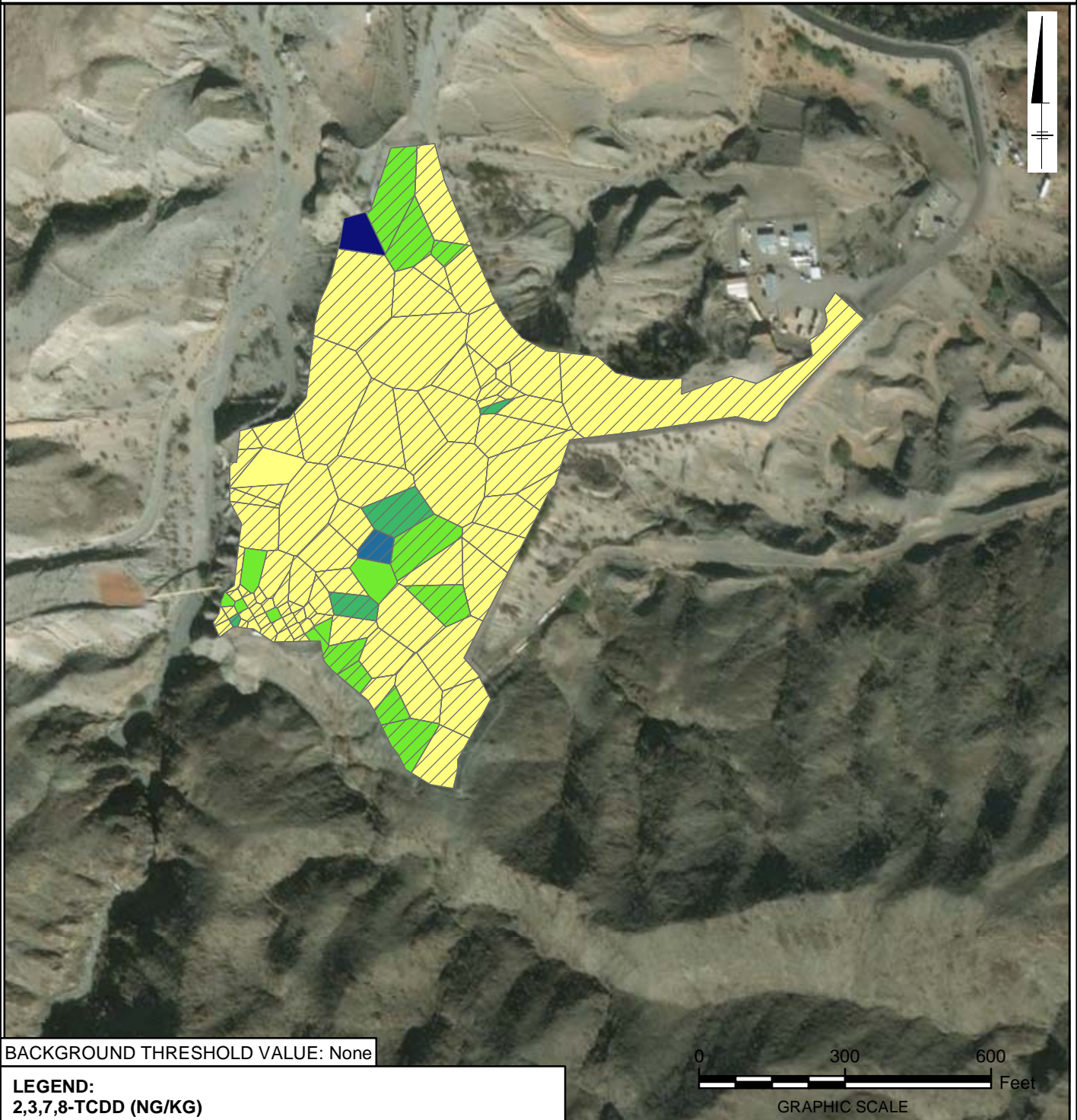
Exposure Unit: INSIDE TOPOCK COMPRESSOR STATION
Reference Figure: ICS-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
ICS-A3.70	0 - 3 FEET BELOW GROUND SURFACE	PAHS	1-METHYL NAPHTHALENE
ICS-A3.71	0 - 3 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
ICS-A3.72	0 - 3 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHENE
ICS-A3.73	0 - 3 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHYLENE
ICS-A3.74	0 - 3 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
ICS-A3.75	0 - 3 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
ICS-A3.76	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
ICS-A3.77	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
ICS-A3.78	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
ICS-A3.79	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
ICS-A3.80	0 - 3 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
ICS-A3.81	0 - 3 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
ICS-A3.82	0 - 3 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
ICS-A3.83	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
ICS-A3.84	0 - 3 FEET BELOW GROUND SURFACE	PAHS	FLUORENE
ICS-A3.85	0 - 3 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
ICS-A3.86	0 - 3 FEET BELOW GROUND SURFACE	PAHS	NAPHTHALENE
ICS-A3.87	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
ICS-A3.88	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
ICS-A3.89	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
ICS-A3.90	0 - 3 FEET BELOW GROUND SURFACE	PAHS	PYRENE
ICS-A3.91	0 - 3 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
ICS-A3.92	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
ICS-A3.93	0 - 3 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
ICS-A3.94	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
ICS-A3.95	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
ICS-A3.96	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
ICS-A3.97	0 - 6 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
ICS-A3.98	0 - 6 FEET BELOW GROUND SURFACE	METAL	ANTIMONY
ICS-A3.99	0 - 6 FEET BELOW GROUND SURFACE	METAL	ARSENIC
ICS-A3.100	0 - 6 FEET BELOW GROUND SURFACE	METAL	BARIUM
ICS-A3.101	0 - 6 FEET BELOW GROUND SURFACE	METAL	CADMIUM
ICS-A3.102	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
ICS-A3.103	0 - 6 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
ICS-A3.104	0 - 6 FEET BELOW GROUND SURFACE	METAL	COBALT
ICS-A3.105	0 - 6 FEET BELOW GROUND SURFACE	METAL	COPPER
ICS-A3.106	0 - 6 FEET BELOW GROUND SURFACE	METAL	LEAD
ICS-A3.107	0 - 6 FEET BELOW GROUND SURFACE	METAL	MERCURY
ICS-A3.108	0 - 6 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
ICS-A3.109	0 - 6 FEET BELOW GROUND SURFACE	METAL	NICKEL
ICS-A3.110	0 - 6 FEET BELOW GROUND SURFACE	METAL	SELENIUM
ICS-A3.111	0 - 6 FEET BELOW GROUND SURFACE	METAL	SILVER
ICS-A3.112	0 - 6 FEET BELOW GROUND SURFACE	METAL	THALLIUM
ICS-A3.113	0 - 6 FEET BELOW GROUND SURFACE	METAL	VANADIUM
ICS-A3.114	0 - 6 FEET BELOW GROUND SURFACE	METAL	ZINC
ICS-A3.115	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
ICS-A3.116	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	CYANIDE
ICS-A3.117	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	IRON
ICS-A3.118	0 - 6 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
ICS-A3.119	0 - 6 FEET BELOW GROUND SURFACE	ORG	ACETONE
ICS-A3.120	0 - 6 FEET BELOW GROUND SURFACE	PAHS	1-METHYL NAPHTHALENE
ICS-A3.121	0 - 6 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
ICS-A3.122	0 - 6 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHENE
ICS-A3.123	0 - 6 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHYLENE
ICS-A3.124	0 - 6 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
ICS-A3.125	0 - 6 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
ICS-A3.126	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
ICS-A3.127	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
ICS-A3.128	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
ICS-A3.129	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
ICS-A3.130	0 - 6 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
ICS-A3.131	0 - 6 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
ICS-A3.132	0 - 6 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
ICS-A3.133	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
ICS-A3.134	0 - 6 FEET BELOW GROUND SURFACE	PAHS	FLUORENE
ICS-A3.135	0 - 6 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
ICS-A3.136	0 - 6 FEET BELOW GROUND SURFACE	PAHS	NAPHTHALENE
ICS-A3.137	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
ICS-A3.138	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
ICS-A3.139	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
ICS-A3.140	0 - 6 FEET BELOW GROUND SURFACE	PAHS	PYRENE

Exposure Unit: INSIDE TOPOCK COMPRESSOR STATION
Reference Figure: ICS-1.1

Figure Number	Exposure Scenario Depth	Analyte Group	Analyte
ICS-A3.141	0 - 6 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
ICS-A3.142	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
ICS-A3.143	0 - 6 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL
ICS-A3.144	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	2,3,7,8-TCDD
ICS-A3.145	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ AVIAN
ICS-A3.146	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ HUMAN
ICS-A3.147	0 - 10 FEET BELOW GROUND SURFACE	DIOXINS	TEQ MAMMALS
ICS-A3.148	0 - 10 FEET BELOW GROUND SURFACE	METAL	ANTIMONY
ICS-A3.149	0 - 10 FEET BELOW GROUND SURFACE	METAL	ARSENIC
ICS-A3.150	0 - 10 FEET BELOW GROUND SURFACE	METAL	BARIUM
ICS-A3.151	0 - 10 FEET BELOW GROUND SURFACE	METAL	BERYLLIUM
ICS-A3.152	0 - 10 FEET BELOW GROUND SURFACE	METAL	CADMIUM
ICS-A3.153	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, HEXAVALENT
ICS-A3.154	0 - 10 FEET BELOW GROUND SURFACE	METAL	CHROMIUM, TOTAL
ICS-A3.155	0 - 10 FEET BELOW GROUND SURFACE	METAL	COBALT
ICS-A3.156	0 - 10 FEET BELOW GROUND SURFACE	METAL	COPPER
ICS-A3.157	0 - 10 FEET BELOW GROUND SURFACE	METAL	LEAD
ICS-A3.158	0 - 10 FEET BELOW GROUND SURFACE	METAL	MERCURY
ICS-A3.159	0 - 10 FEET BELOW GROUND SURFACE	METAL	MOLYBDENUM
ICS-A3.160	0 - 10 FEET BELOW GROUND SURFACE	METAL	NICKEL
ICS-A3.161	0 - 10 FEET BELOW GROUND SURFACE	METAL	SELENIUM
ICS-A3.162	0 - 10 FEET BELOW GROUND SURFACE	METAL	SILVER
ICS-A3.163	0 - 10 FEET BELOW GROUND SURFACE	METAL	THALLIUM
ICS-A3.164	0 - 10 FEET BELOW GROUND SURFACE	METAL	VANADIUM
ICS-A3.165	0 - 10 FEET BELOW GROUND SURFACE	METAL	ZINC
ICS-A3.166	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	ALUMINUM
ICS-A3.167	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	CYANIDE
ICS-A3.168	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	IRON
ICS-A3.169	0 - 10 FEET BELOW GROUND SURFACE	METALSCLP	MANGANESE
ICS-A3.170	0 - 10 FEET BELOW GROUND SURFACE	ORG	ACETONE
ICS-A3.171	0 - 10 FEET BELOW GROUND SURFACE	PAHS	1-METHYL NAPHTHALENE
ICS-A3.172	0 - 10 FEET BELOW GROUND SURFACE	PAHS	2-METHYL NAPHTHALENE
ICS-A3.173	0 - 10 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHENE
ICS-A3.174	0 - 10 FEET BELOW GROUND SURFACE	PAHS	ACENAPHTHYLENE
ICS-A3.175	0 - 10 FEET BELOW GROUND SURFACE	PAHS	ANTHRACENE
ICS-A3.176	0 - 10 FEET BELOW GROUND SURFACE	PAHS	B(A)P EQUIVALENT
ICS-A3.177	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) ANTHRACENE
ICS-A3.178	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (A) PYRENE
ICS-A3.179	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (B) FLUORANTHENE
ICS-A3.180	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (GHI) PERYLENE
ICS-A3.181	0 - 10 FEET BELOW GROUND SURFACE	PAHS	BENZO (K) FLUORANTHENE
ICS-A3.182	0 - 10 FEET BELOW GROUND SURFACE	PAHS	CHRYSENE
ICS-A3.183	0 - 10 FEET BELOW GROUND SURFACE	PAHS	DIBENZO (A,H) ANTHRACENE
ICS-A3.184	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORANTHENE
ICS-A3.185	0 - 10 FEET BELOW GROUND SURFACE	PAHS	FLUORENE
ICS-A3.186	0 - 10 FEET BELOW GROUND SURFACE	PAHS	INDENO (1,2,3-CD) PYRENE
ICS-A3.187	0 - 10 FEET BELOW GROUND SURFACE	PAHS	NAPHTHALENE
ICS-A3.188	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH HIGH MOLECULAR WEIGHT
ICS-A3.189	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PAH LOW MOLECULAR WEIGHT
ICS-A3.190	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PHENANTHRENE
ICS-A3.191	0 - 10 FEET BELOW GROUND SURFACE	PAHS	PYRENE
ICS-A3.192	0 - 10 FEET BELOW GROUND SURFACE	PCBS	TOTAL PCBS
ICS-A3.193	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS DIESEL
ICS-A3.194	0 - 10 FEET BELOW GROUND SURFACE	TPHS	TPH AS MOTOR OIL

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



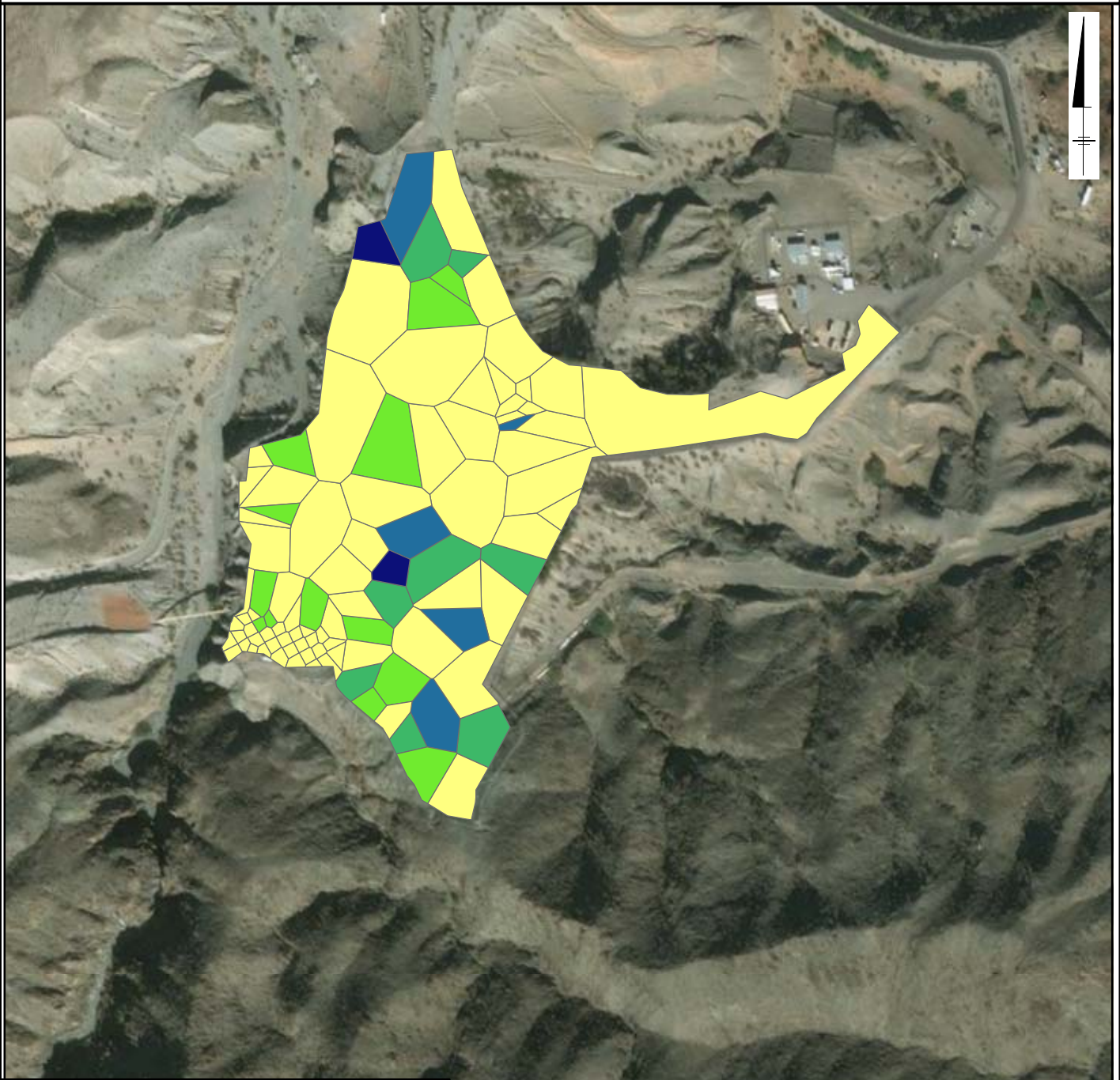
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**FIGURE
ICS-A3.1**

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.23 - 26.00
- ≥26.00 - 71.00
- ≥71.00 - 190.00
- ≥190.00 - 470.00
- ≥470.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

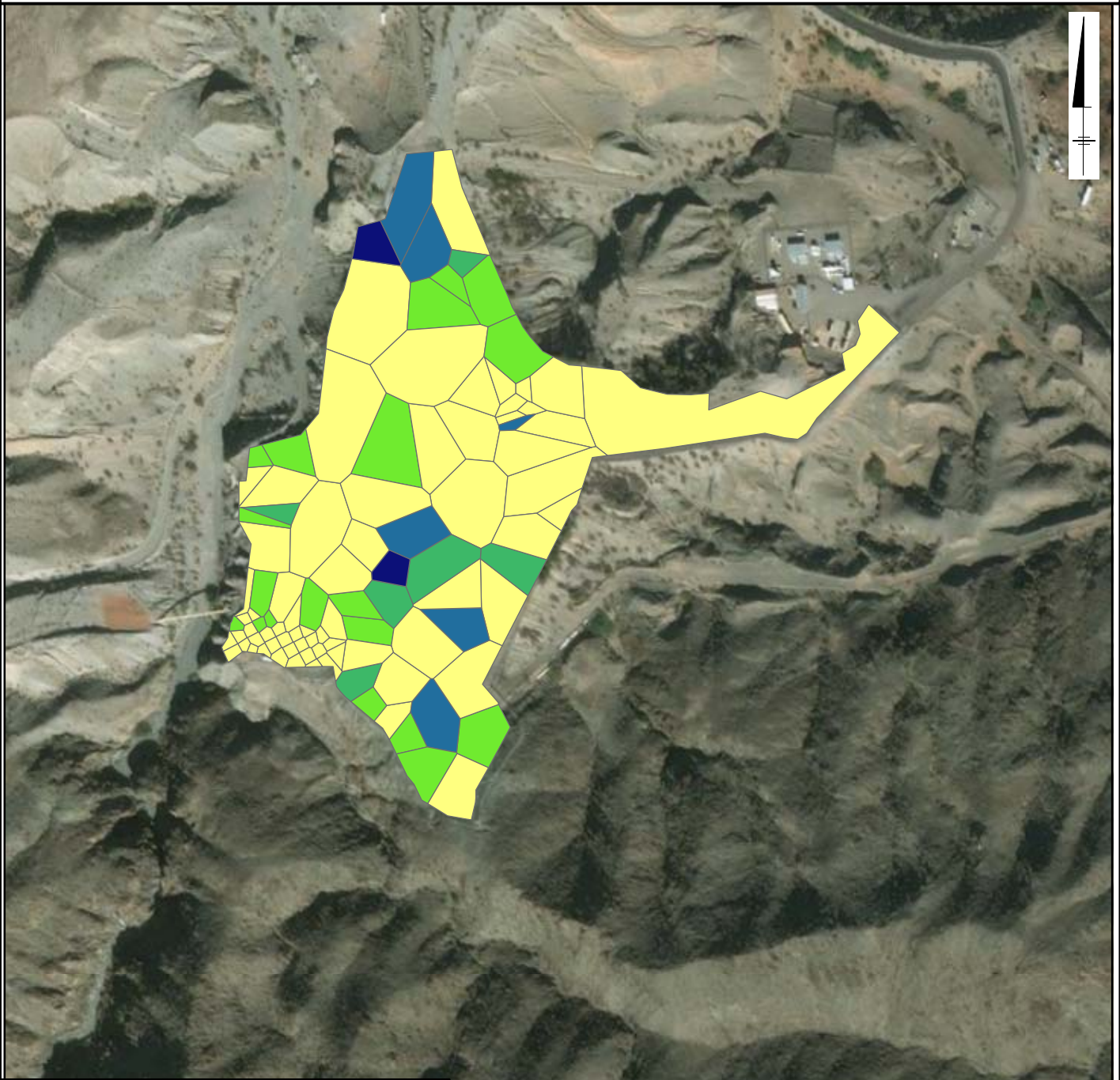
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FIGURE
ICS-A3.2

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TEQ HUMAN



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.10 - 31.00
- ≥31.00 - 94.00
- ≥94.00 - 200.00
- ≥200.00 - 630.00
- ≥630.00 - 2200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

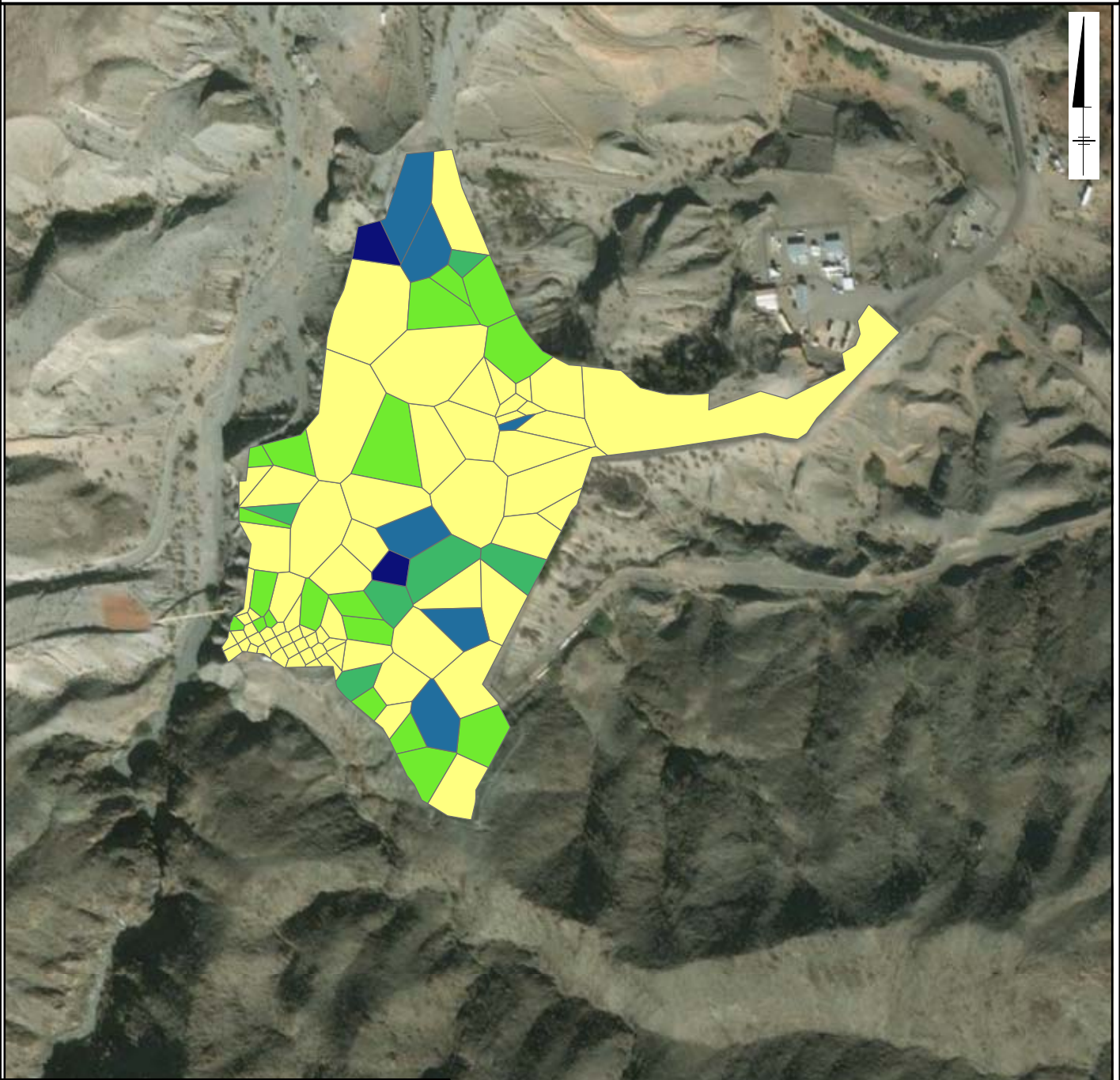
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**FIGURE
ICS-A3.3**

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.10 - 31.00
- ≥31.00 - 94.00
- ≥94.00 - 200.00
- ≥200.00 - 630.00
- ≥630.00 - 2200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

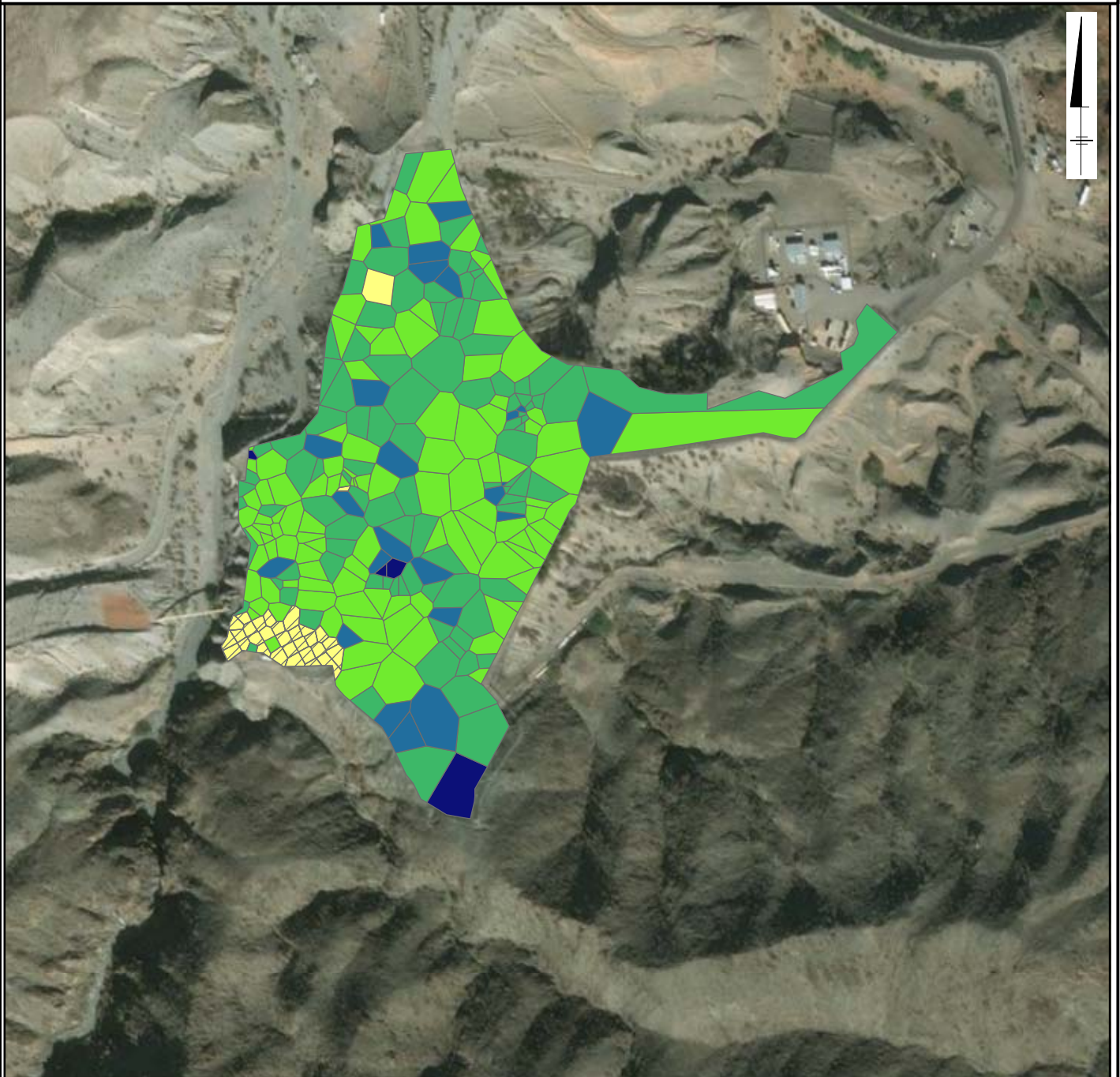
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FIGURE
ICS-A3.4

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

-  NOT DETECTED
-  0.50 - 1.80
-  $\geq 1.80 - 3.60$
-  $\geq 3.60 - 5.10$
-  $\geq 5.10 - 8.80$
-  $\geq 8.80 - 18.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

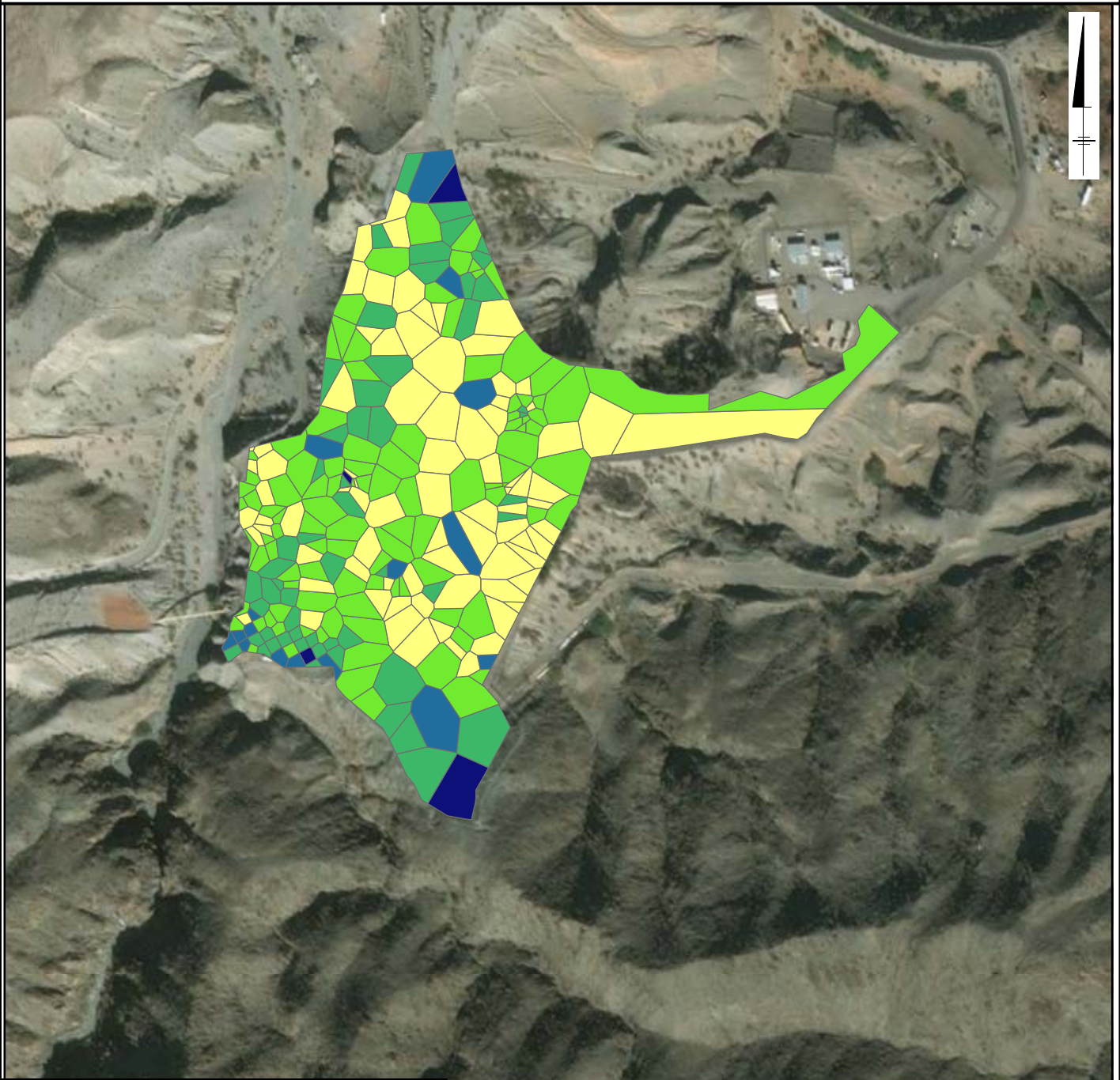
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**FIGURE
ICS-A3.5**

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

- NOT DETECTED
- 0.50 - 100.00
- ≥100.00 - 150.00
- ≥150.00 - 230.00
- ≥230.00 - 360.00
- ≥360.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



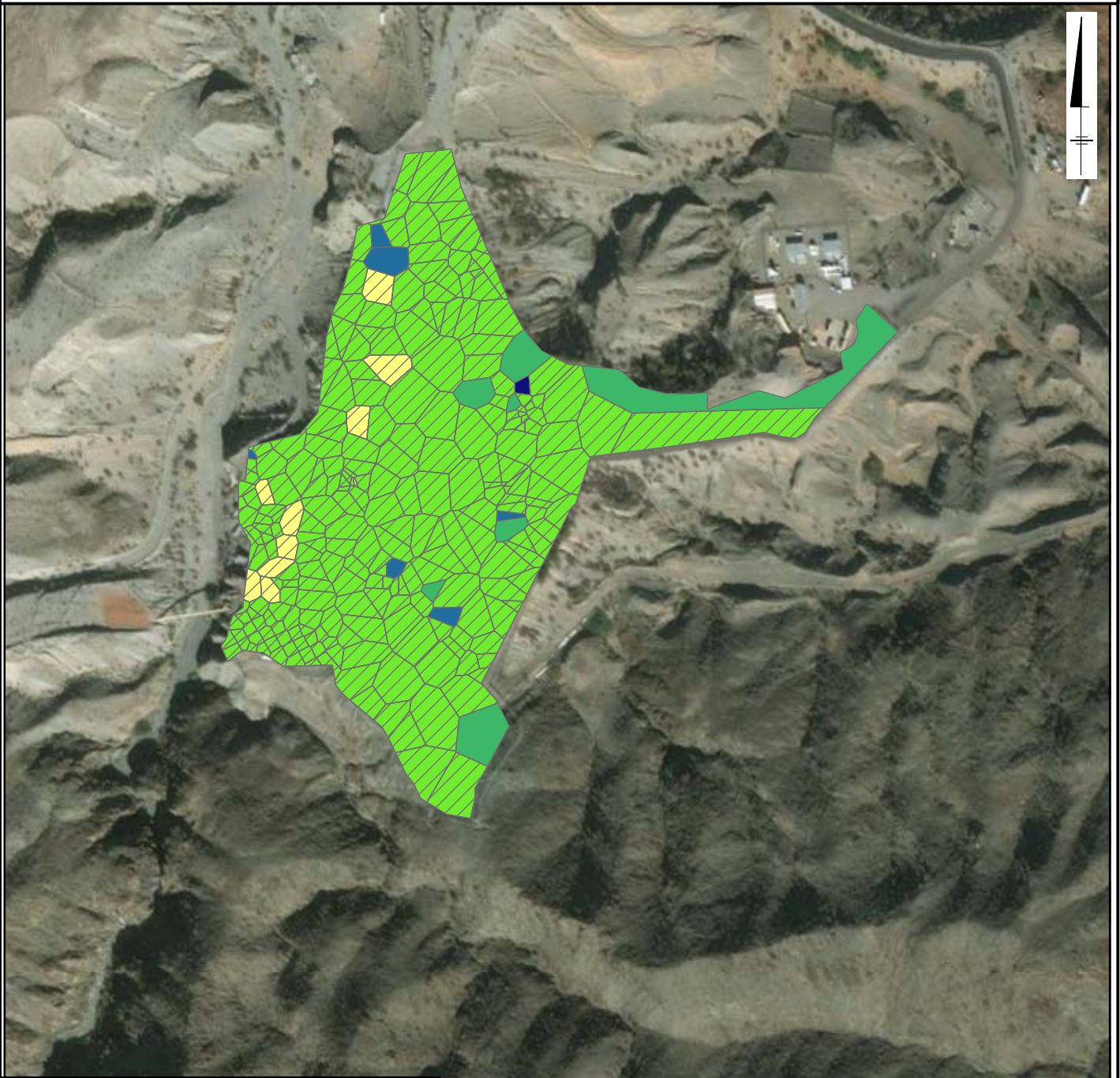
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FIGURE
ICS-A3.6

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE CADMIUM

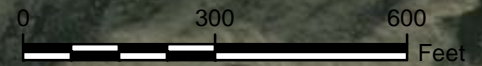


BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.13 - 0.26
	≥0.26 - 0.60
	≥0.60 - 1.50
	≥1.50 - 3.00
	≥3.00 - 7.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

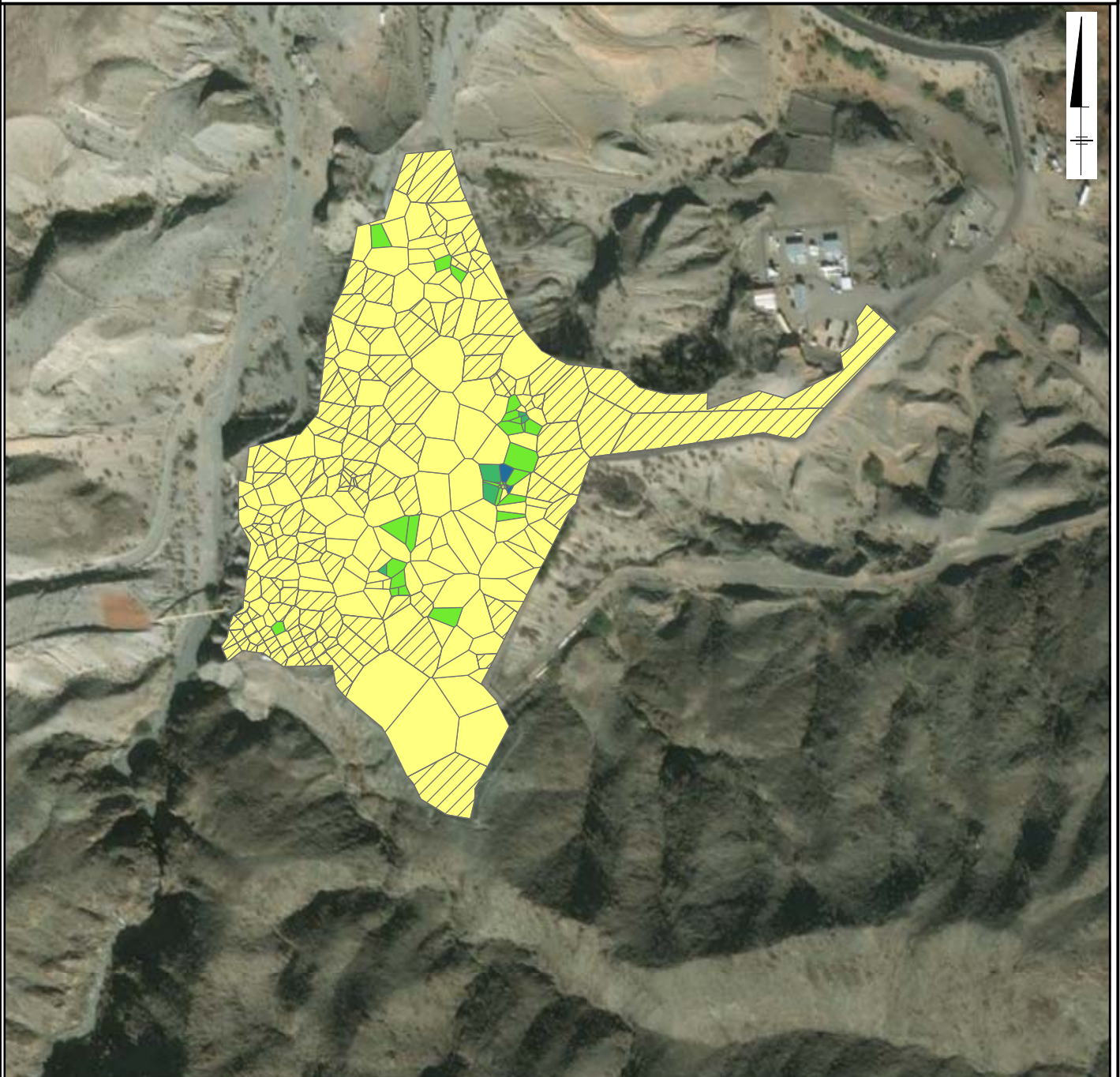
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.7

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

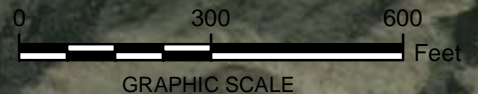


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.08 - 5.60
	≥5.60 - 19.00
	≥19.00 - 43.00
	≥43.00 - 80.00
	≥80.00 - 170.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



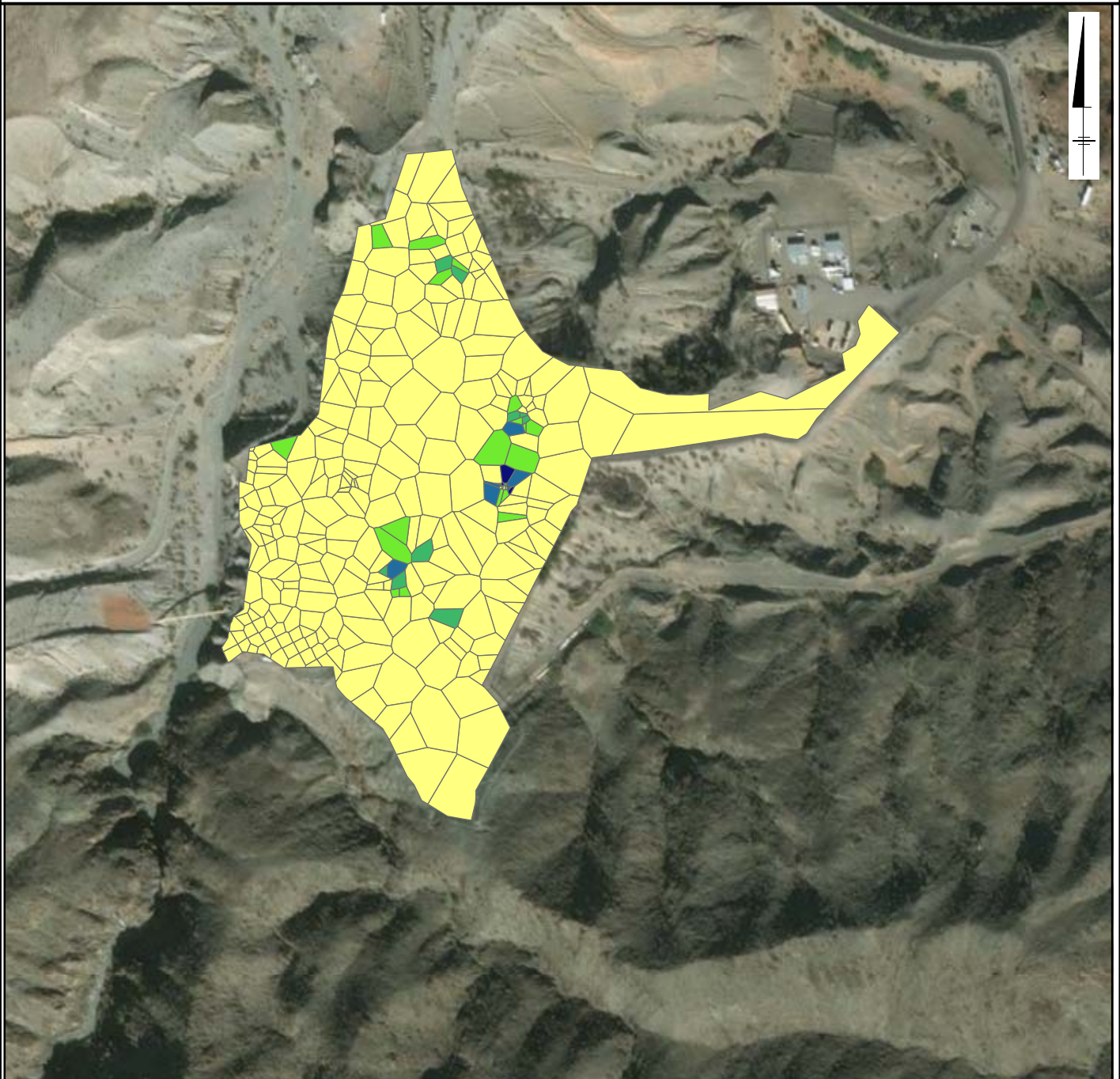
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.8

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

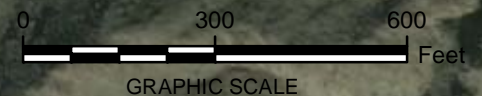


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	0.50 - 115.00
	≥115.00 - 350.00
	≥350.00 - 590.00
	≥590.00 - 950.00
	≥950.00 - 2100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



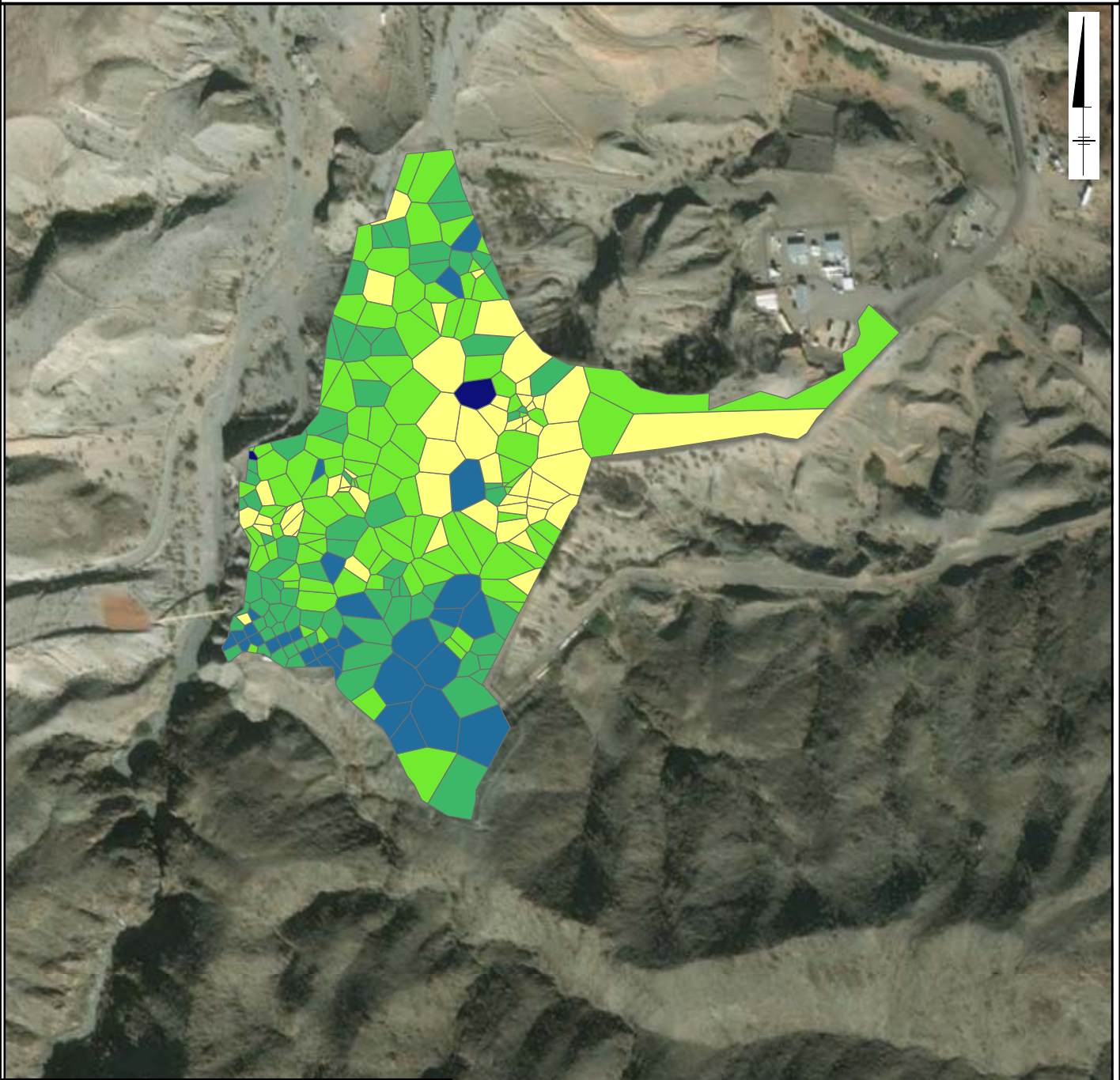
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THIESSEN POLYGONS FOR AREA WEIGHTING









FIGURE
ICS-A3.9

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

-  NOT DETECTED
-  0.50 - 4.10
-  $\geq 4.10 - 6.20$
-  $\geq 6.20 - 9.00$
-  $\geq 9.00 - 14.00$
-  $\geq 14.00 - 27.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



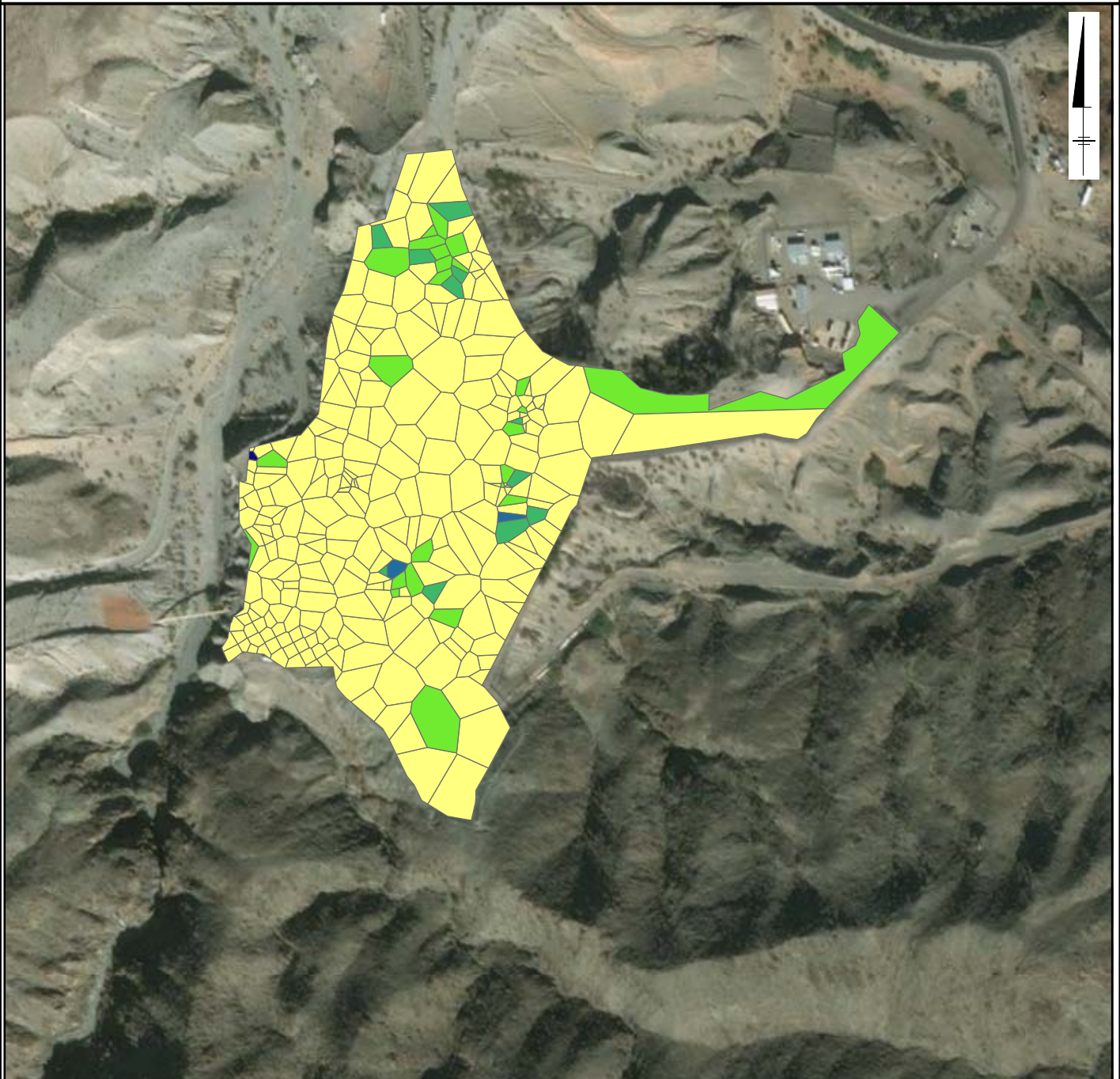
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.10

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE COPPER

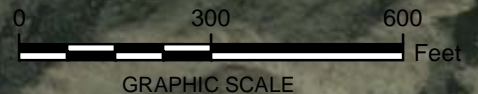


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

	NOT DETECTED
	1.00 - 38.00
	≥38.00 - 110.00
	≥110.00 - 316.00
	≥316.00 - 530.00
	≥530.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



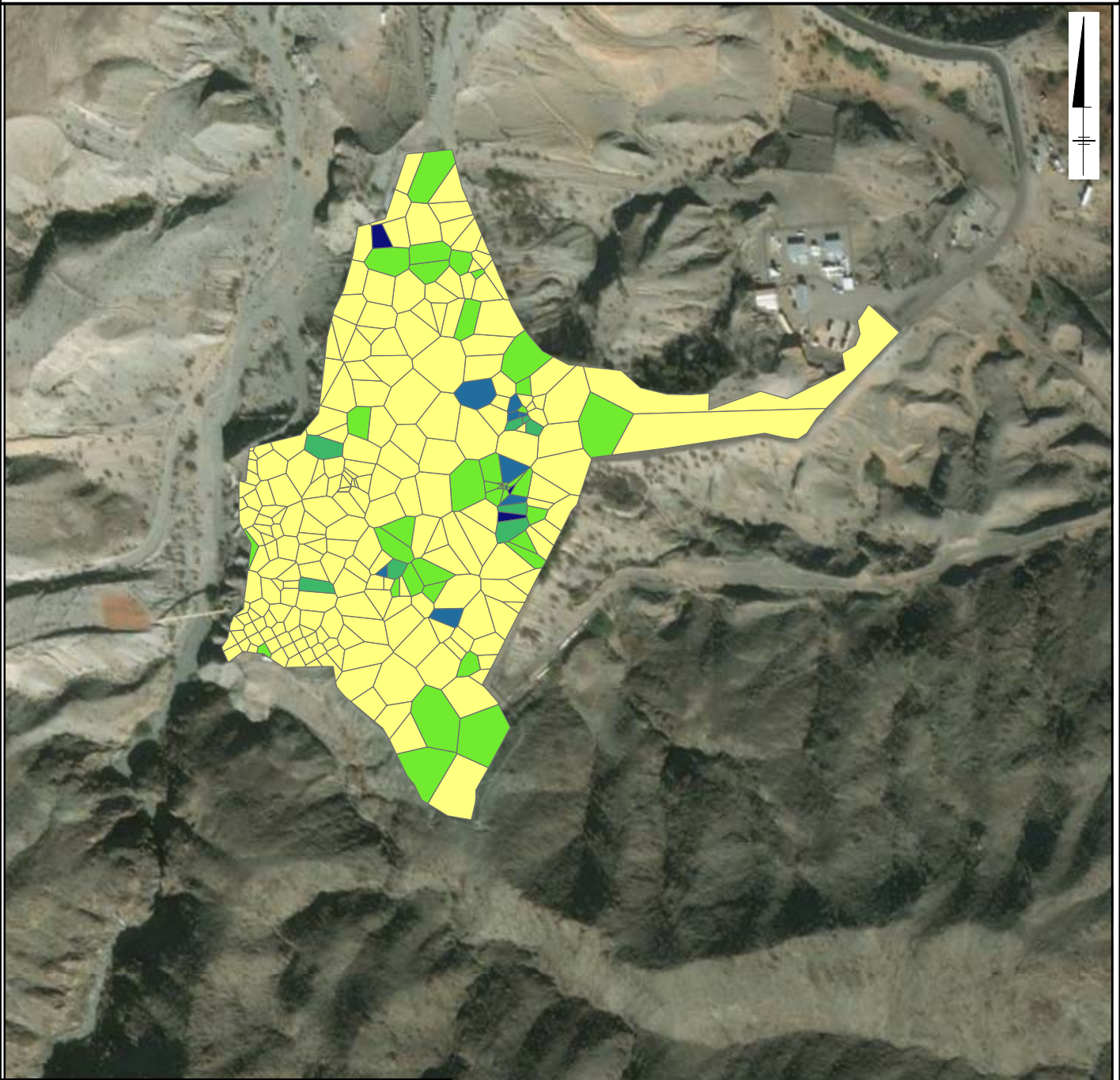
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.11







INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE LEAD



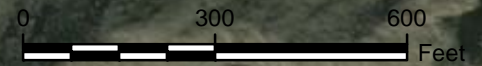
BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:

LEAD (MG/KG)

-  NOT DETECTED
-  0.50 - 23.00
-  ≥23.00 - 67.00
-  ≥67.00 - 120.00
-  ≥120.00 - 400.00
-  ≥400.00 - 820.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

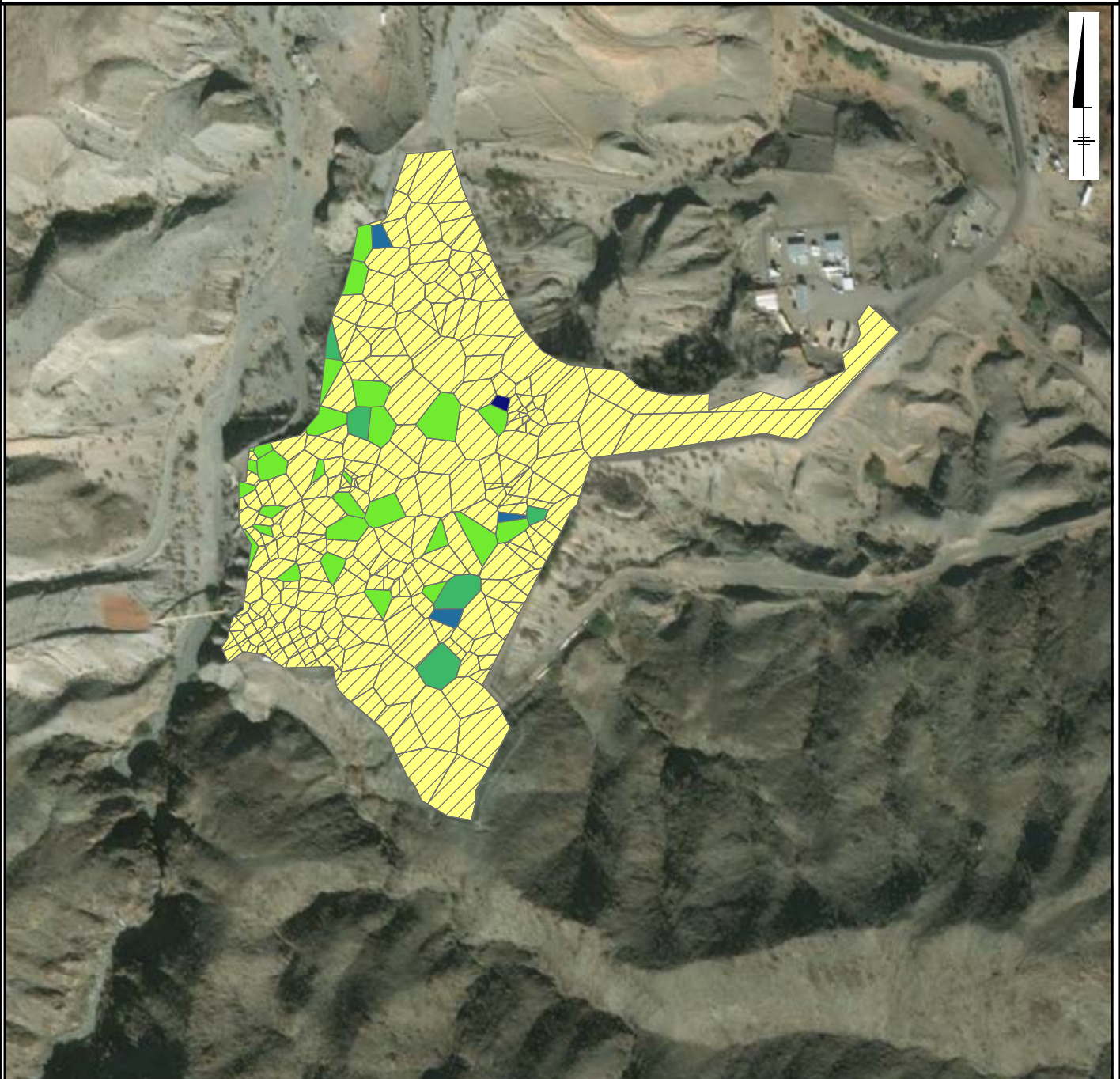
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THIESSEN POLYGONS FOR
AREA WEIGHTING



FIGURE
ICS-A3.12

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE MERCURY

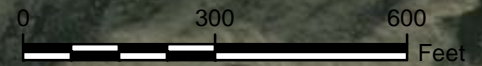


BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

	NOT DETECTED
	0.05 - 0.06
	≥0.06 - 0.24
	≥0.24 - 0.44
	≥0.44 - 0.95
	≥0.95 - 4.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

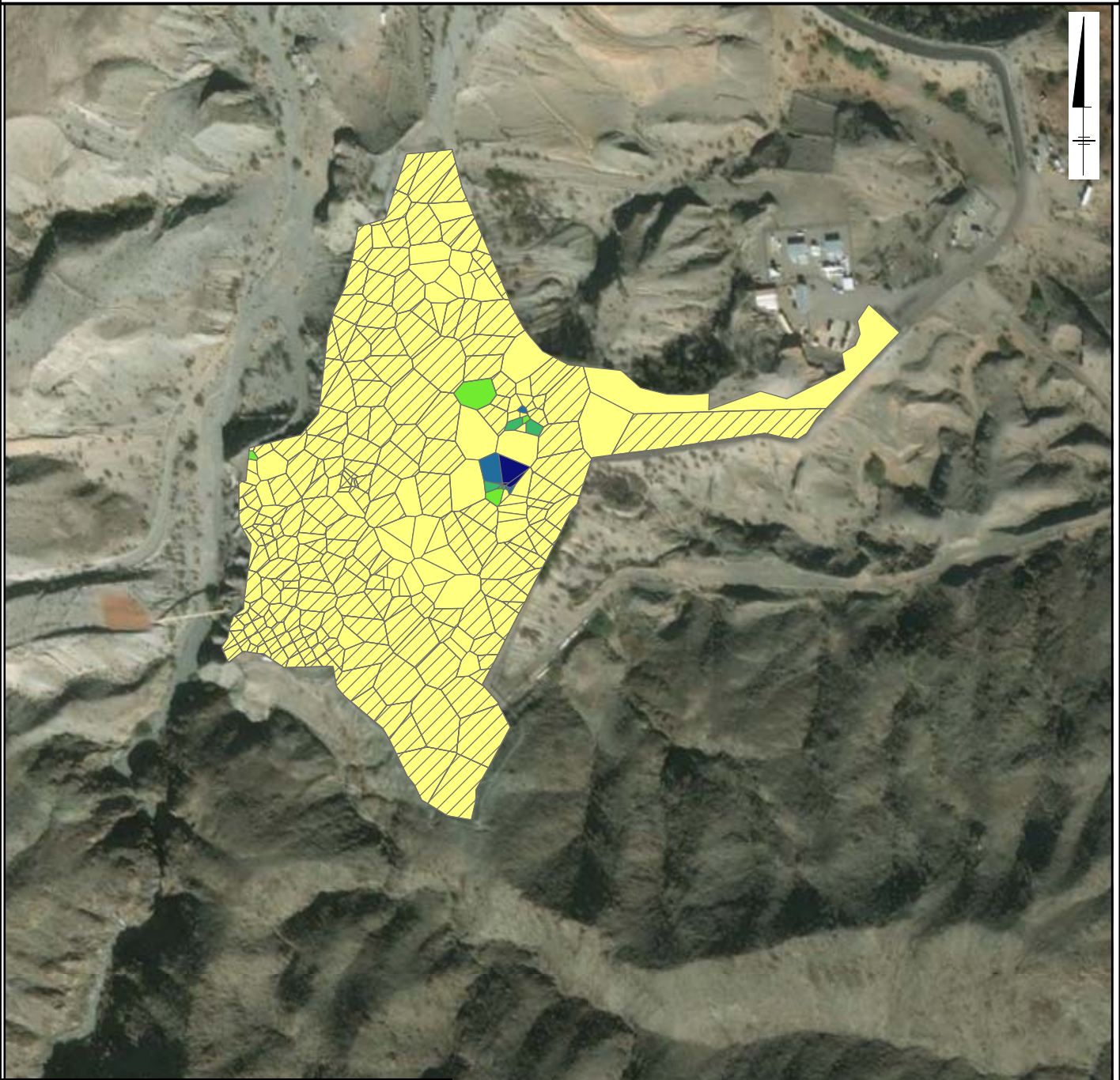
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.13

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE MOLYBDENUM

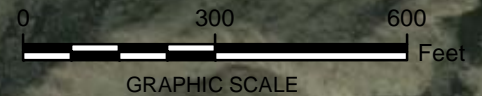


BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.14 - 44.00
	≥44.00 - 140.00
	≥140.00 - 330.00
	≥330.00 - 780.00
	≥780.00 - 1300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



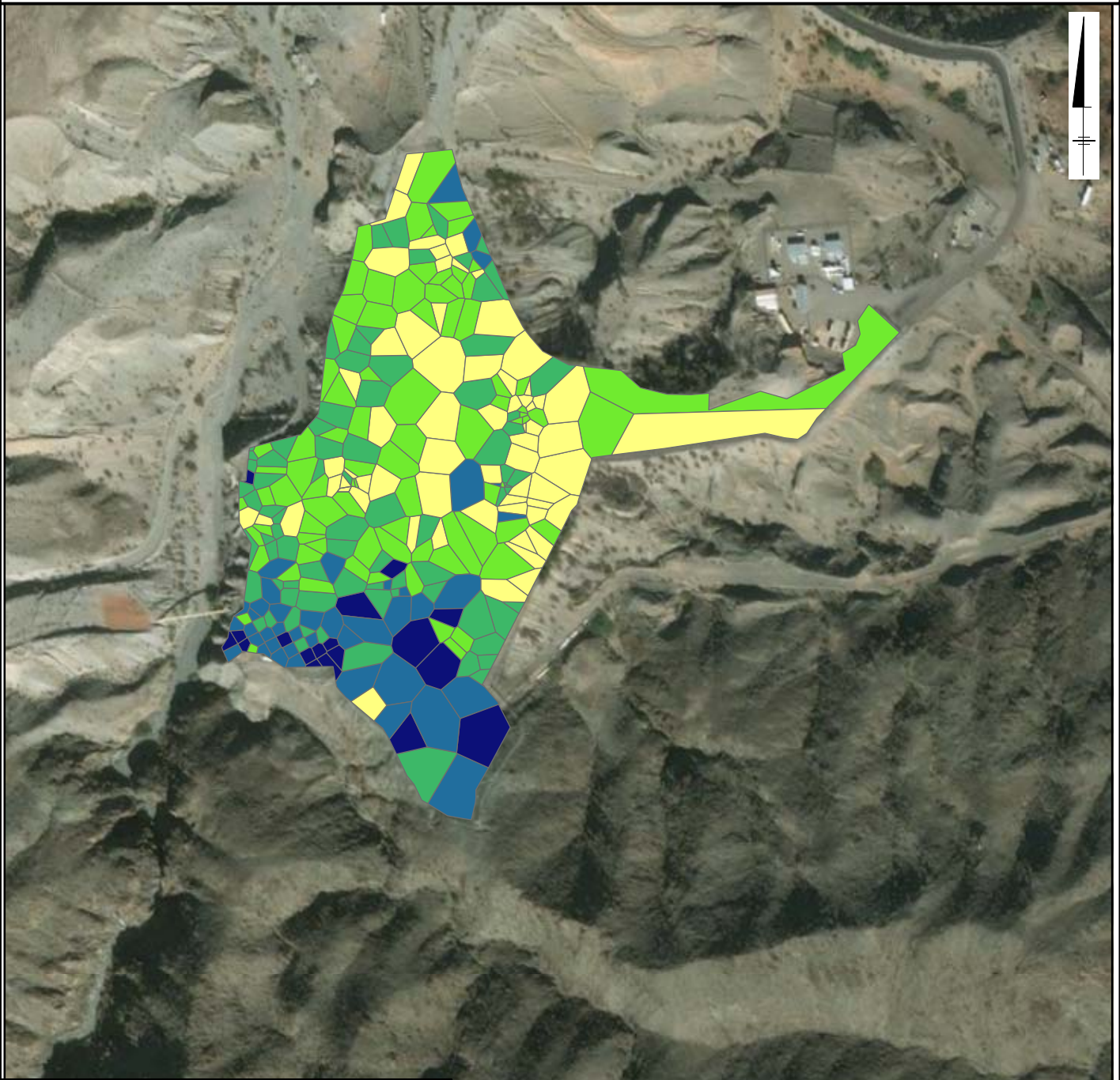
PG&E TOPOCK COMPRESSOR STATION
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THIESSEN POLYGONS FOR AREA WEIGHTING









FIGURE
ICS-A3.14

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE NICKEL

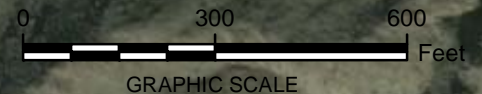


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

-  NOT DETECTED
-  0.50 - 8.80
-  ≥8.80 - 12.40
-  ≥12.40 - 19.00
-  ≥19.00 - 30.00
-  ≥30.00 - 67.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



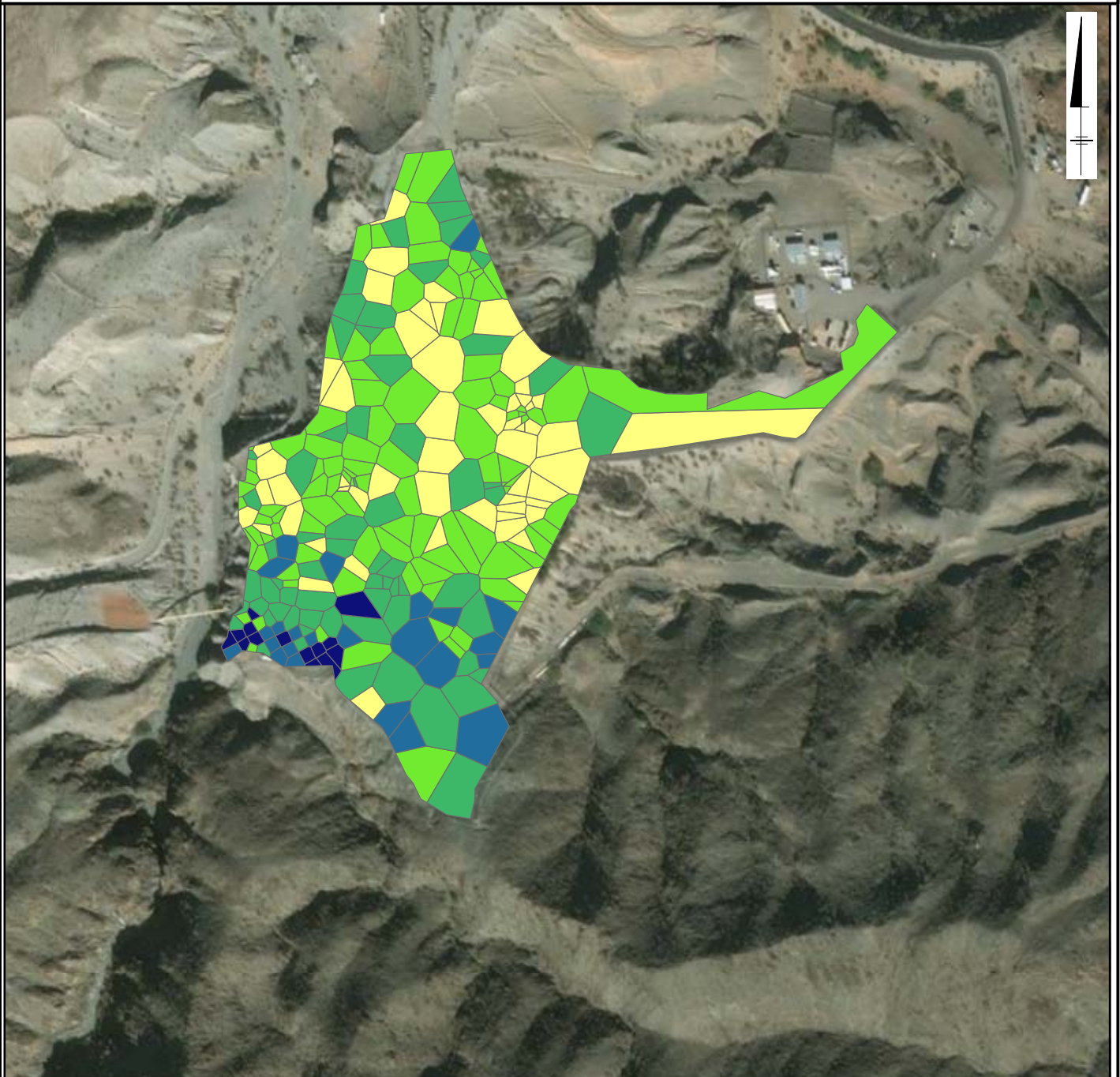
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.15

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE VANADIUM

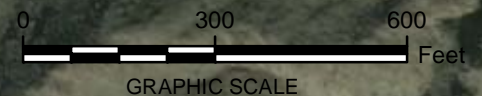


BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	0.50 - 19.00
	≥ 19.00 - 27.00
	≥ 27.00 - 36.00
	≥ 36.00 - 47.00
	≥ 47.00 - 63.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



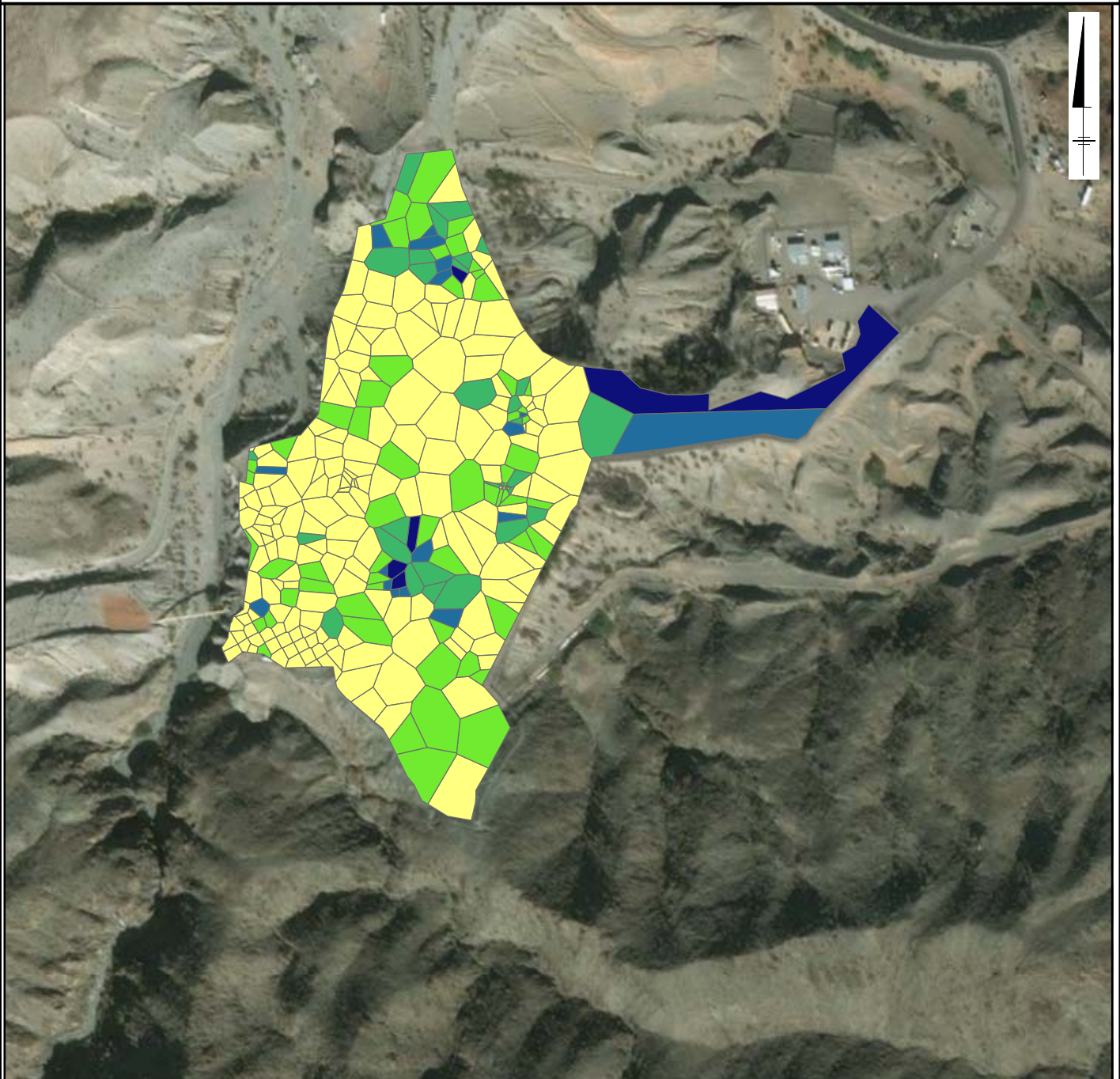
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.16

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 0.50 - 49.10
- ≥49.10 - 120.00
- ≥120.00 - 280.00
- ≥280.00 - 690.00
- ≥690.00 - 1900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



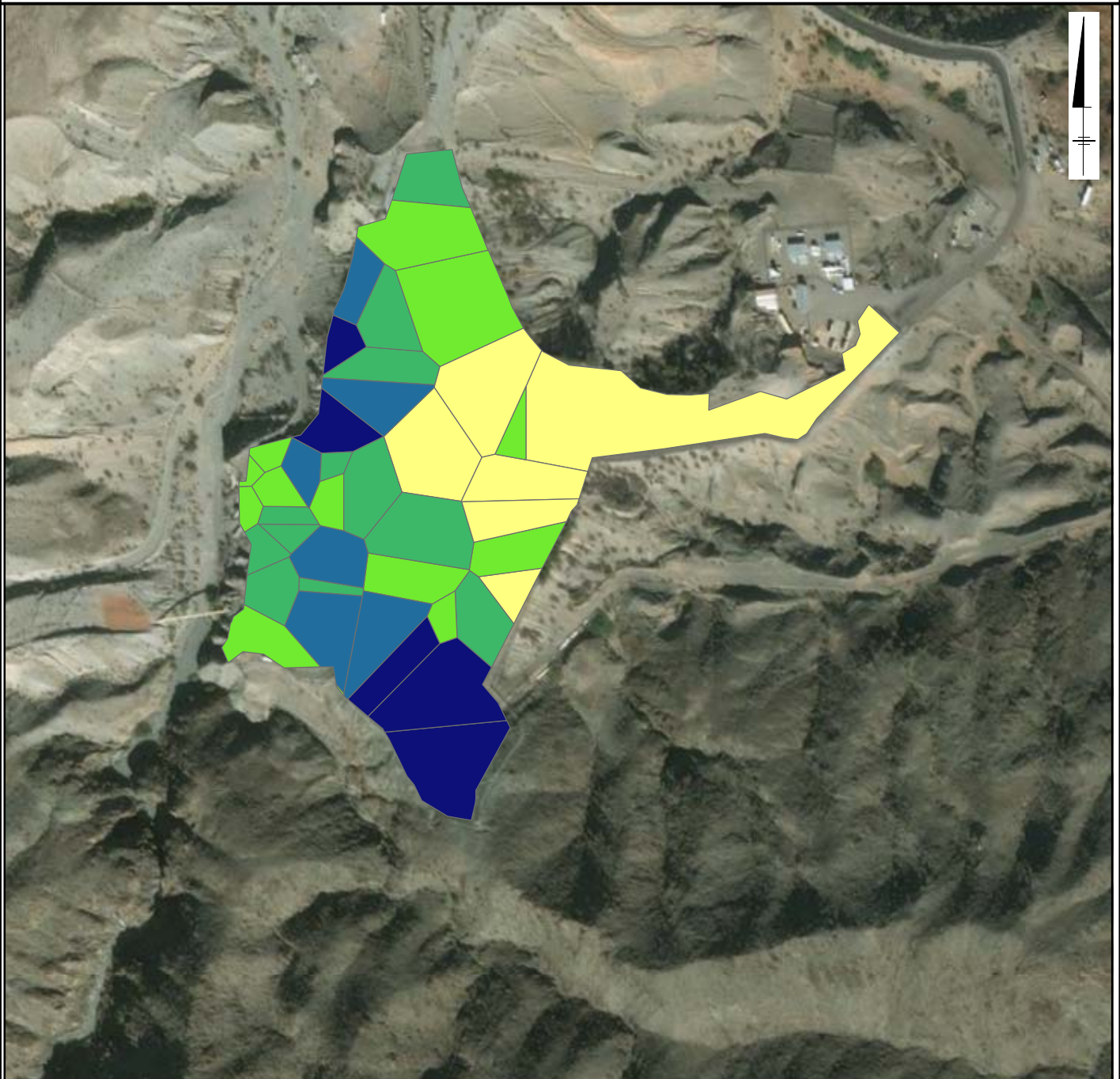
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FIGURE
ICS-A3.17

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE ALUMINUM

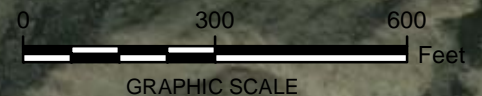


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

- NOT DETECTED
- 2700.00 - 4400.00
- ≥4400.00 - 6900.00
- ≥6900.00 - 8400.00
- ≥8400.00 - 11000.00
- ≥11000.00 - 16000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



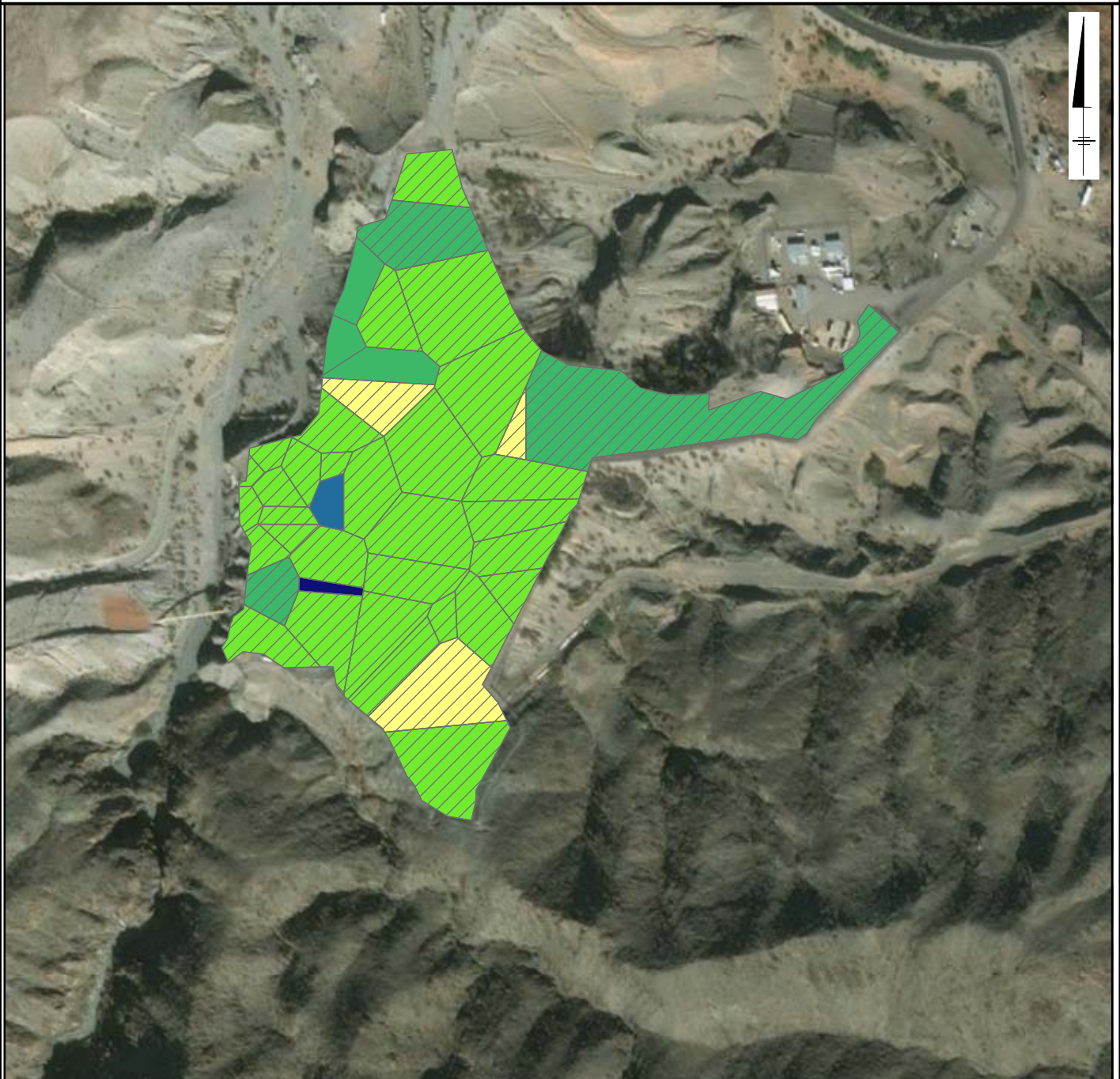
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FIGURE
ICS-A3.18

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE CYANIDE

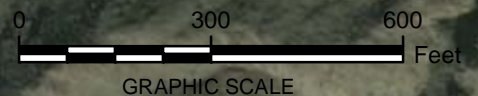


BACKGROUND THRESHOLD VALUE: None

LEGEND: CYANIDE (MG/KG)

	NOT DETECTED
	0.02 - 0.02
	≥0.02 - 0.13
	≥0.13 - 1.00
	≥1.00 - 1.90
	≥1.90 - 5.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



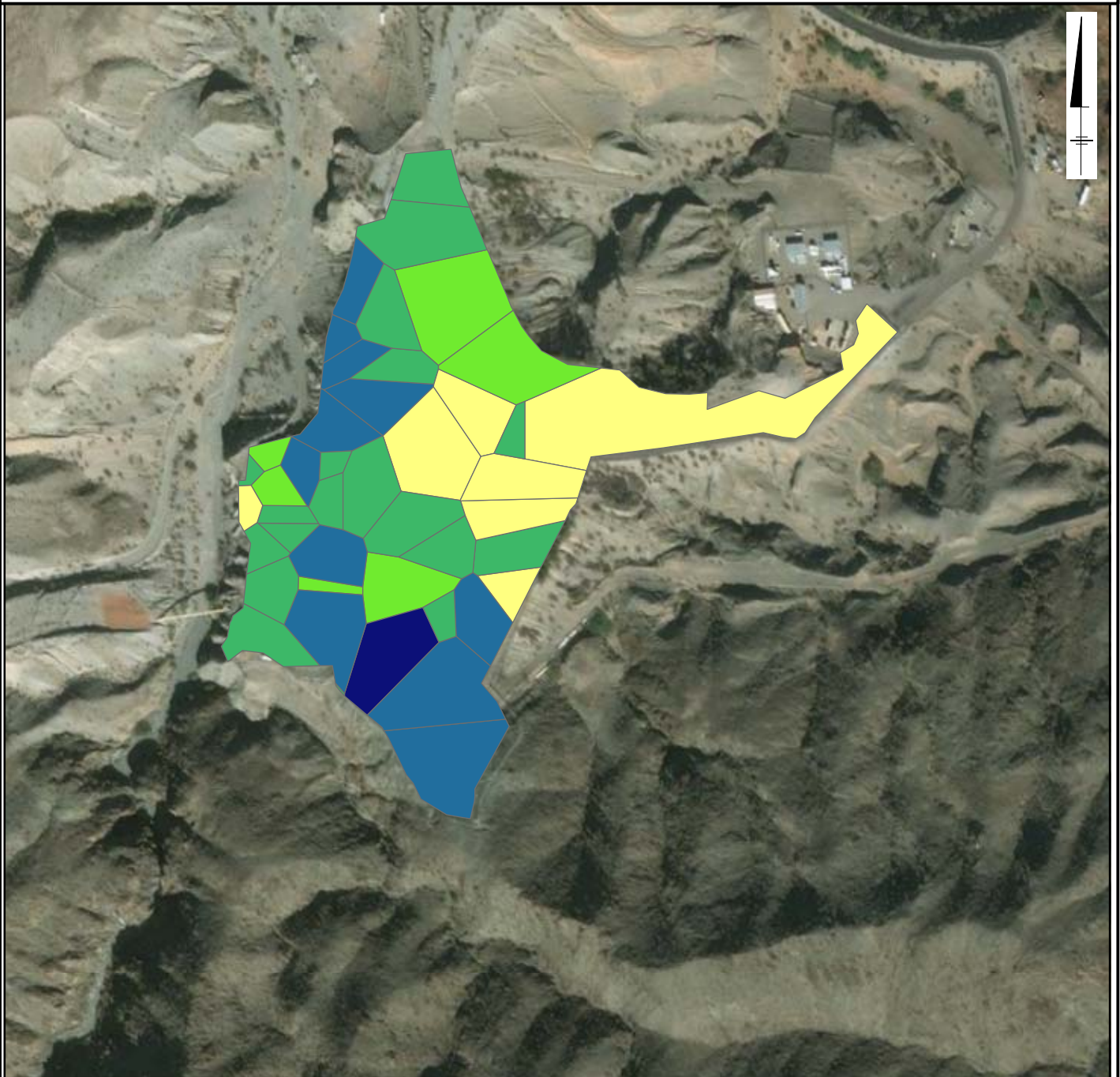
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FIGURE
ICS-A3.19

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE IRON

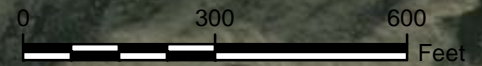


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

-  NOT DETECTED
-  6200.00 - 9100.00
-  ≥9100.00 - 12000.00
-  ≥12000.00 - 16000.00
-  ≥16000.00 - 23000.00
-  ≥23000.00 - 31000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

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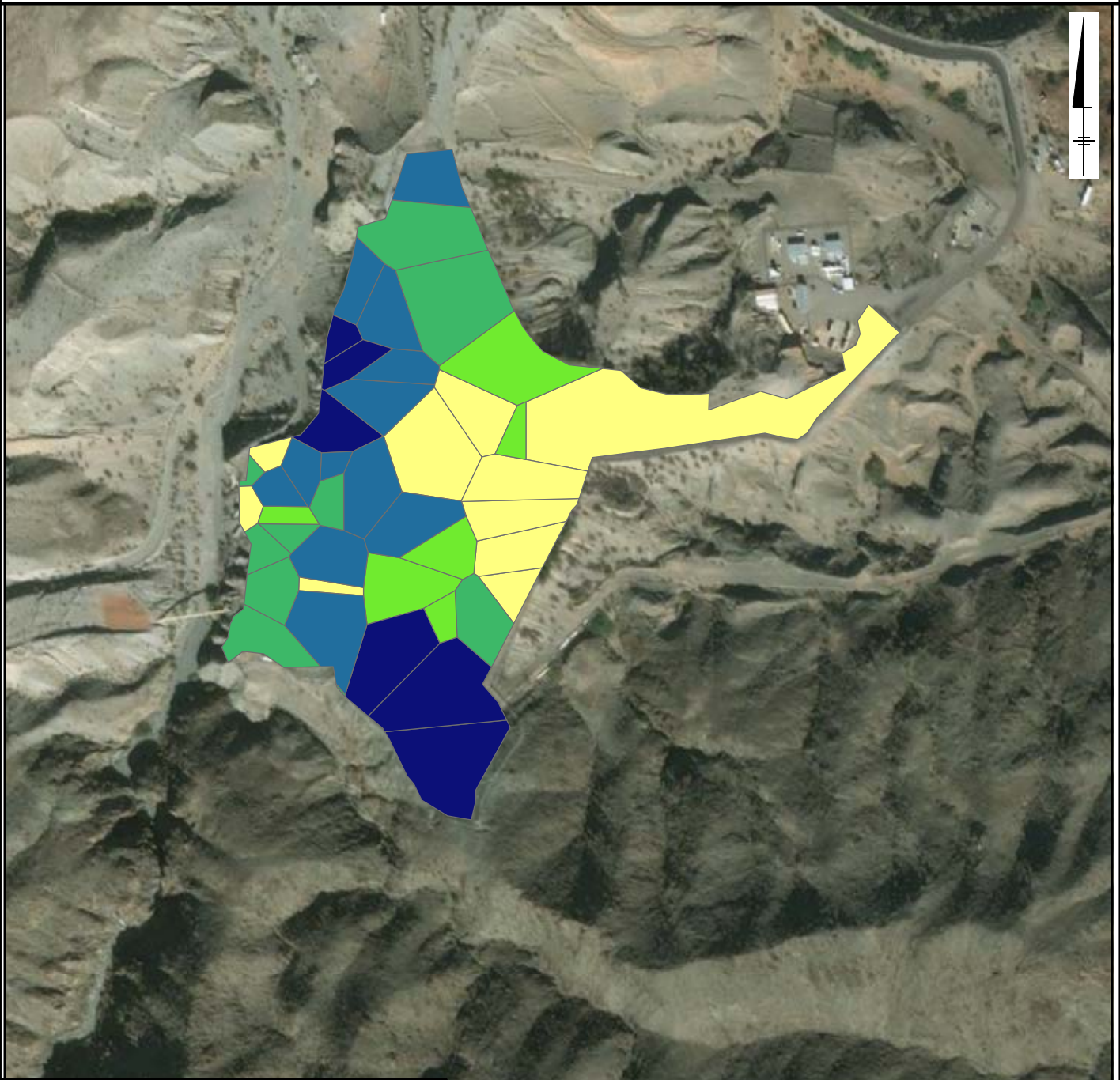
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FIGURE
ICS-A3.20

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE MANGANESE

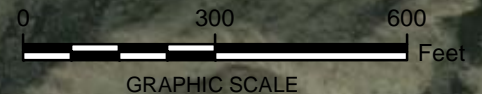


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

-  NOT DETECTED
-  130.00 - 160.00
-  ≥ 160.00 - 191.00
-  ≥ 191.00 - 220.00
-  ≥ 220.00 - 270.00
-  ≥ 270.00 - 320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



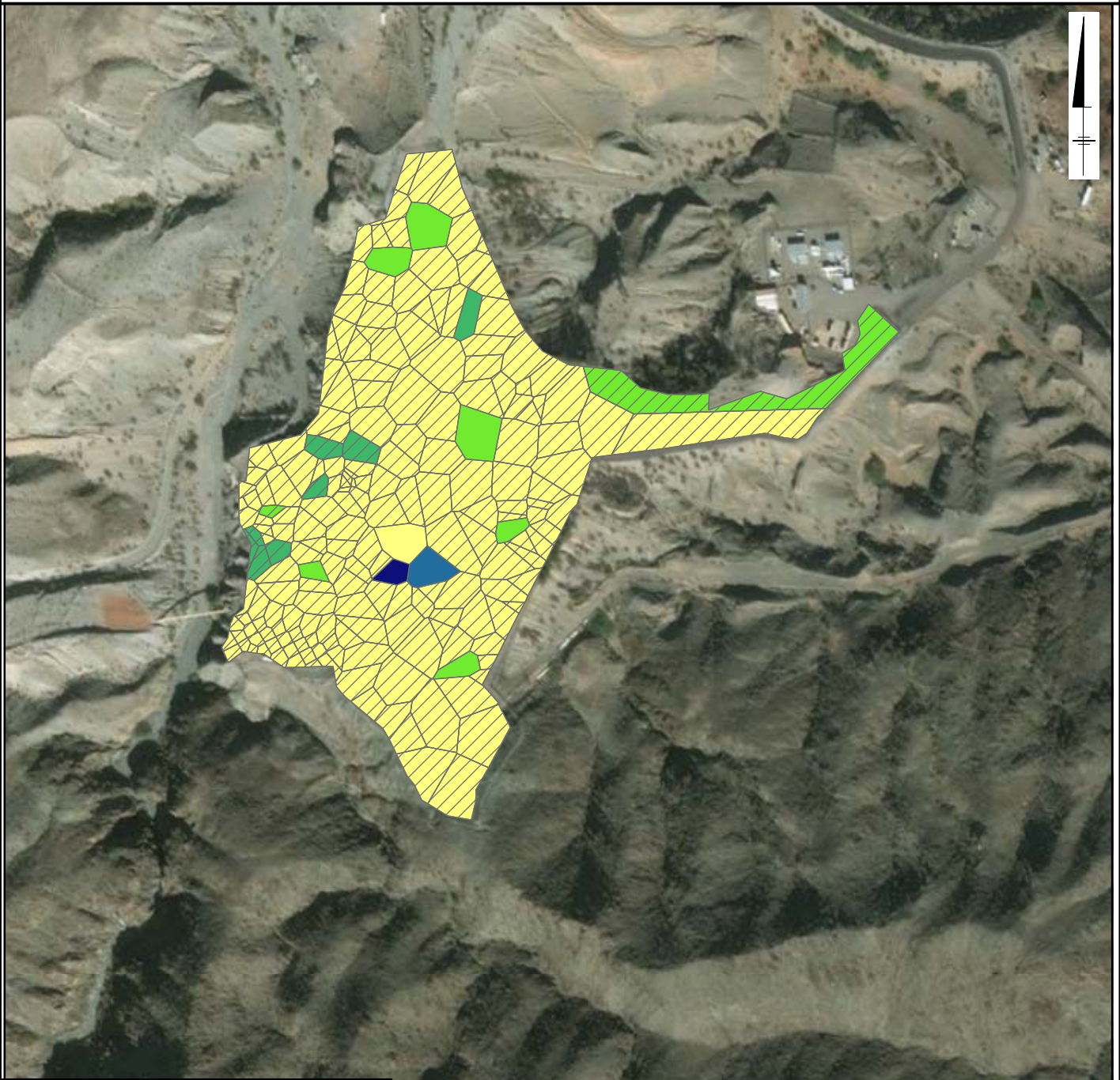
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FIGURE
ICS-A3.21

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE 1-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 1-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 5.10
	≥5.10 - 16.00
	≥16.00 - 25.50
	≥25.50 - 82.00
	≥82.00 - 2400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



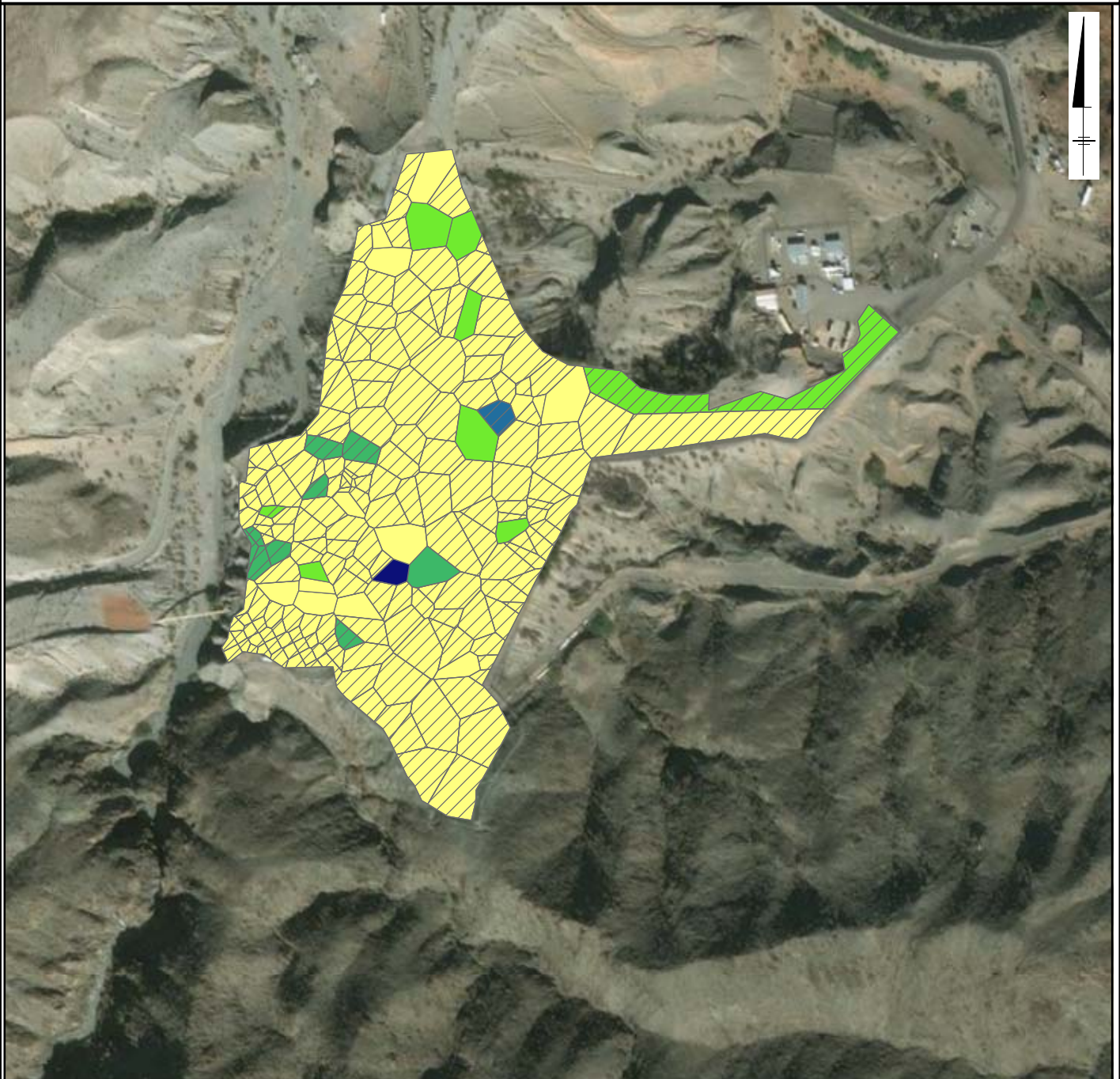
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FIGURE
ICS-A3.22

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE

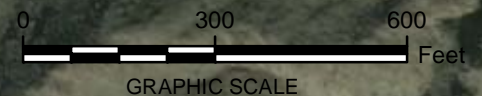


BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 7.80
	≥7.80 - 17.00
	≥17.00 - 84.00
	≥84.00 - 175.00
	≥175.00 - 2900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



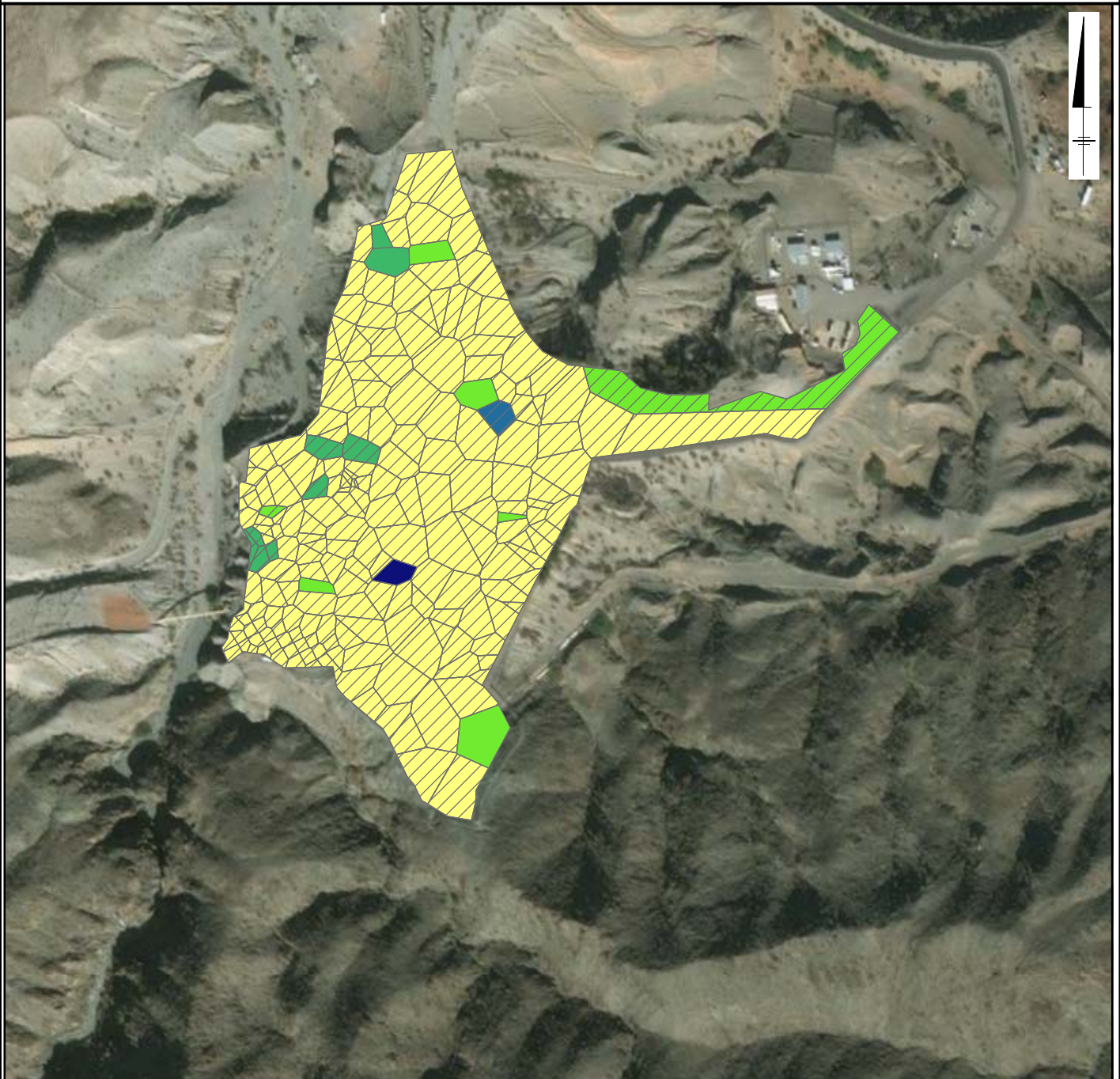
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FIGURE
ICS-A3.23

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE ACENAPHTHENE

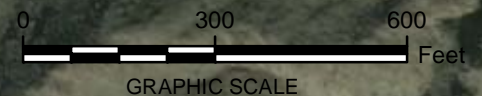


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.00
- ≥5.00 - 17.00
- ≥17.00 - 34.00
- ≥34.00 - 175.00
- ≥175.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



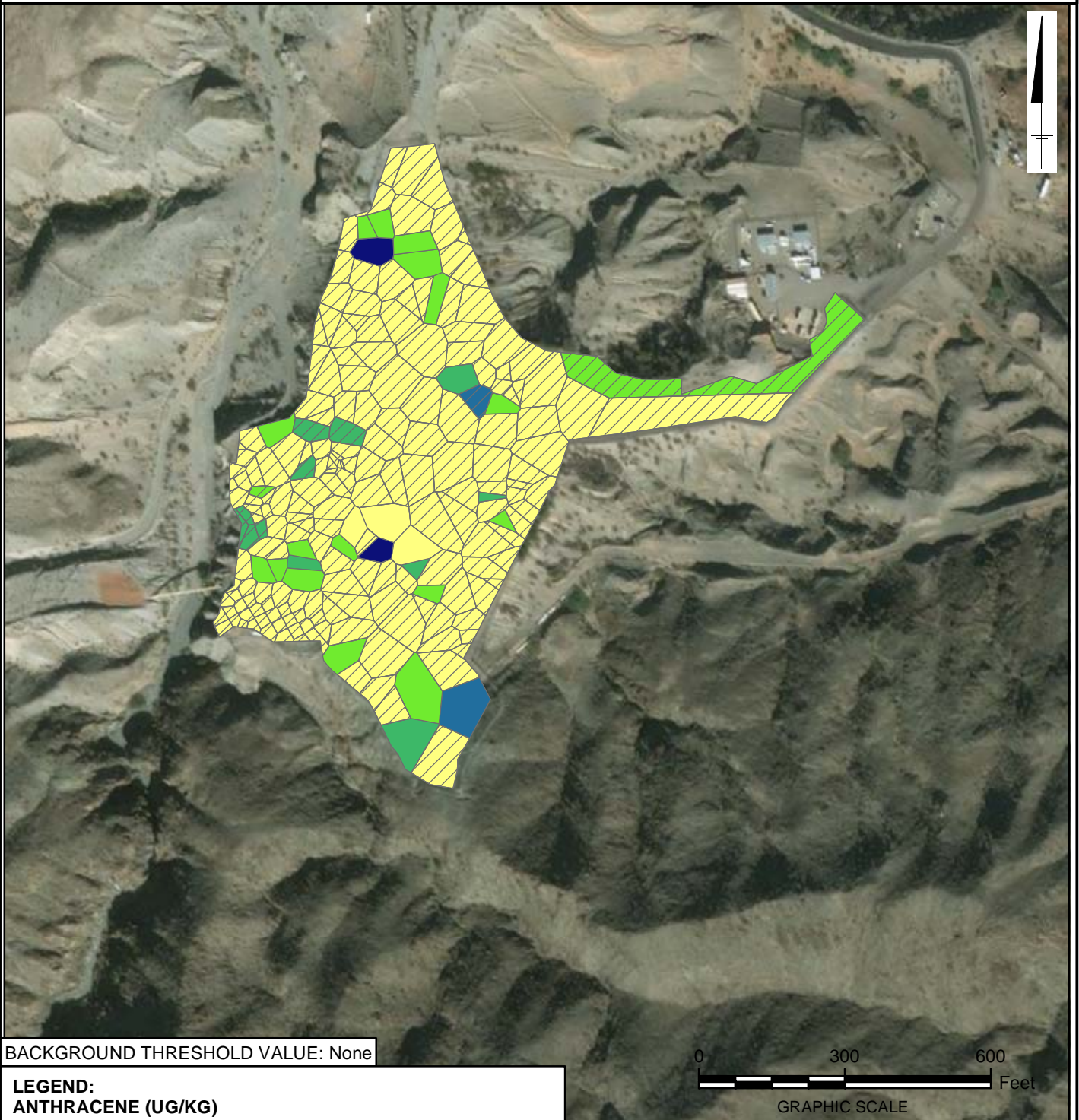
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FIGURE
ICS-A3.24

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.10
- ≥6.10 - 14.00
- ≥14.00 - 52.00
- ≥52.00 - 175.00
- ≥175.00 - 270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

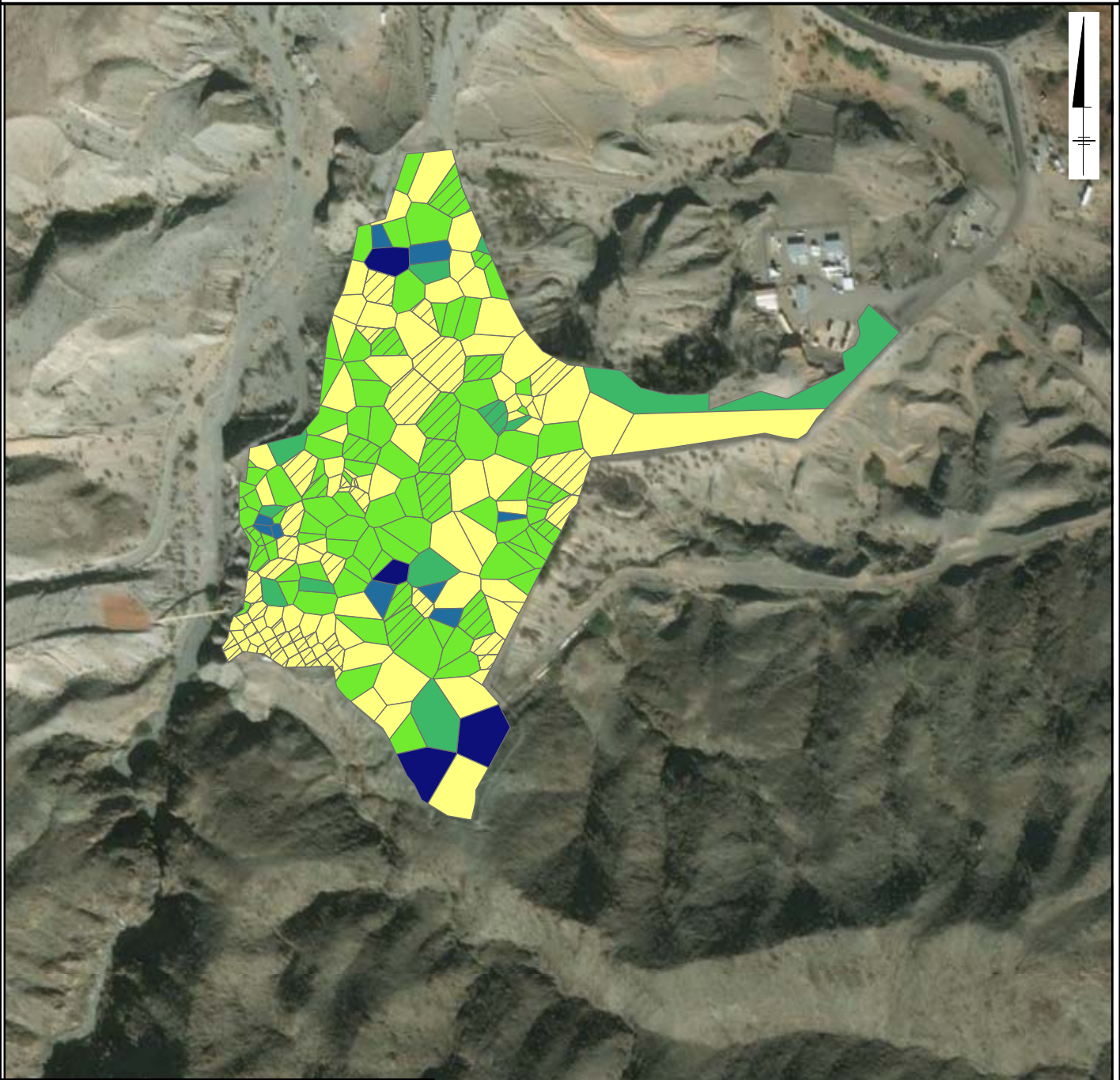
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FIGURE
ICS-A3.25

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.80 - 41.00
- ≥ 41.00 - 200.00
- ≥ 200.00 - 490.00
- ≥ 490.00 - 1000.00
- ≥ 1000.00 - 2900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



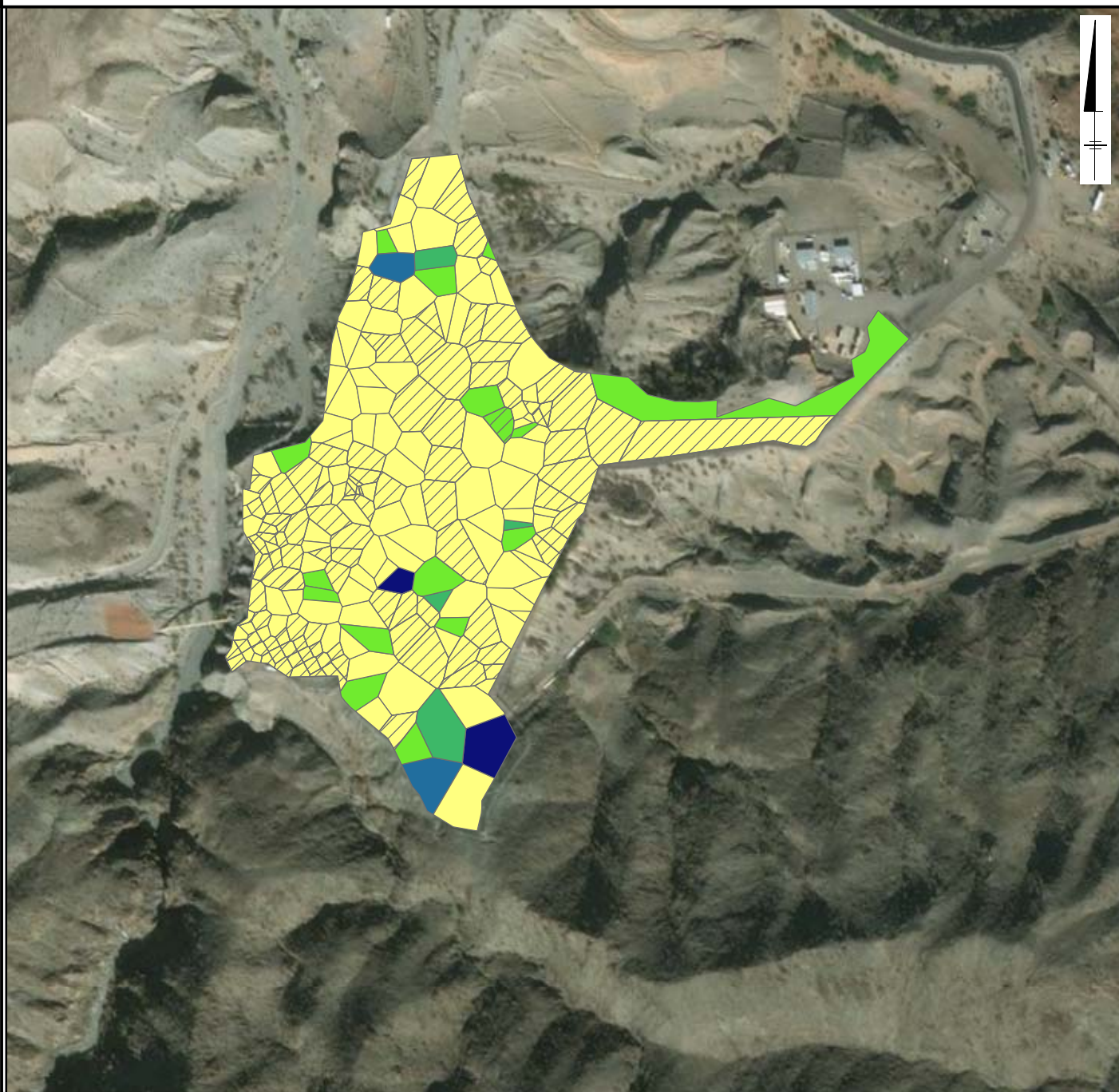
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FIGURE
ICS-A3.26

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE

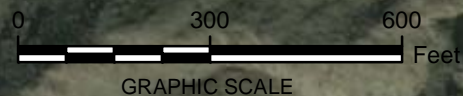


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 82.00
- ≥82.00 - 260.00
- ≥260.00 - 640.00
- ≥640.00 - 2200.00
- ≥2200.00 - 4600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



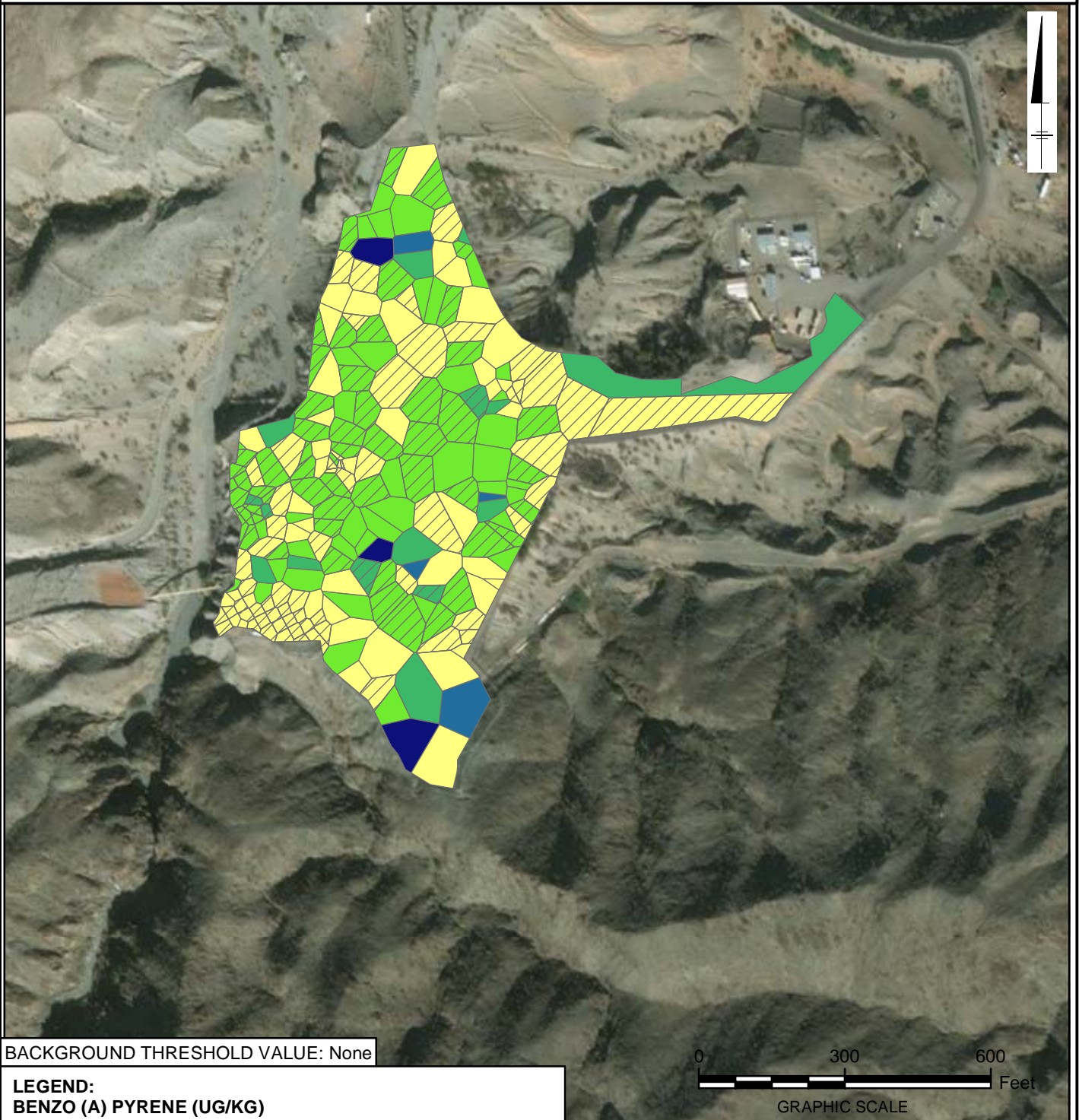
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FIGURE
ICS-A3.27







INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 22.00
-  ≥22.00 - 130.00
-  ≥130.00 - 350.00
-  ≥350.00 - 670.00
-  ≥670.00 - 1900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

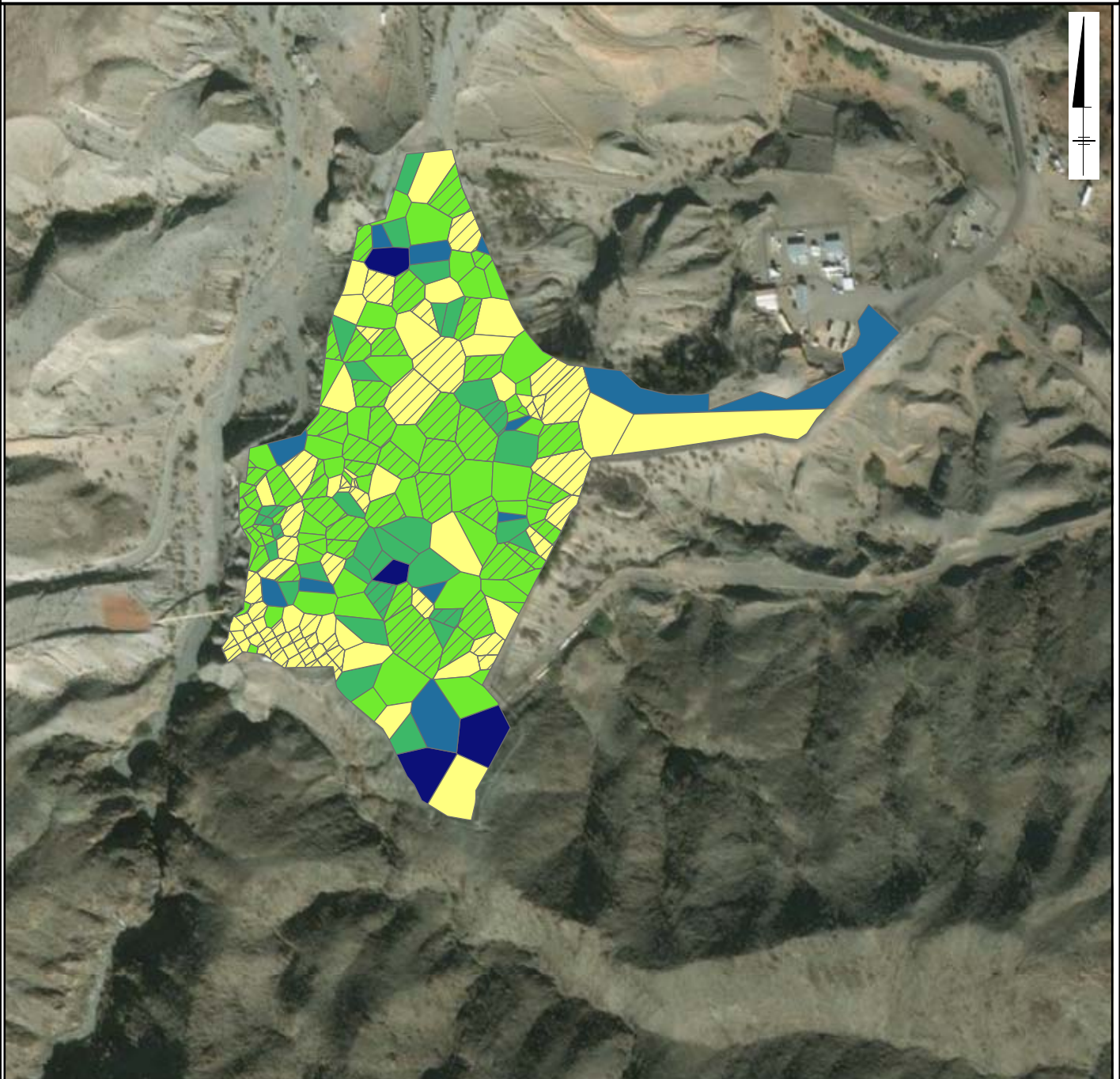
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FIGURE
ICS-A3.28

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 22.00
- ≥22.00 - 99.00
- ≥99.00 - 350.00
- ≥350.00 - 1100.00
- ≥1100.00 - 4400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

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NEEDLES, CALIFORNIA

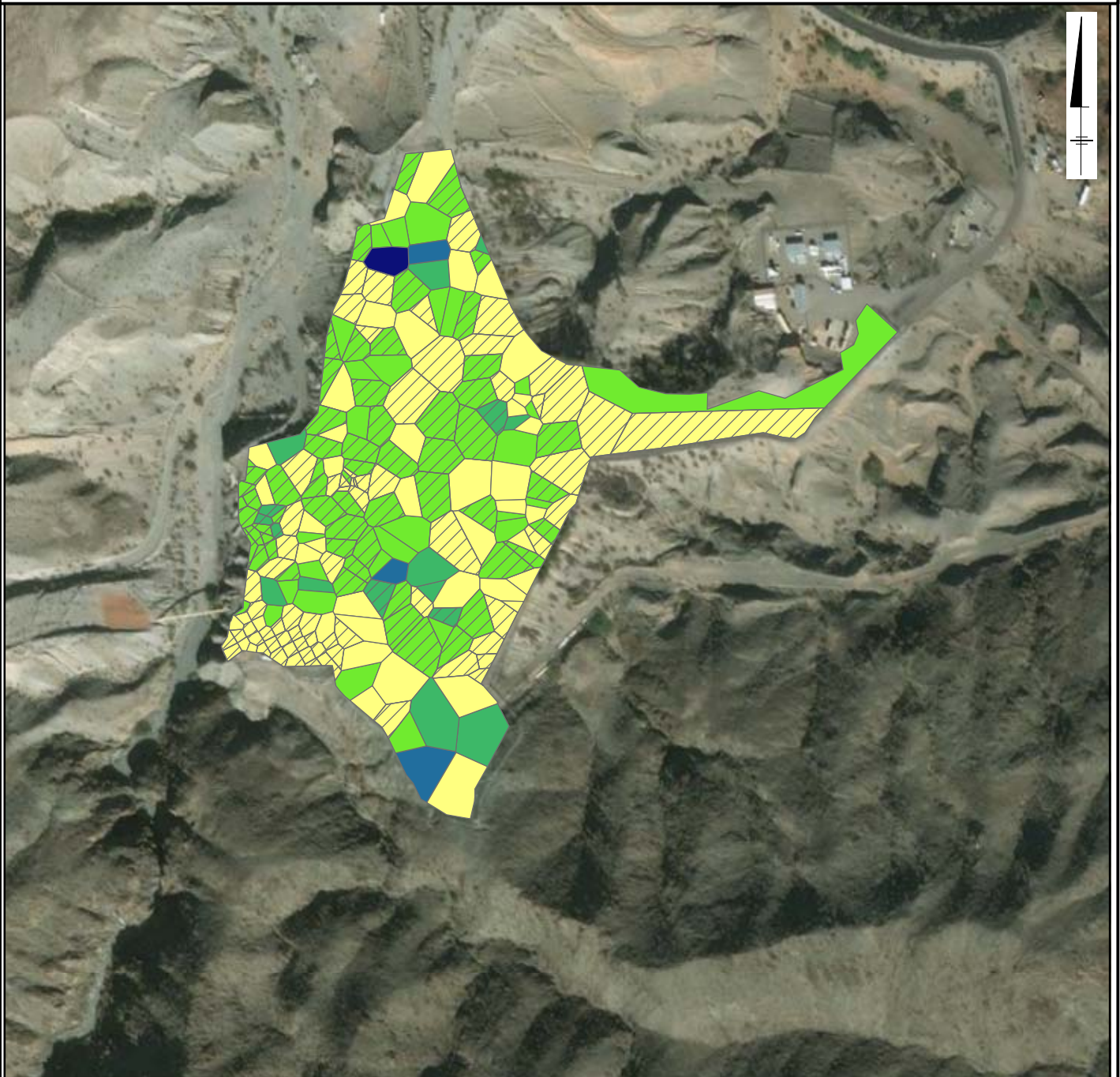
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ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
ICS-A3.29

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

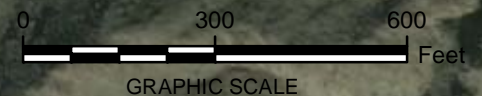


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 18.00
	≥18.00 - 99.00
	≥99.00 - 280.00
	≥280.00 - 970.00
	≥970.00 - 1800.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



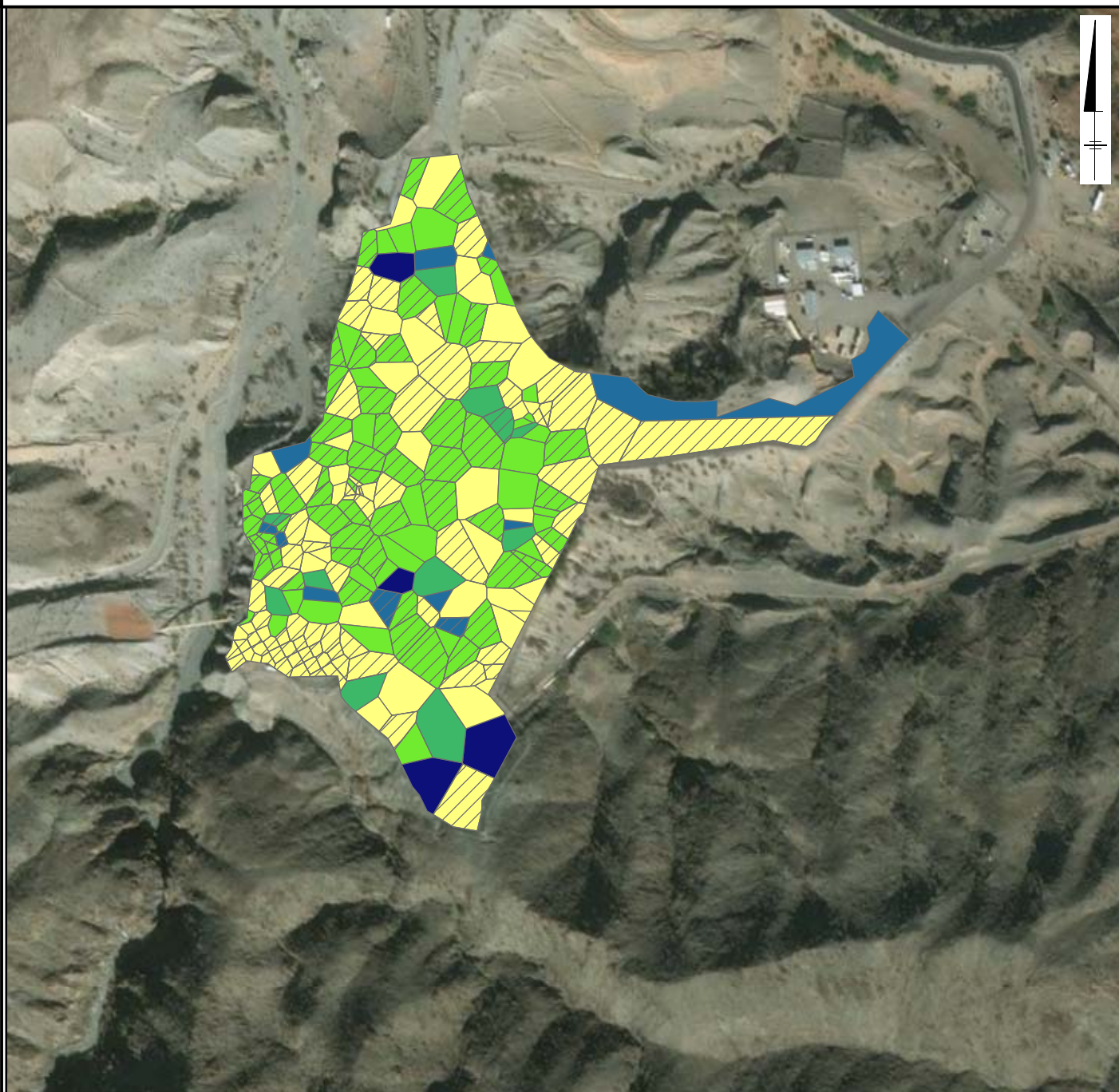
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FIGURE
ICS-A3.30

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

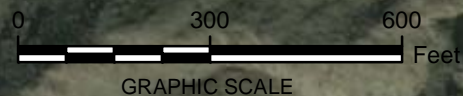


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 18.00
- ≥18.00 - 71.00
- ≥71.00 - 175.00
- ≥175.00 - 430.00
- ≥430.00 - 1300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



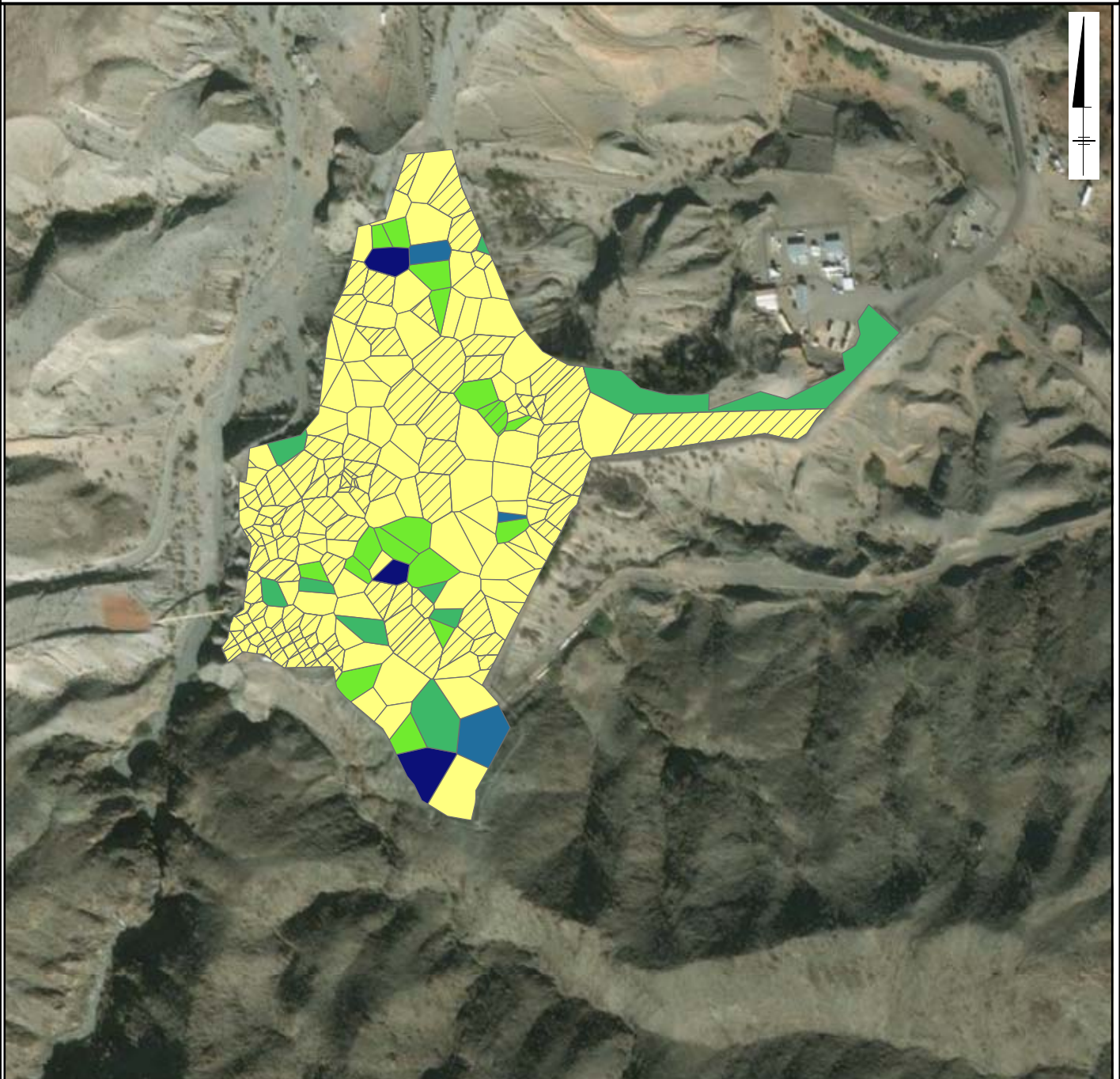
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FIGURE
ICS-A3.31

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE CHRYSENE

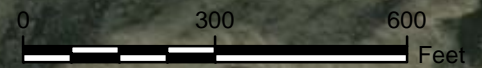


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 67.00
- ≥67.00 - 200.00
- ≥200.00 - 500.00
- ≥500.00 - 890.00
- ≥890.00 - 2600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

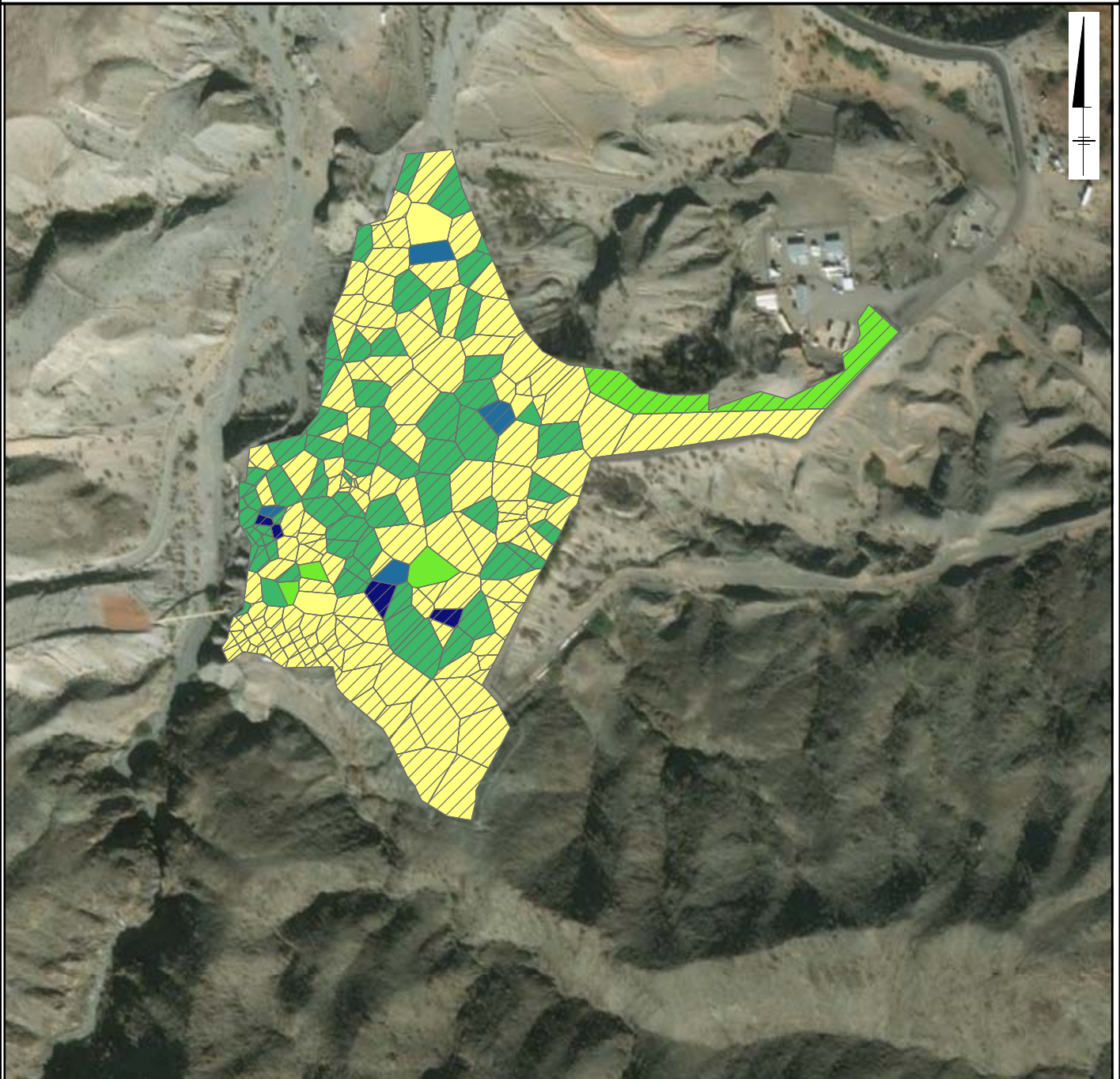
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FIGURE
ICS-A3.32

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE DIBENZO (A,H) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

-  NOT DETECTED
-  2.50 - 5.80
-  ≥5.80 - 13.00
-  ≥13.00 - 68.00
-  ≥68.00 - 175.00
-  ≥175.00 - 280.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

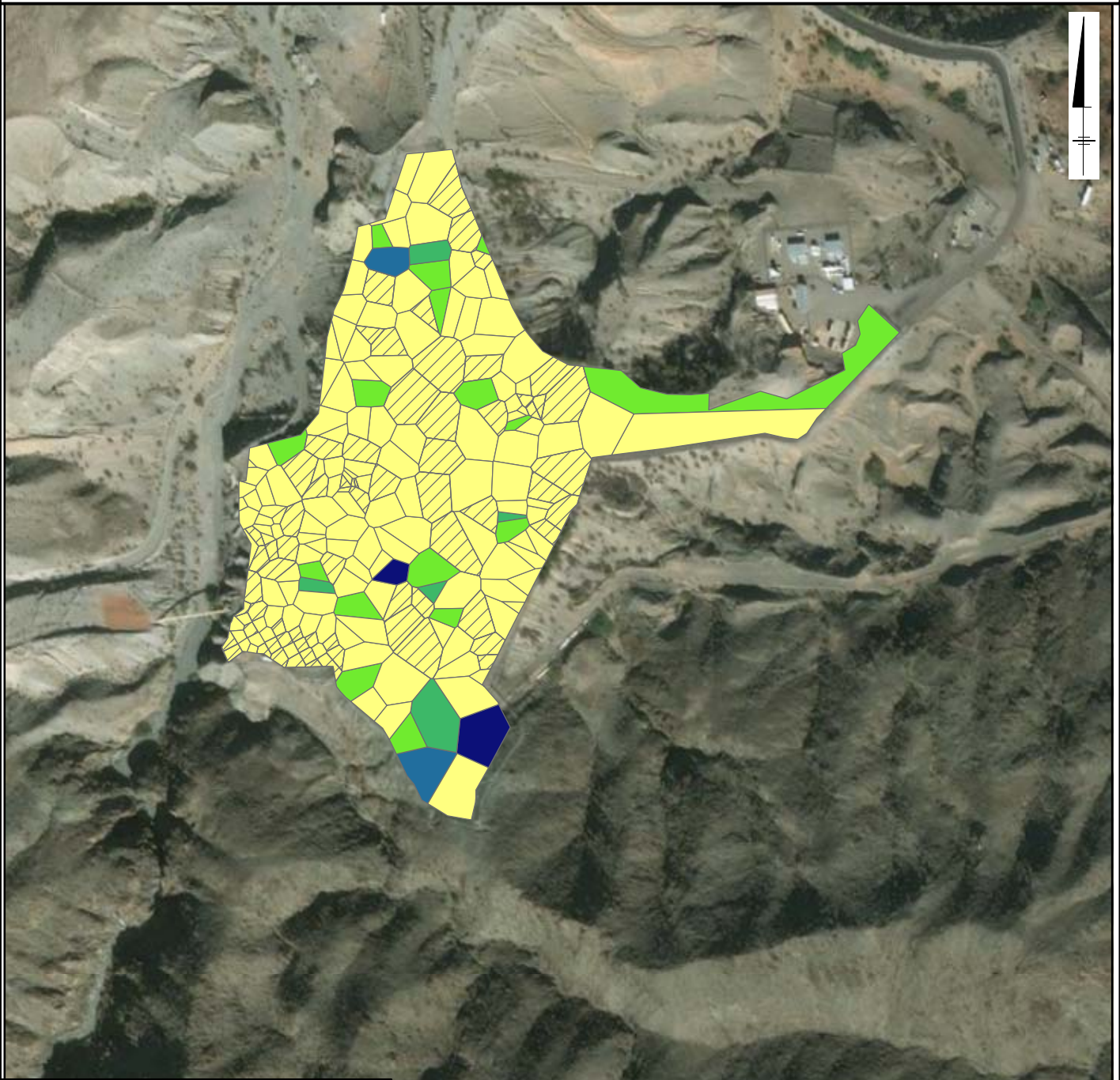
SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING

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FIGURE
ICS-A3.33

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE FLUORANTHENE

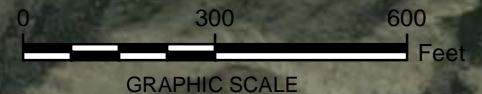


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 175.00
- ≥175.00 - 590.00
- ≥590.00 - 1300.00
- ≥1300.00 - 5200.00
- ≥5200.00 - 9400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



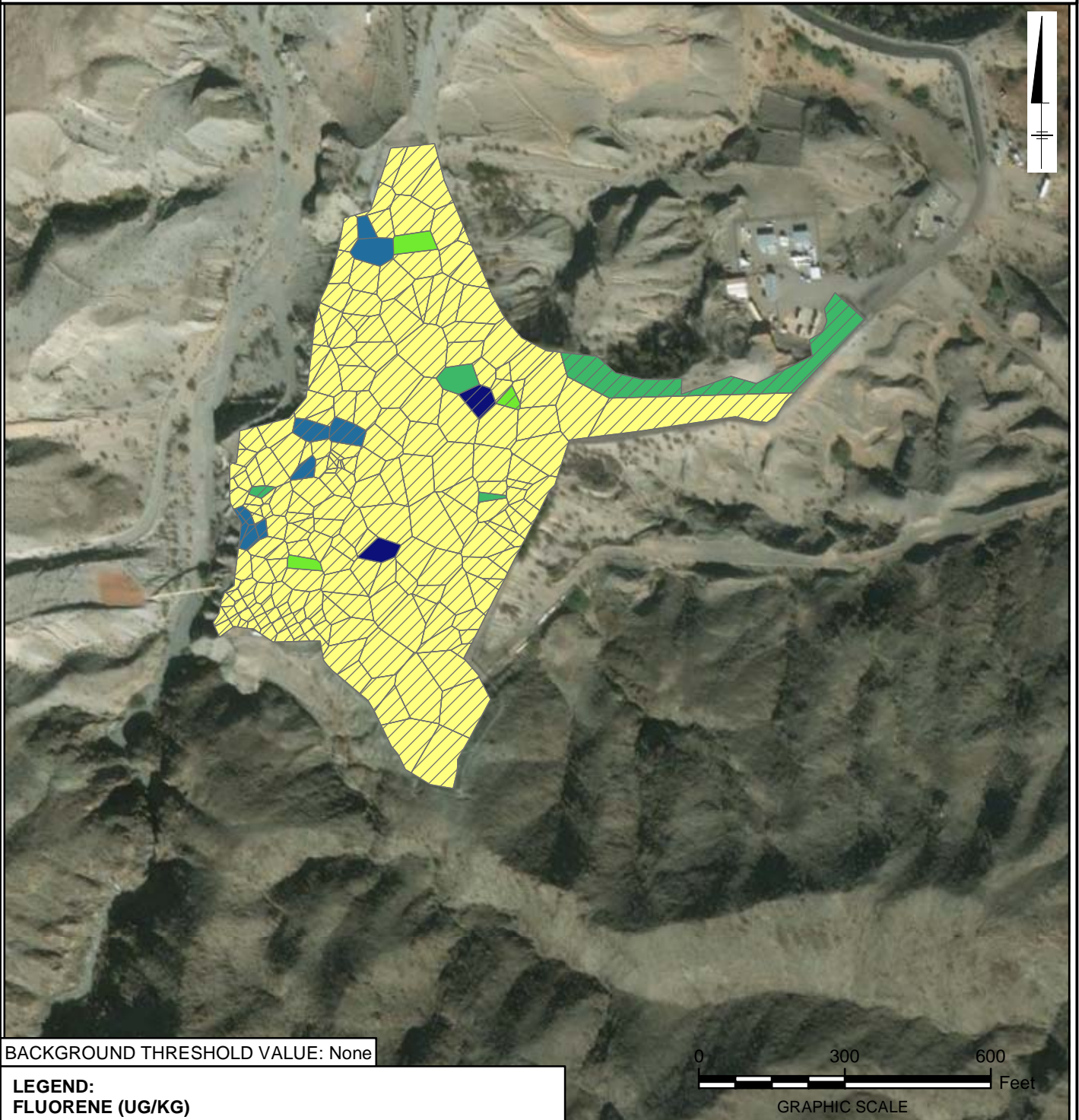
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FIGURE
ICS-A3.34

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE FLUORENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORENE (UG/KG)

	NOT DETECTED
	2.50 - 2.80
	≥2.80 - 7.30
	≥7.30 - 13.00
	≥13.00 - 28.00
	≥28.00 - 260.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

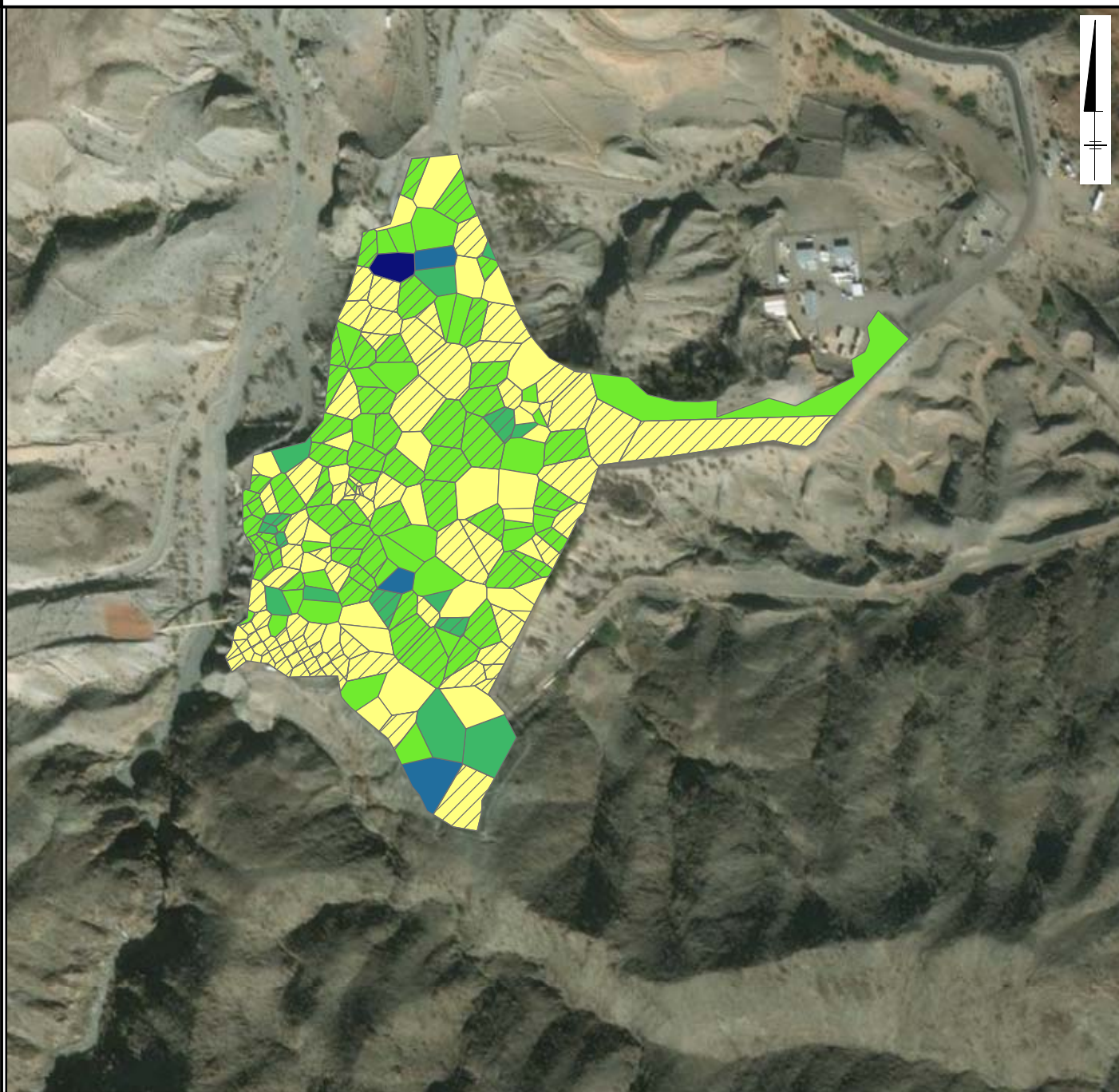
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.35

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

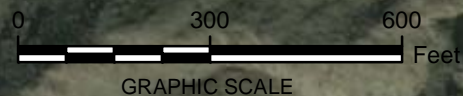


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 15.00
-  ≥ 15.00 - 94.00
-  ≥ 94.00 - 280.00
-  ≥ 280.00 - 770.00
-  ≥ 770.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



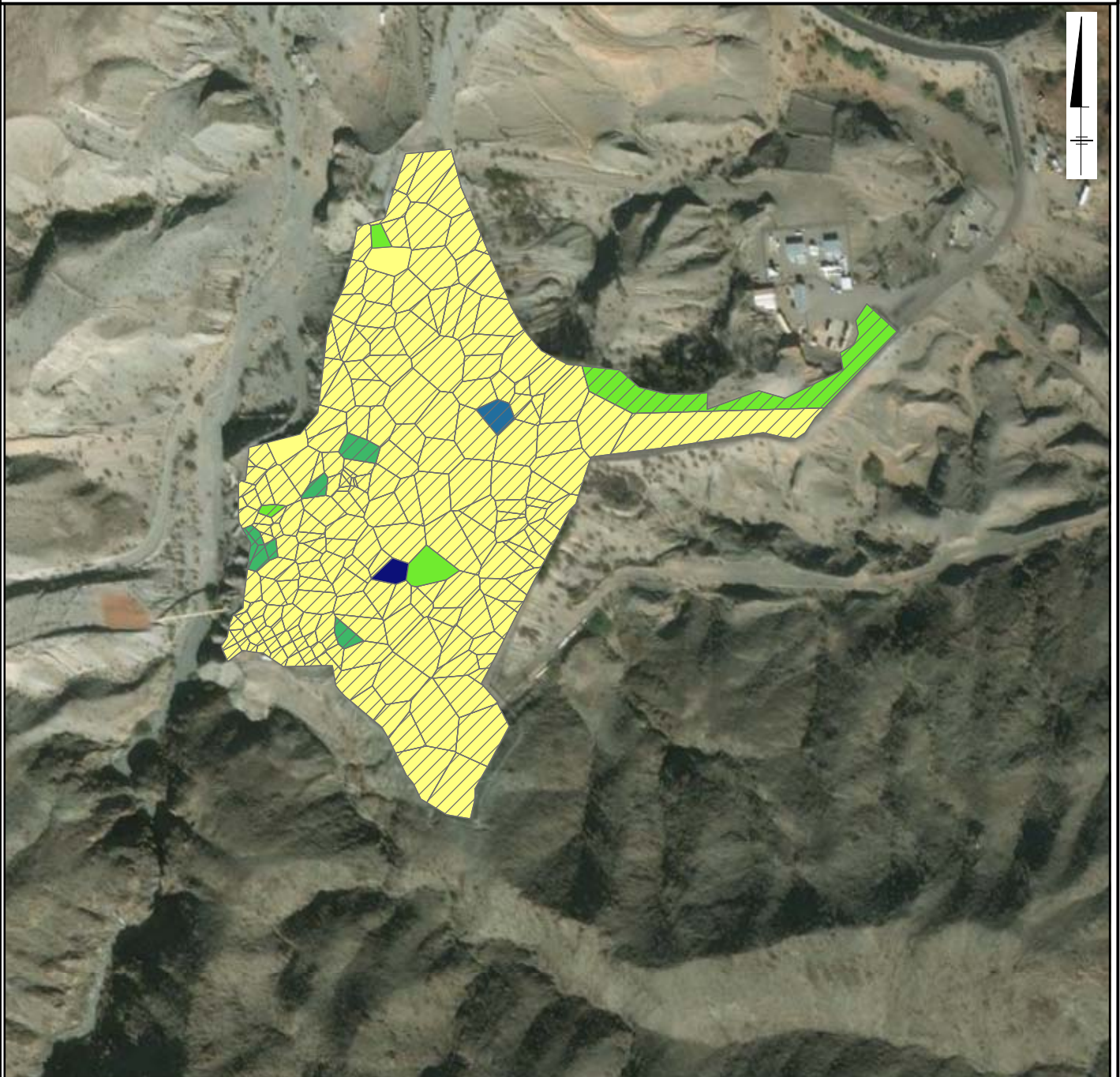
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FIGURE
ICS-A3.36

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.25 - 6.20
- ≥6.20 - 13.00
- ≥13.00 - 25.50
- ≥25.50 - 175.00
- ≥175.00 - 990.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

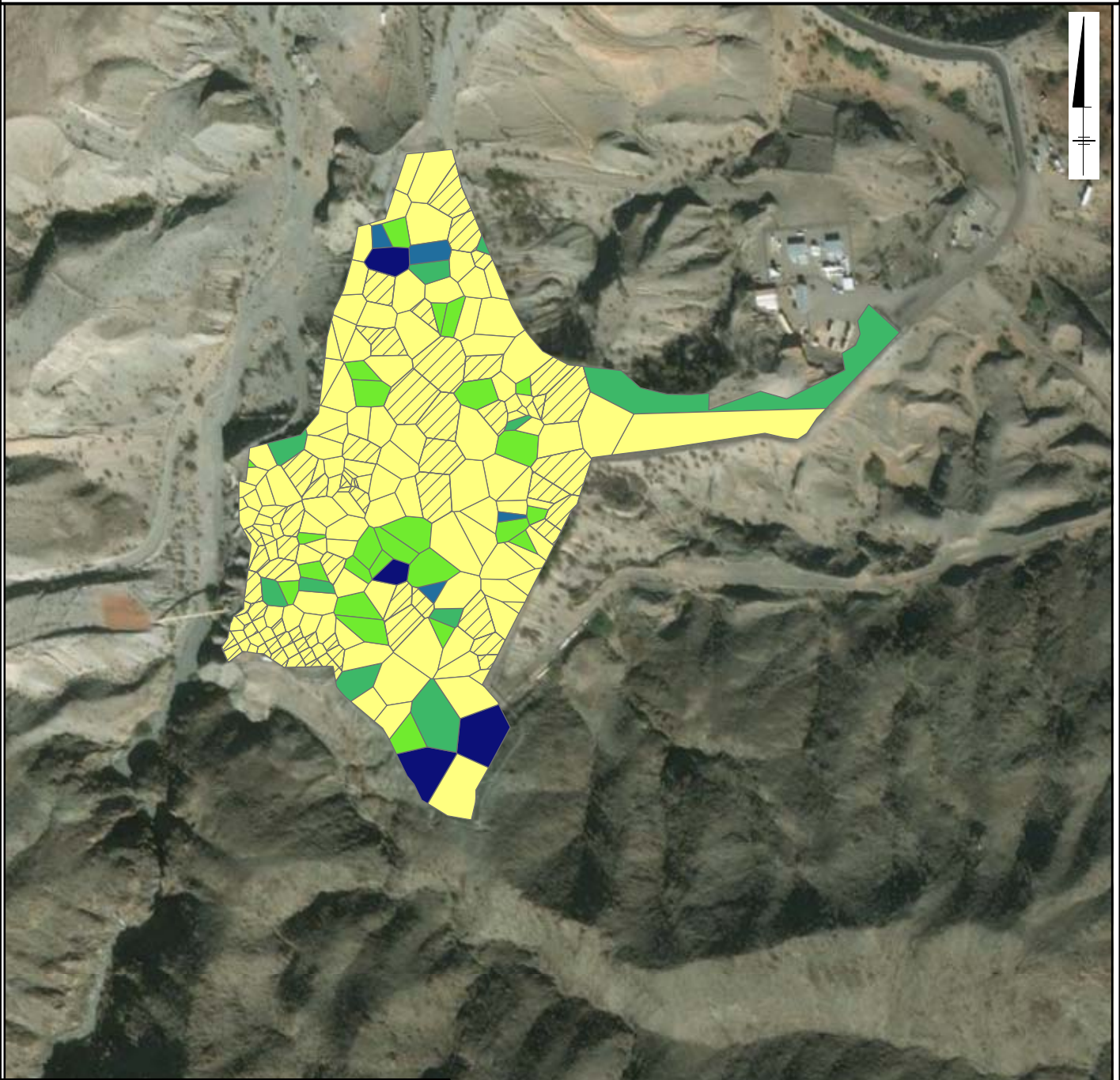
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FIGURE
ICS-A3.37

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 404.00
- ≥ 404.00 - 1600.00
- ≥ 1600.00 - 3590.00
- ≥ 3590.00 - 6940.00
- ≥ 6940.00 - 34400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



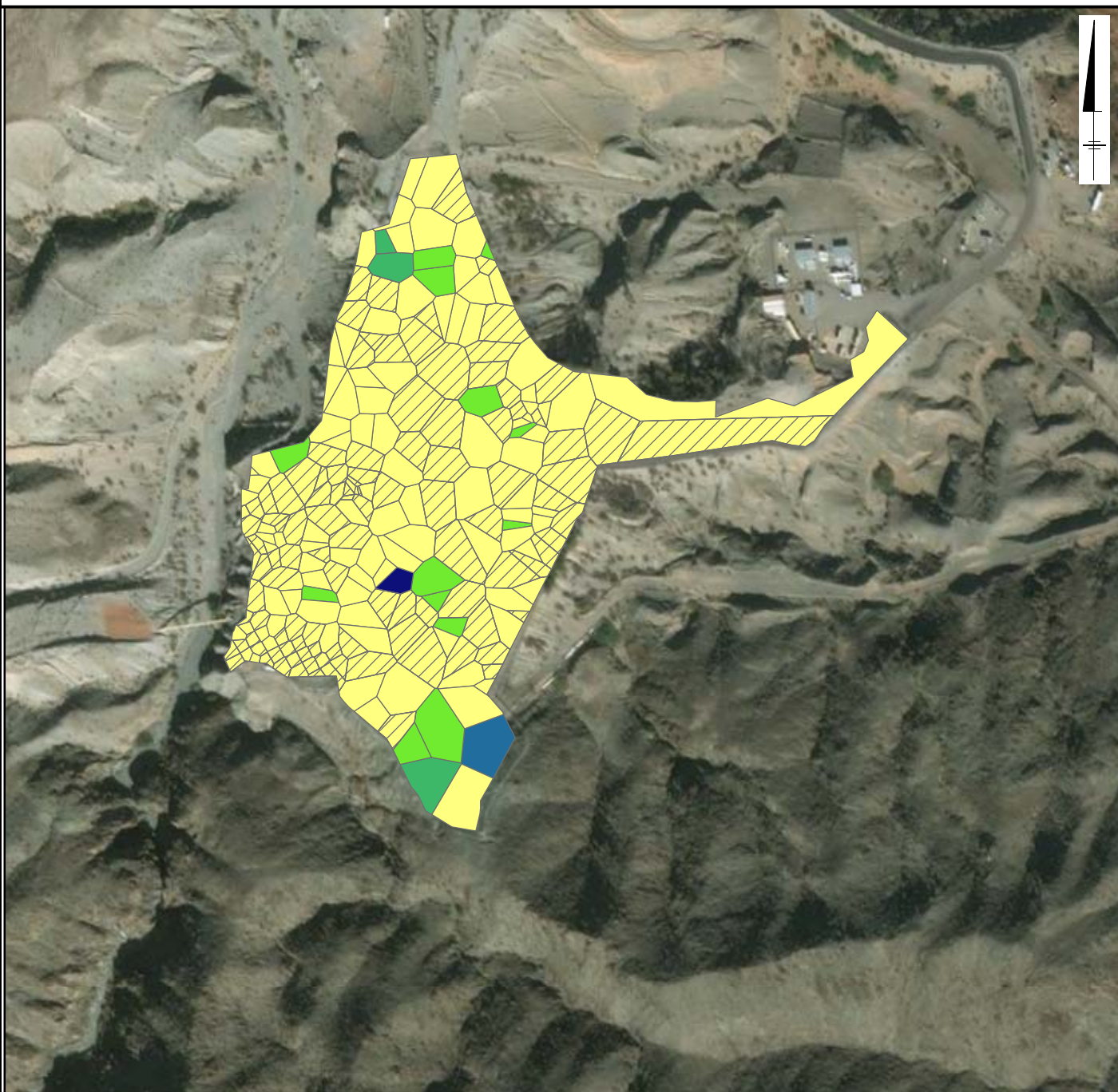
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FIGURE
ICS-A3.38

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

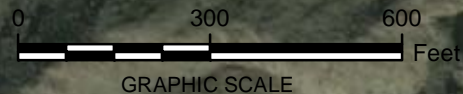


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 106.00
- ≥106.00 - 556.00
- ≥556.00 - 1390.00
- ≥1390.00 - 2720.00
- ≥2720.00 - 12500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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NEEDLES, CALIFORNIA

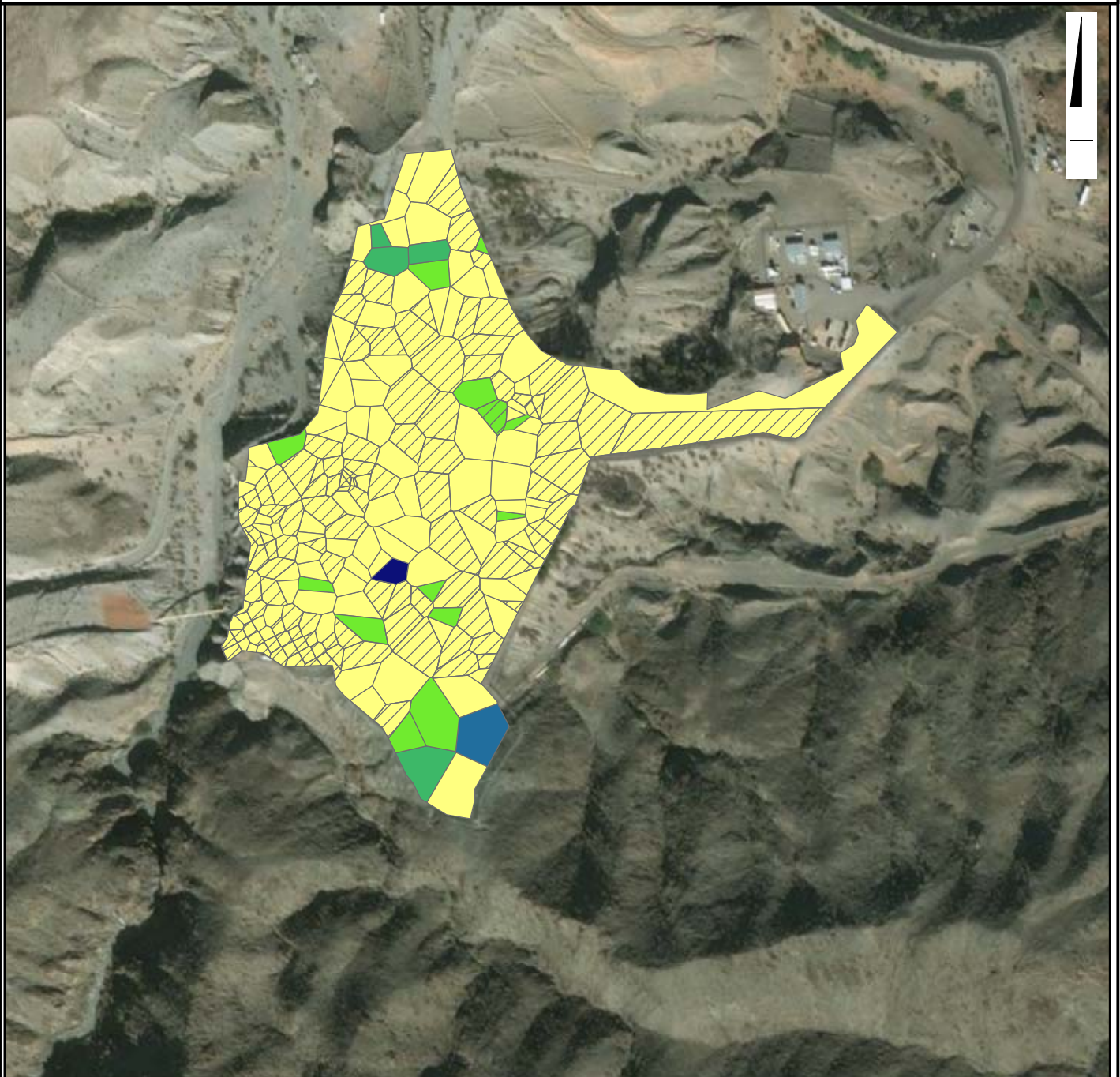
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FIGURE
ICS-A3.39

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.50 - 79.00
- ≥79.00 - 420.00
- ≥420.00 - 980.00
- ≥980.00 - 2500.00
- ≥2500.00 - 5200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

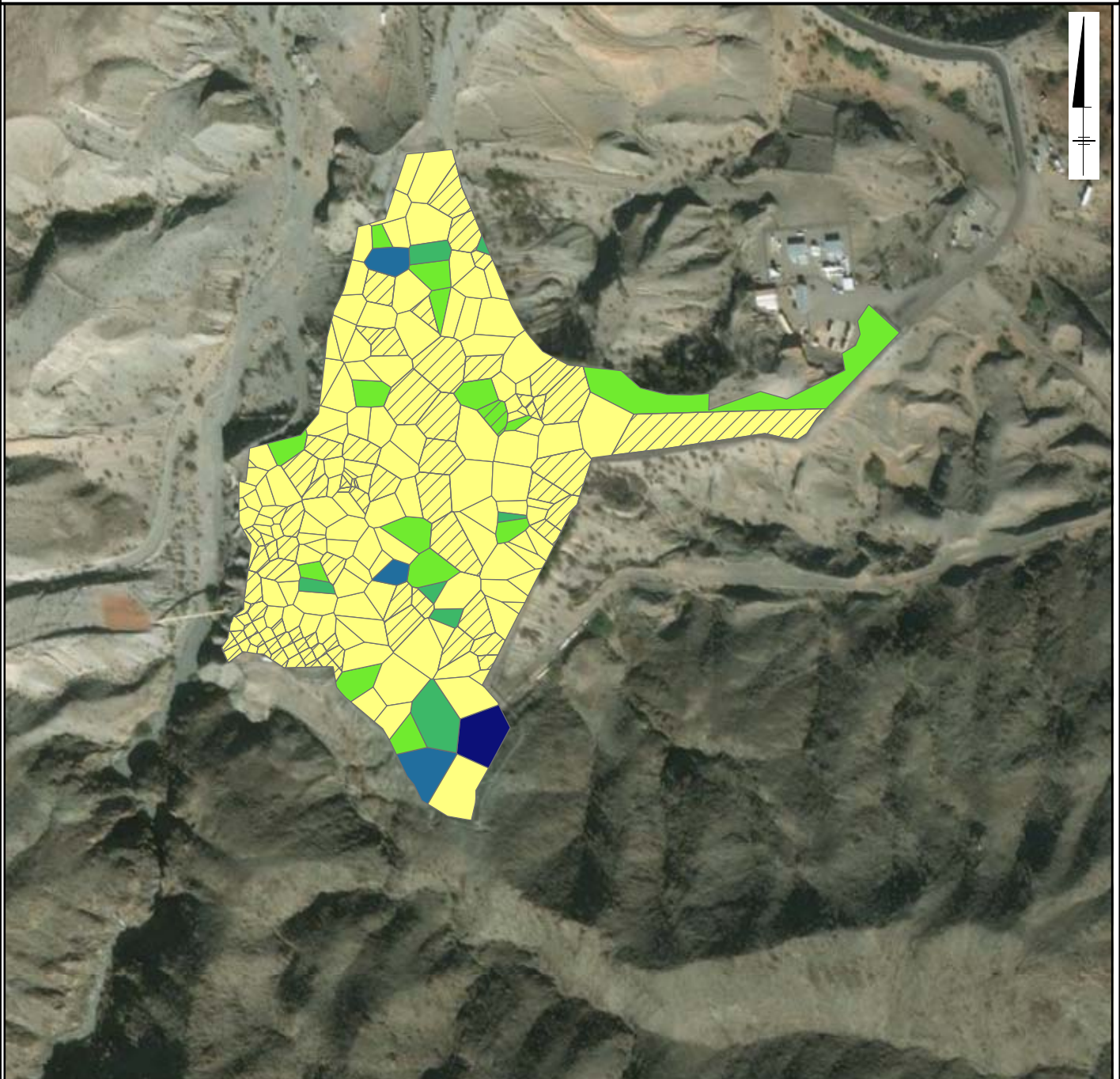
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FIGURE
ICS-A3.40

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 130.00
- ≥130.00 - 420.00
- ≥420.00 - 1200.00
- ≥1200.00 - 5300.00
- ≥5300.00 - 7700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

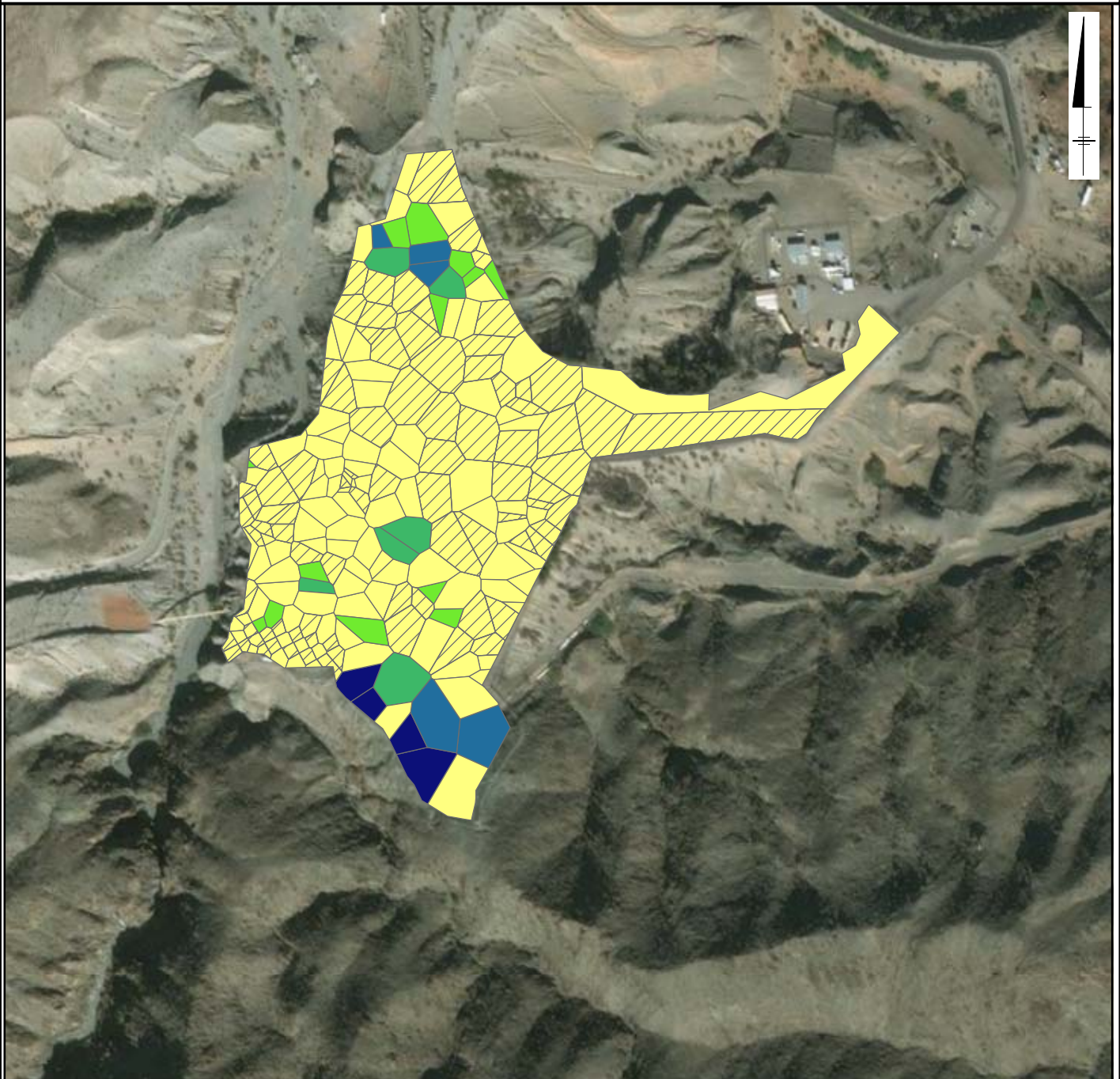
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**FIGURE
ICS-A3.41**

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

-  NOT DETECTED
-  34.00 - 326.00
-  ≥326.00 - 886.00
-  ≥886.00 - 2420.00
-  ≥2420.00 - 3920.00
-  ≥3920.00 - 13800.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

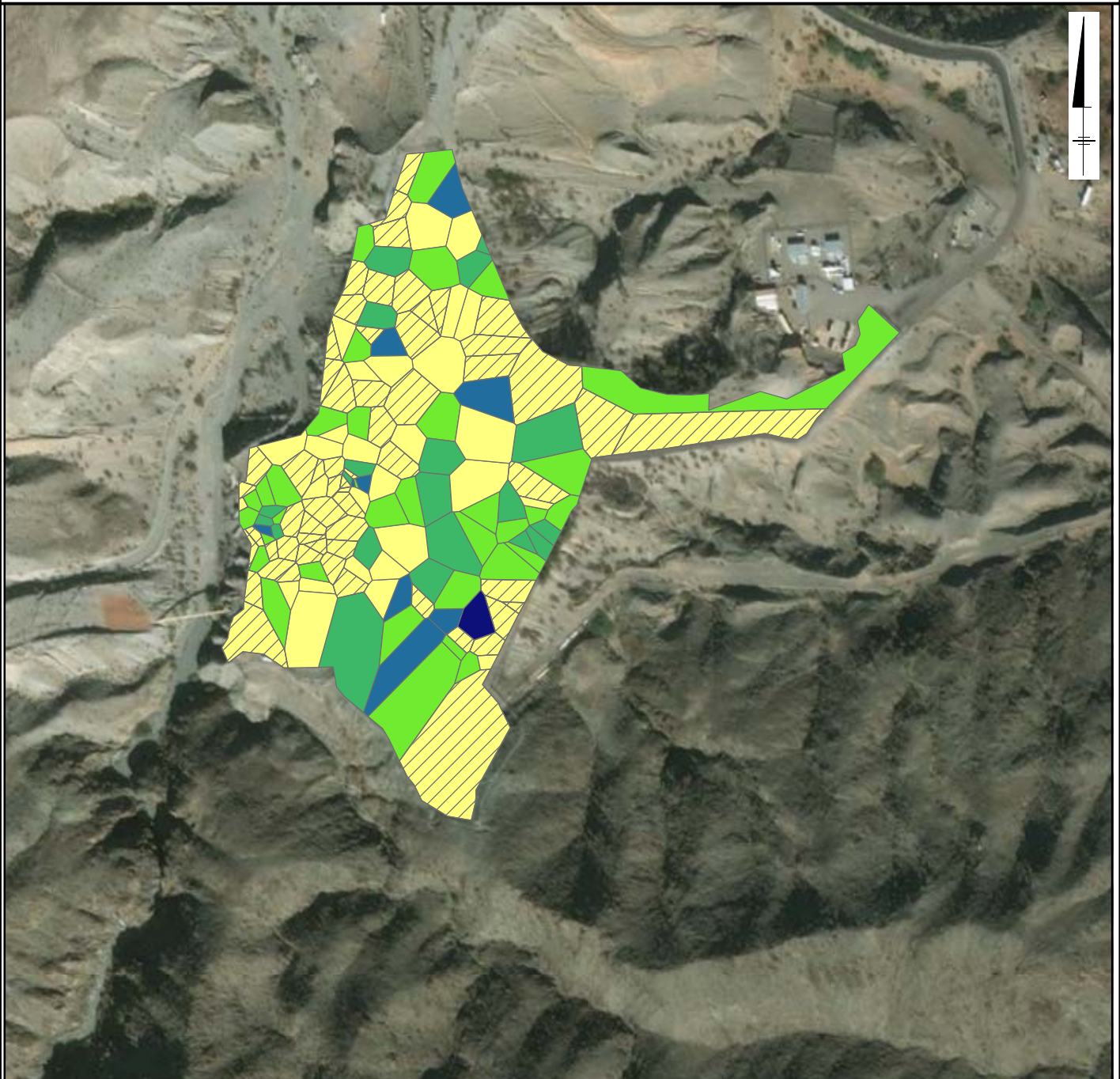
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FIGURE
ICS-A3.42

INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

-  NOT DETECTED
-  5.00 - 17.00
-  ≥17.00 - 46.00
-  ≥46.00 - 100.00
-  ≥100.00 - 180.00
-  ≥180.00 - 270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



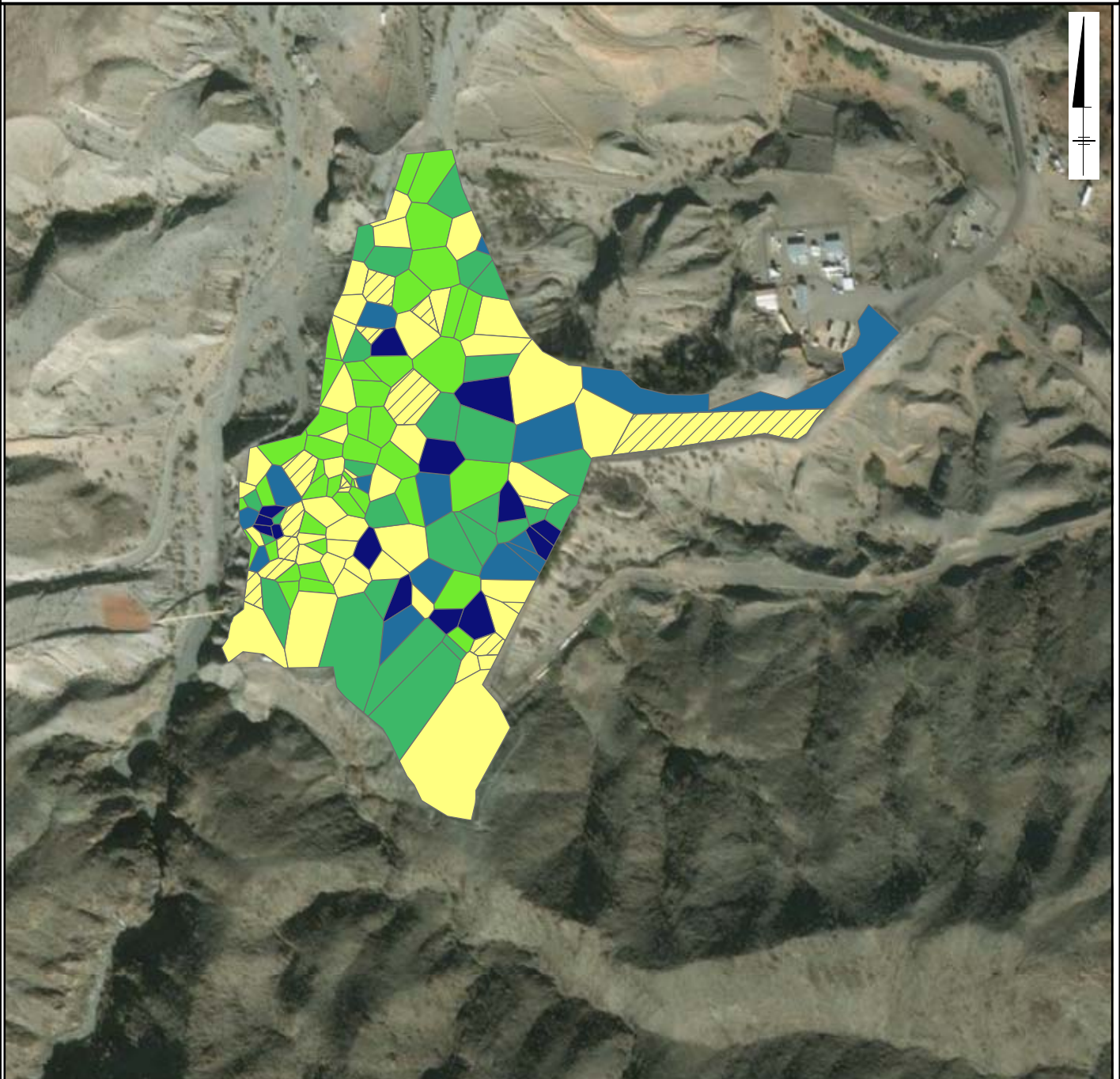
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FIGURE
ICS-A3.43







INSIDE TOPOCK COMPRESSOR STATION 0 - 0.5 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



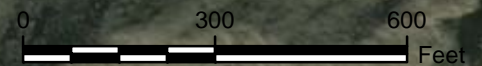
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

-  NOT DETECTED
-  5.00 - 46.00
-  ≥46.00 - 120.00
-  ≥120.00 - 260.00
-  ≥260.00 - 430.00
-  ≥430.00 - 810.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

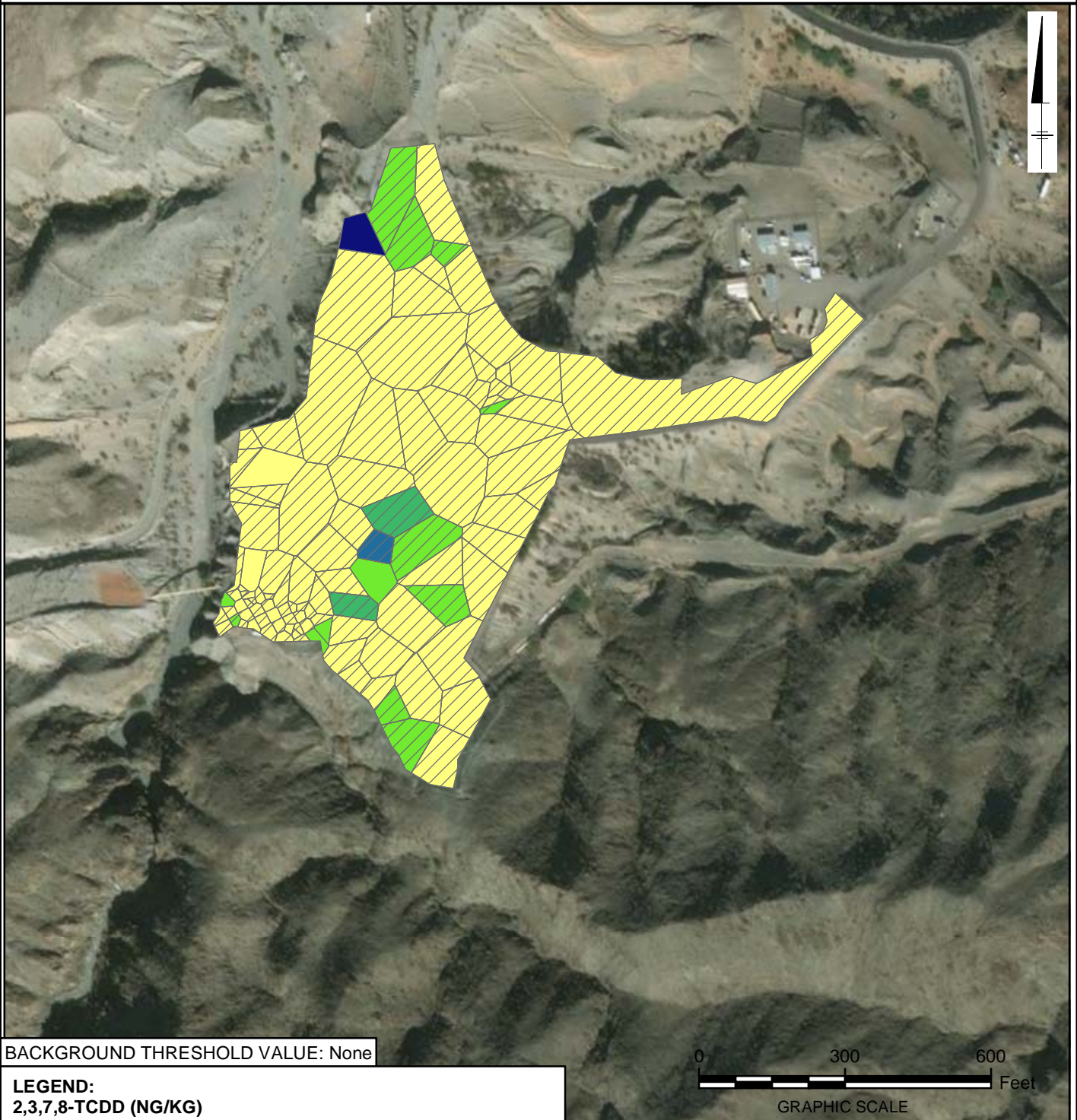
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FIGURE
ICS-A3.44

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



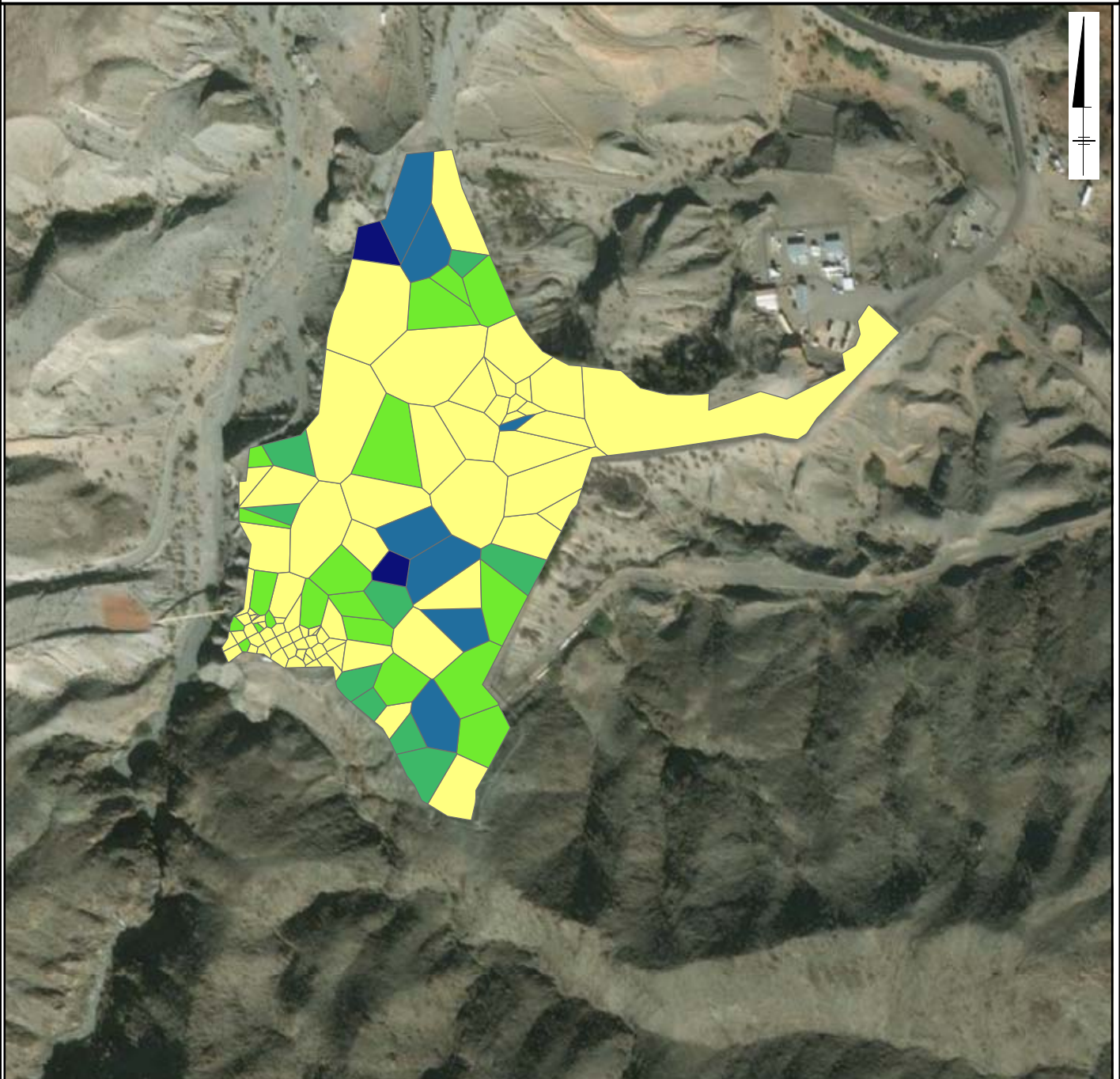
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**FIGURE
ICS-A3.45**

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.23 - 16.00
- ≥16.00 - 51.70
- ≥51.70 - 147.00
- ≥147.00 - 417.00
- ≥417.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

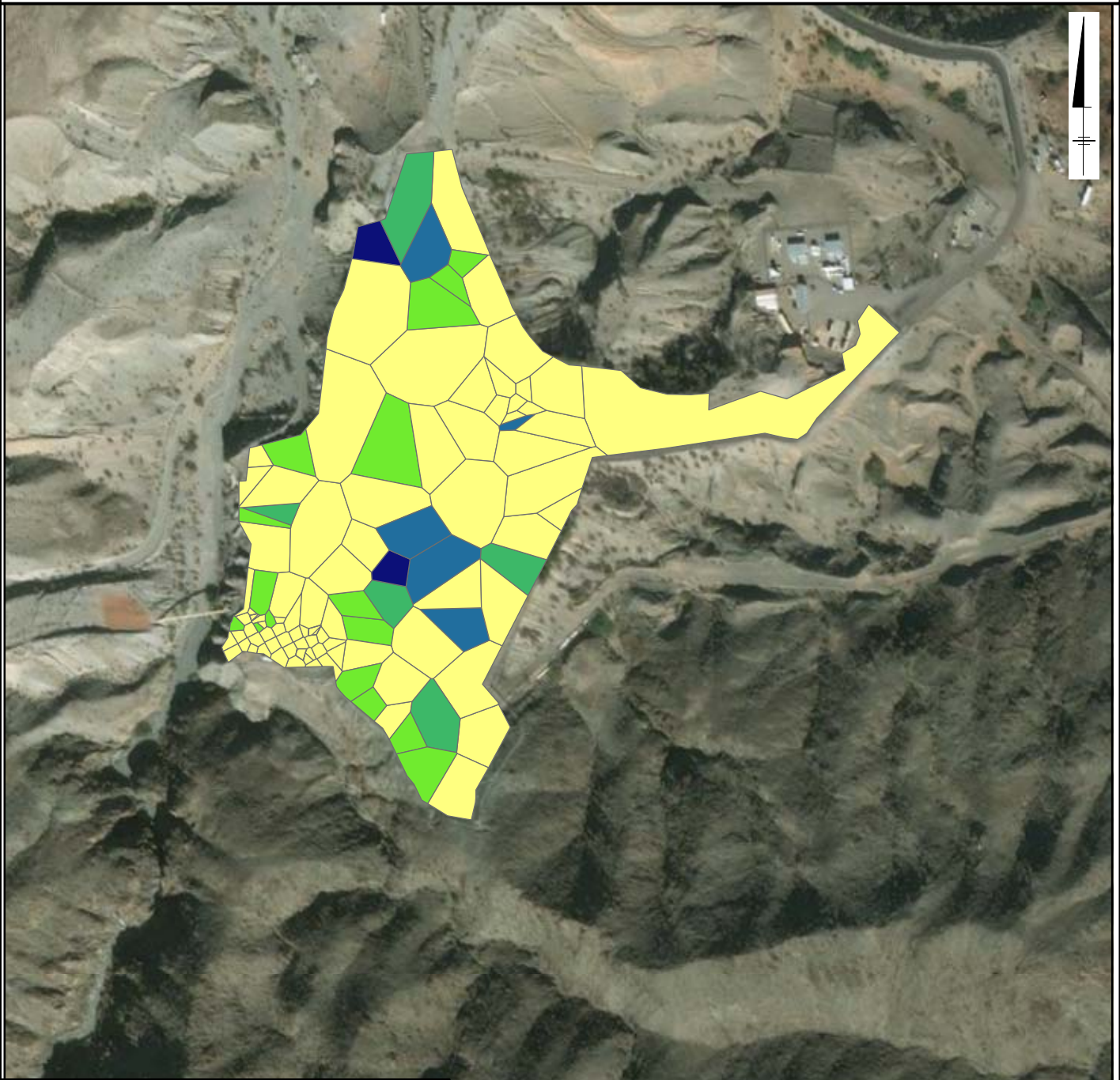
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FIGURE
ICS-A3.46

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TEQ HUMAN

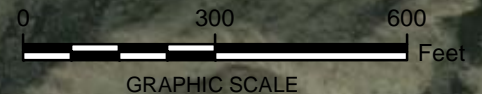


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.15 - 34.00
- ≥ 34.00 - 110.00
- ≥ 110.00 - 284.00
- ≥ 284.00 - 630.00
- ≥ 630.00 - 1640.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



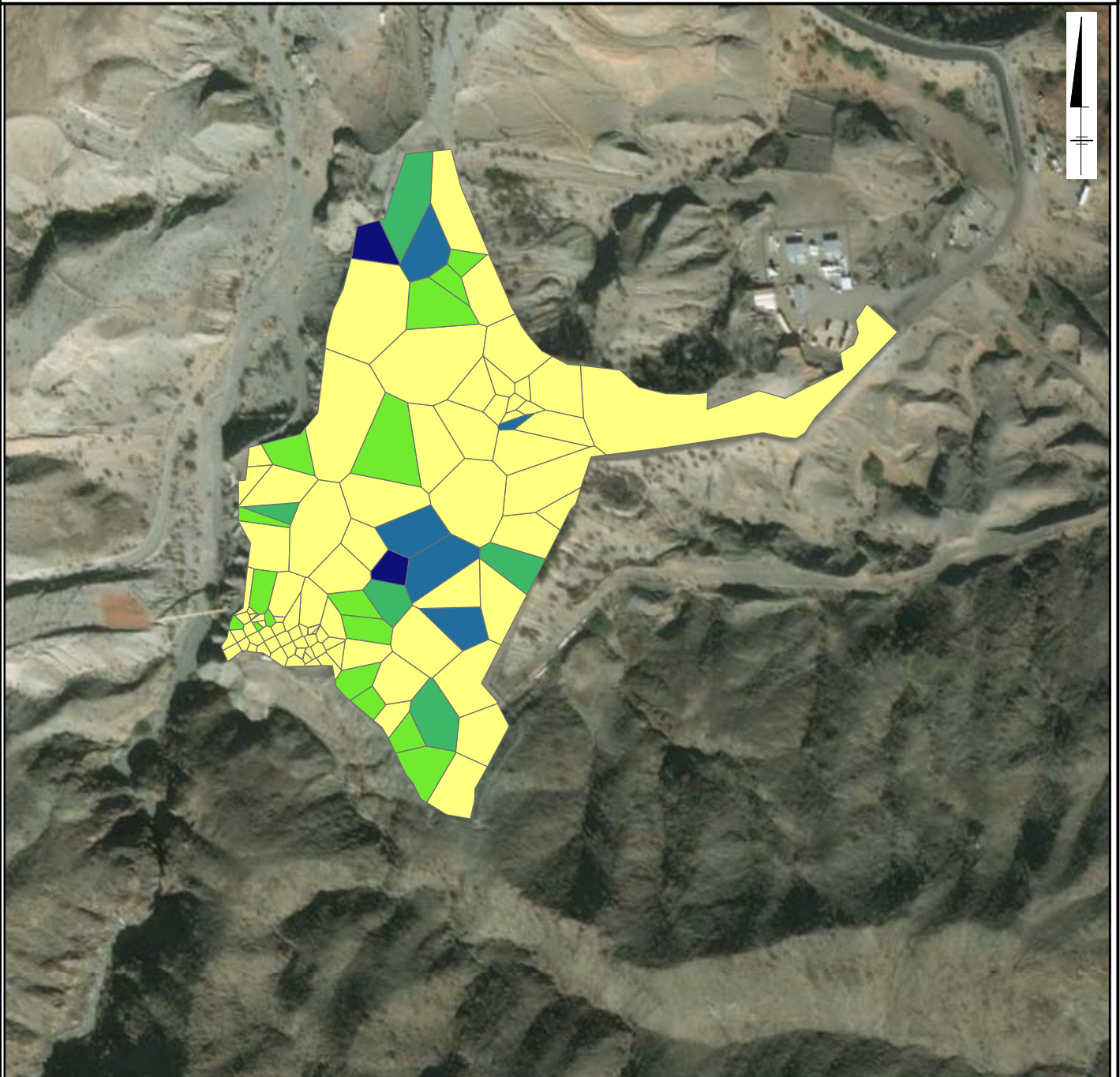
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FIGURE
ICS-A3.47

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TEQ MAMMALS

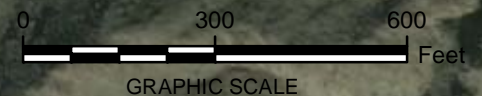


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.15 - 34.00
- ≥ 34.00 - 110.00
- ≥ 110.00 - 284.00
- ≥ 284.00 - 630.00
- ≥ 630.00 - 1640.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



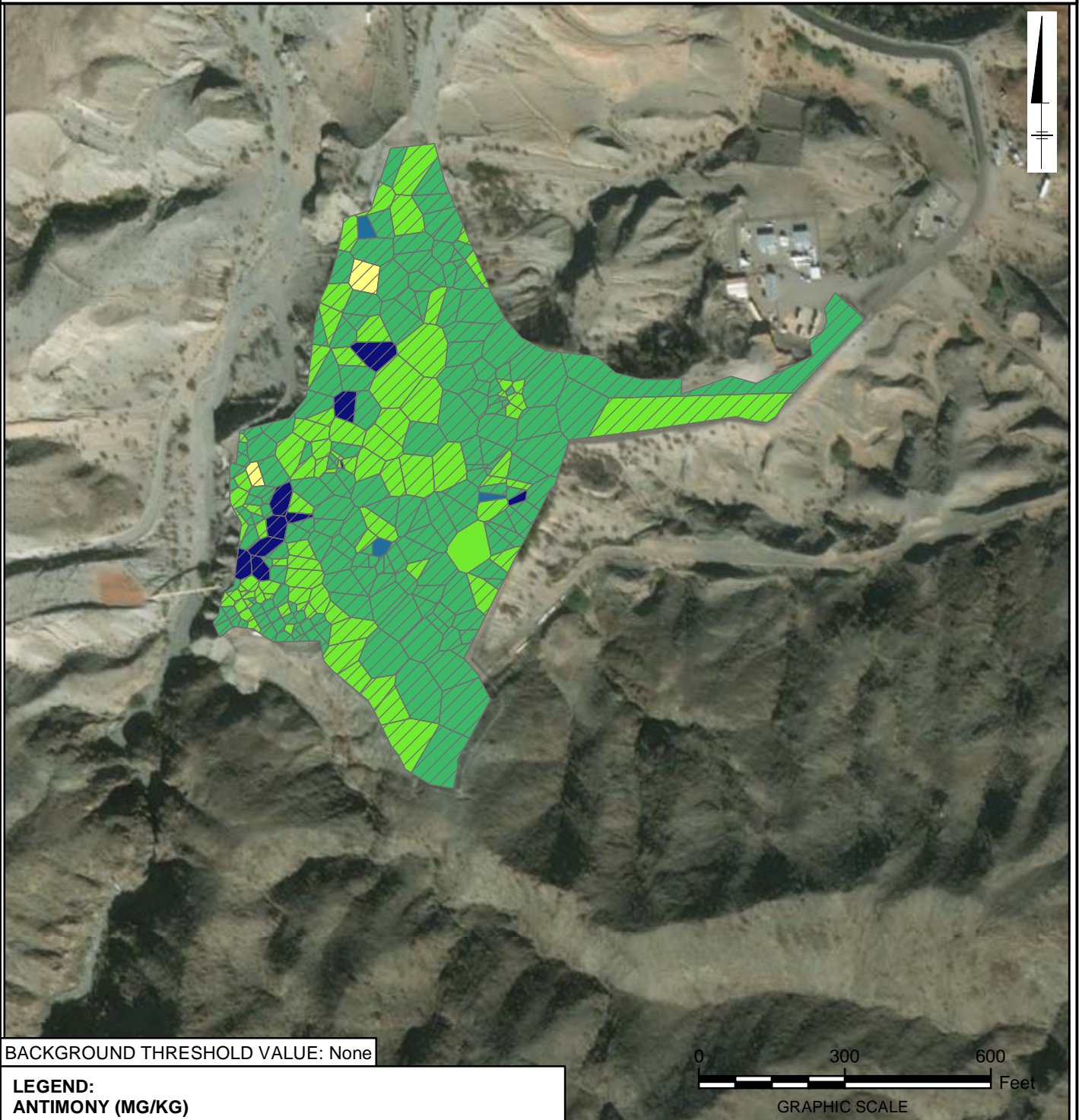
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FIGURE
ICS-A3.48

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ANTIMONY



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTIMONY (MG/KG)

	NOT DETECTED
	0.13 - 0.14
	≥0.14 - 1.03
	≥1.03 - 1.15
	≥1.15 - 2.50
	≥2.50 - 3.16

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

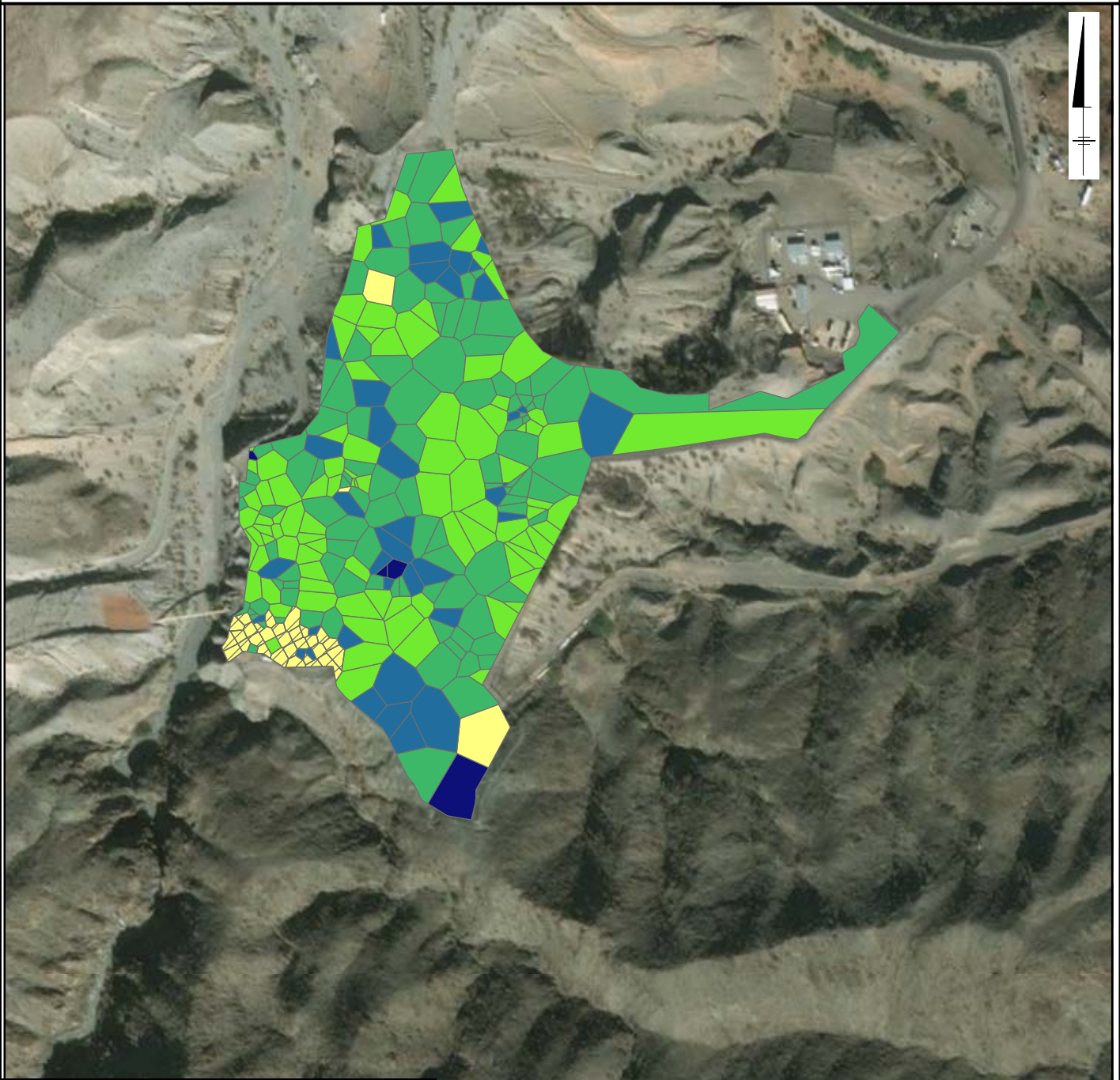
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FIGURE
ICS-A3.49

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ARSENIC

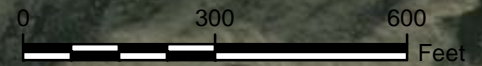


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

-  NOT DETECTED
-  0.50 - 1.80
-  $\geq 1.80 - 3.50$
-  $\geq 3.50 - 4.72$
-  $\geq 4.72 - 8.10$
-  $\geq 8.10 - 13.20$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

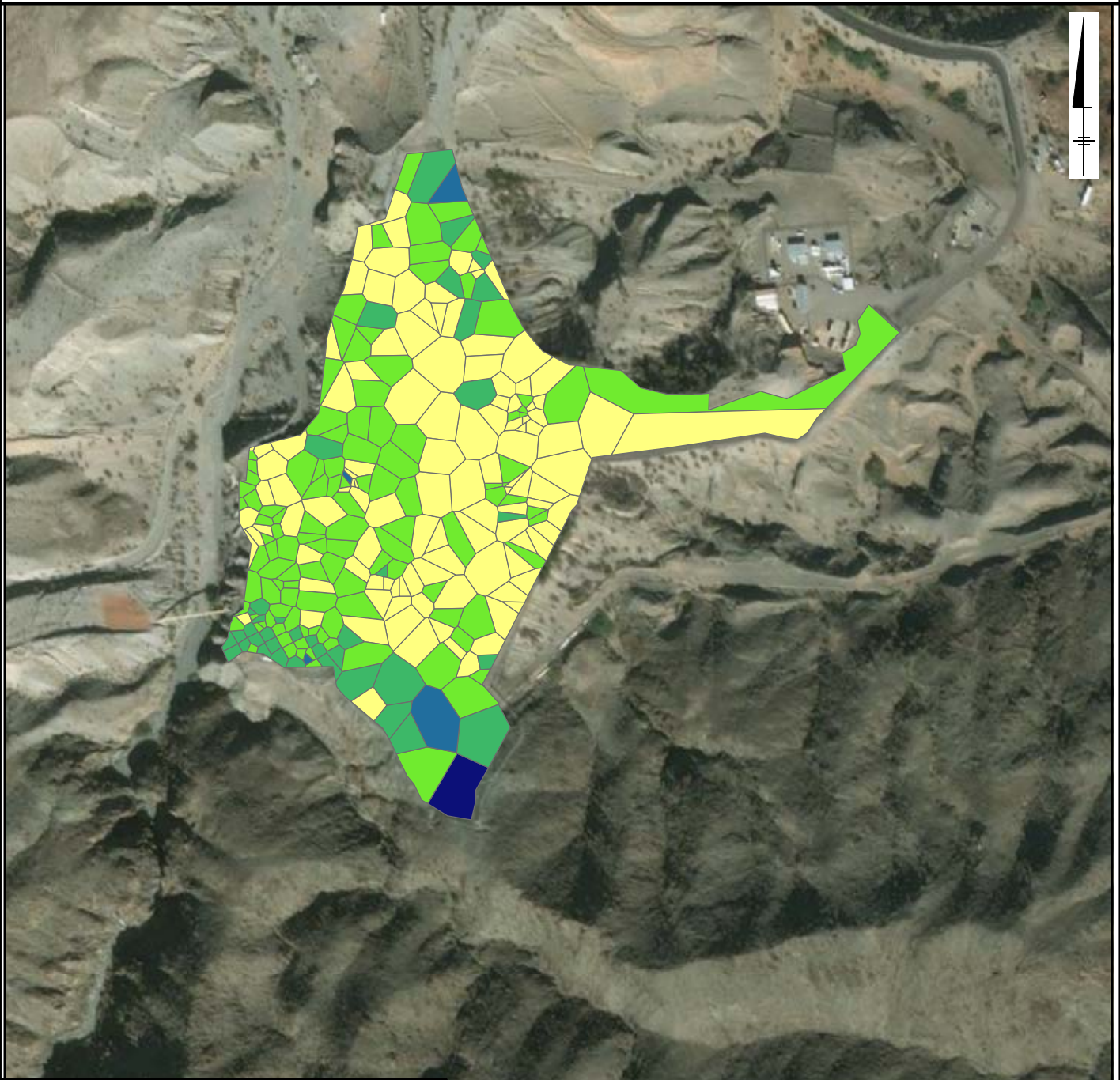
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FIGURE
ICS-A3.50







INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BARIUM



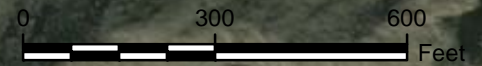
BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND:

BARIUM (MG/KG)

-  NOT DETECTED
-  23.00 - 120.00
-  ≥120.00 - 193.00
-  ≥193.00 - 340.00
-  ≥340.00 - 650.00
-  ≥650.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

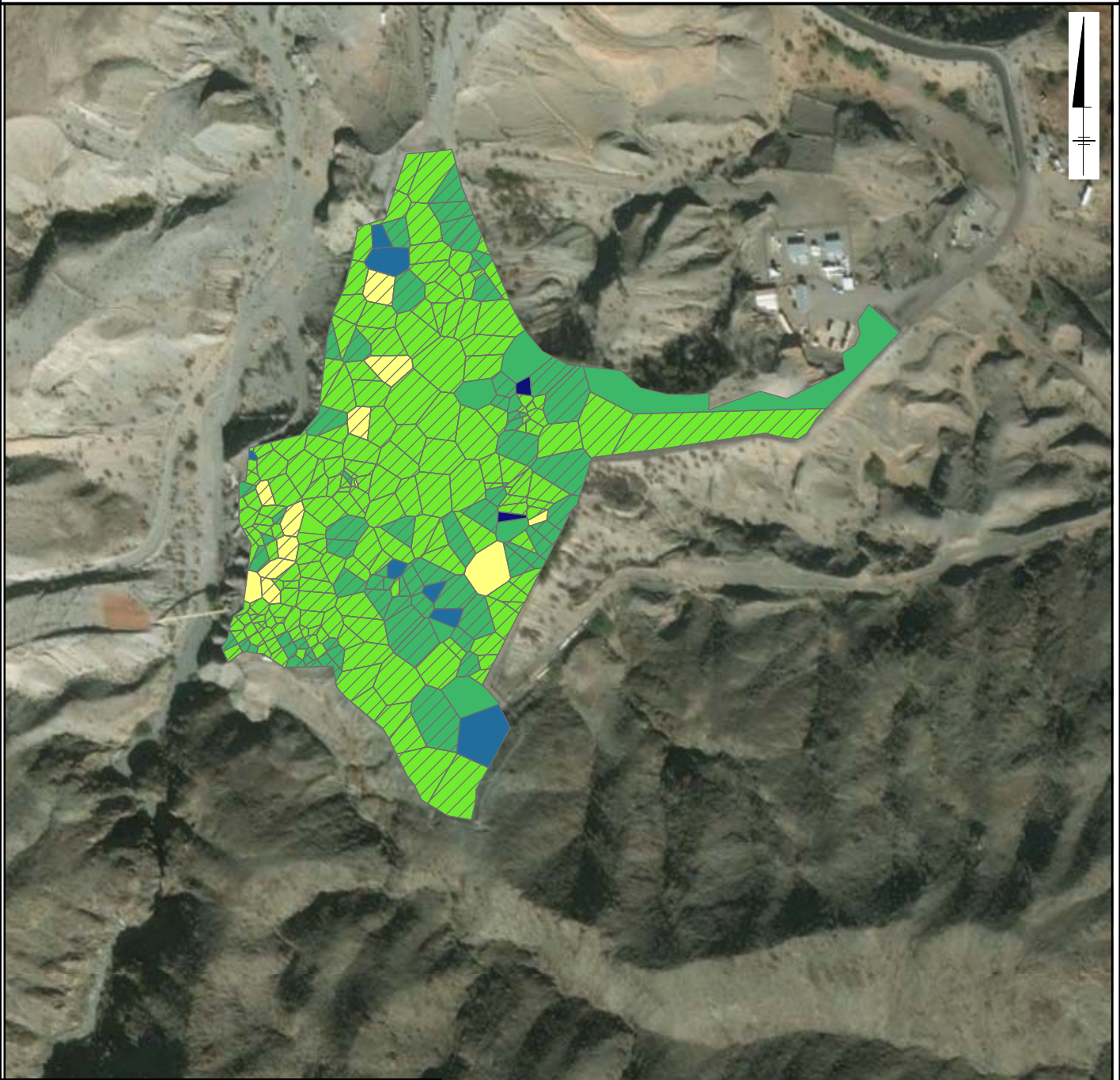
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FIGURE
ICS-A3.51

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE CADMIUM

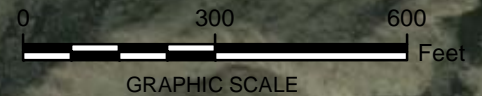


BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.13 - 0.31
	≥0.31 - 0.54
	≥0.54 - 1.12
	≥1.12 - 2.50
	≥2.50 - 4.97

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



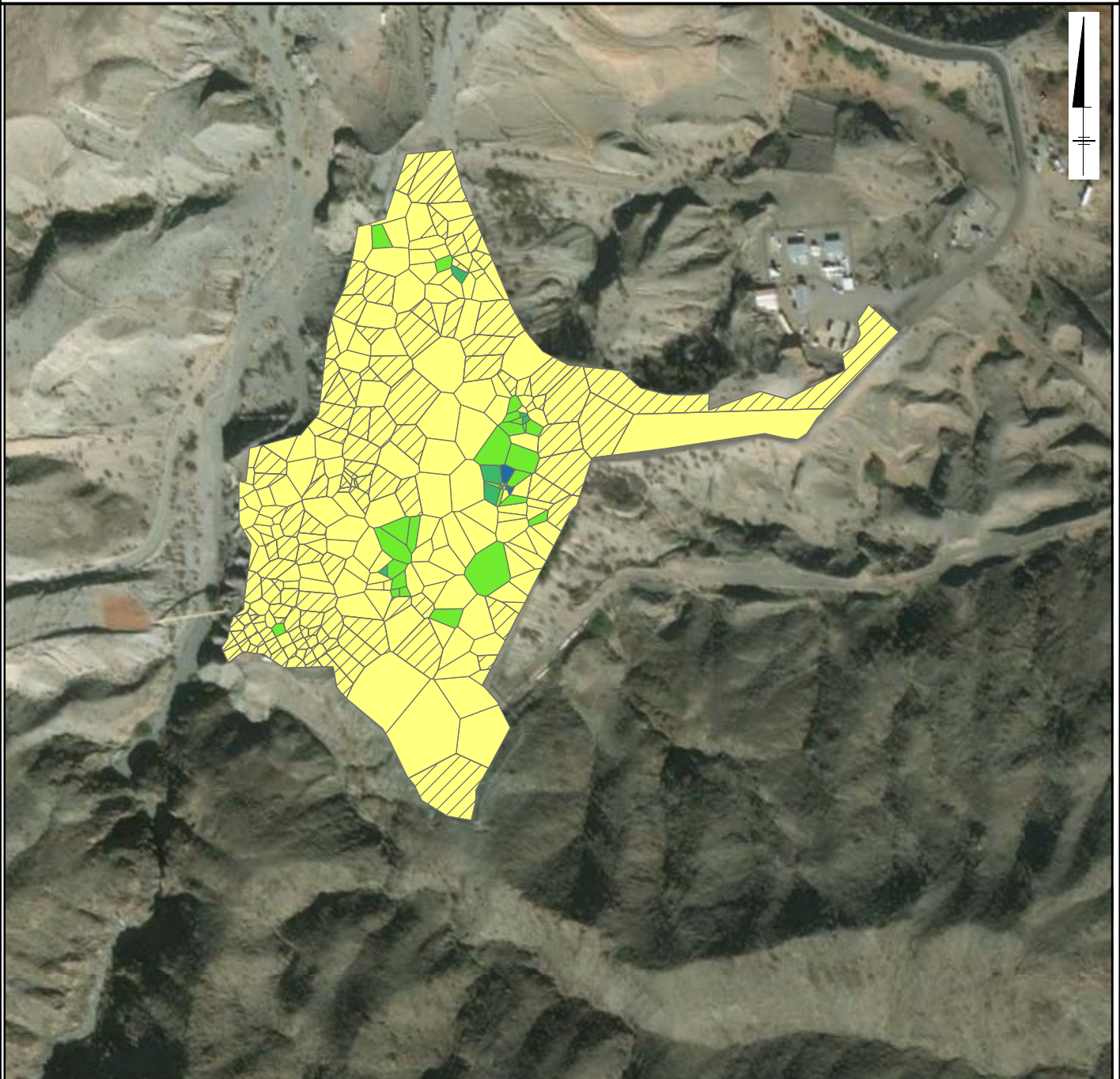
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FIGURE
ICS-A3.52

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

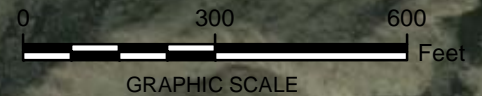


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

	NOT DETECTED
	0.10 - 3.84
	≥3.84 - 13.10
	≥13.10 - 29.80
	≥29.80 - 54.70
	≥54.70 - 125.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



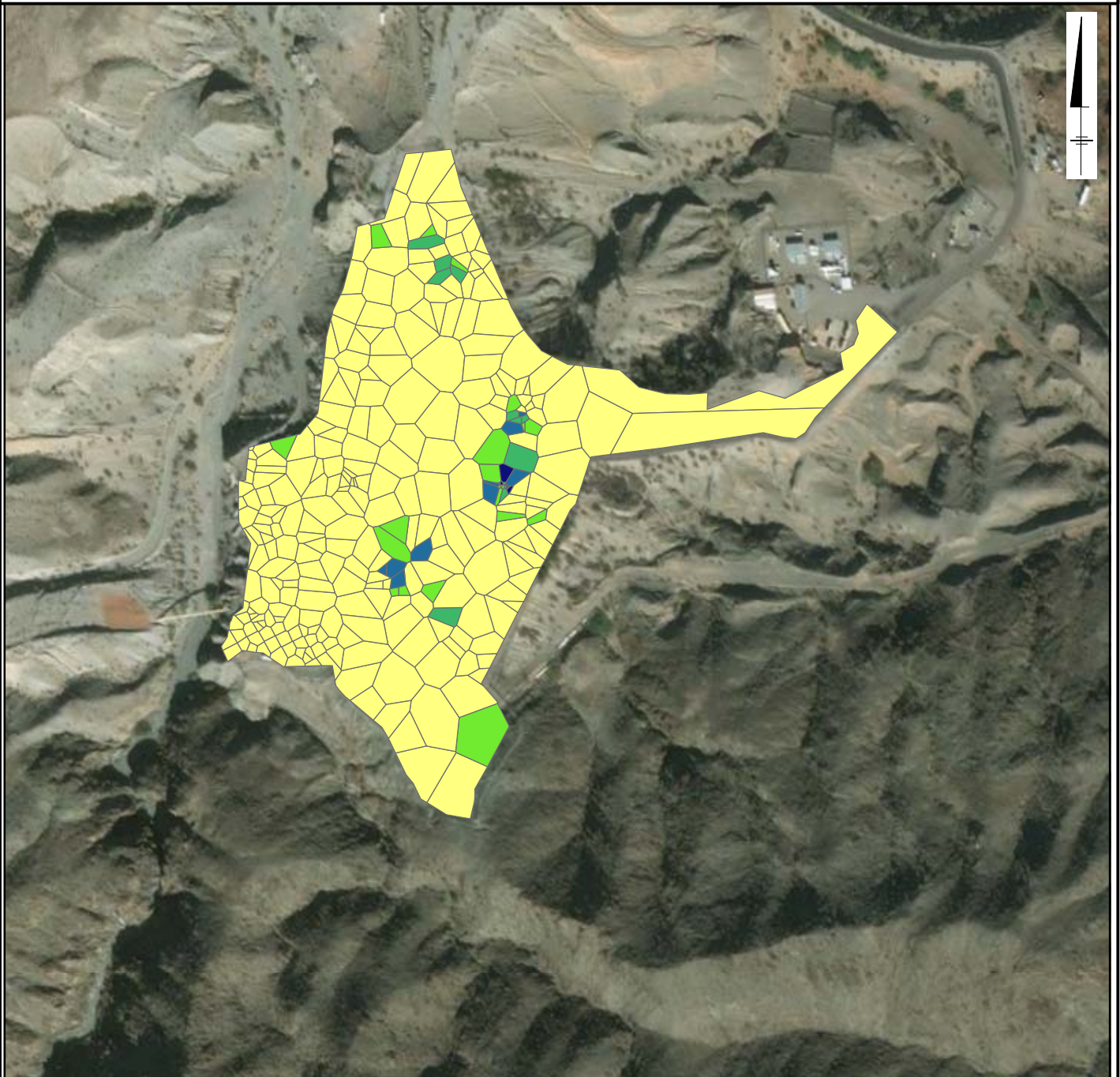
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.53

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

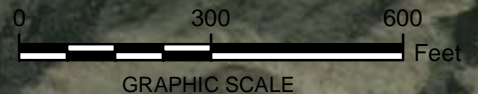


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

	NOT DETECTED
	2.37 - 80.50
	≥80.50 - 229.00
	≥229.00 - 460.00
	≥460.00 - 775.00
	≥775.00 - 1760.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



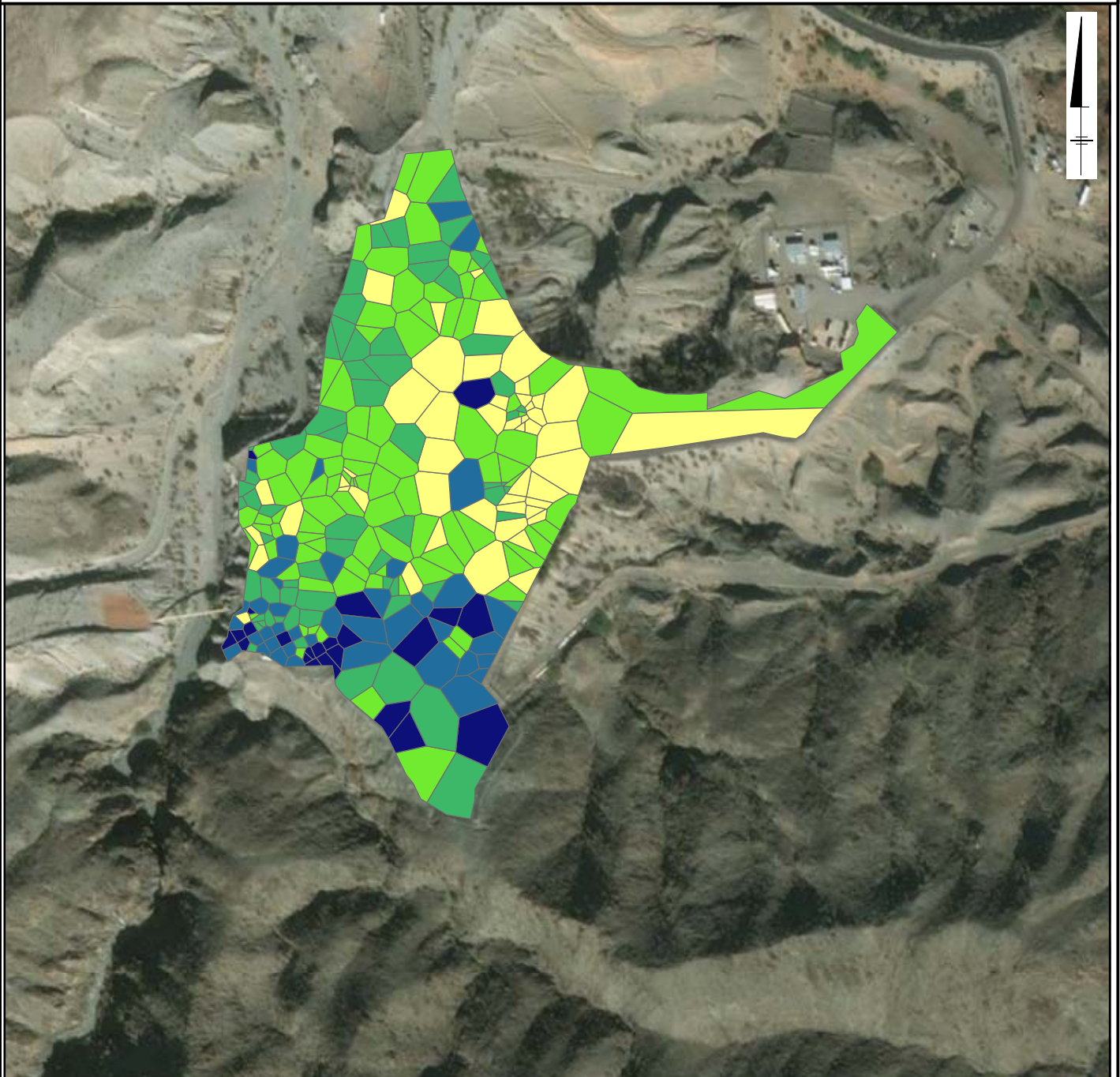
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FIGURE
ICS-A3.54

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 1.13 - 4.17
- ≥ 4.17 - 5.83
- ≥ 5.83 - 7.43
- ≥ 7.43 - 10.00
- ≥ 10.00 - 25.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

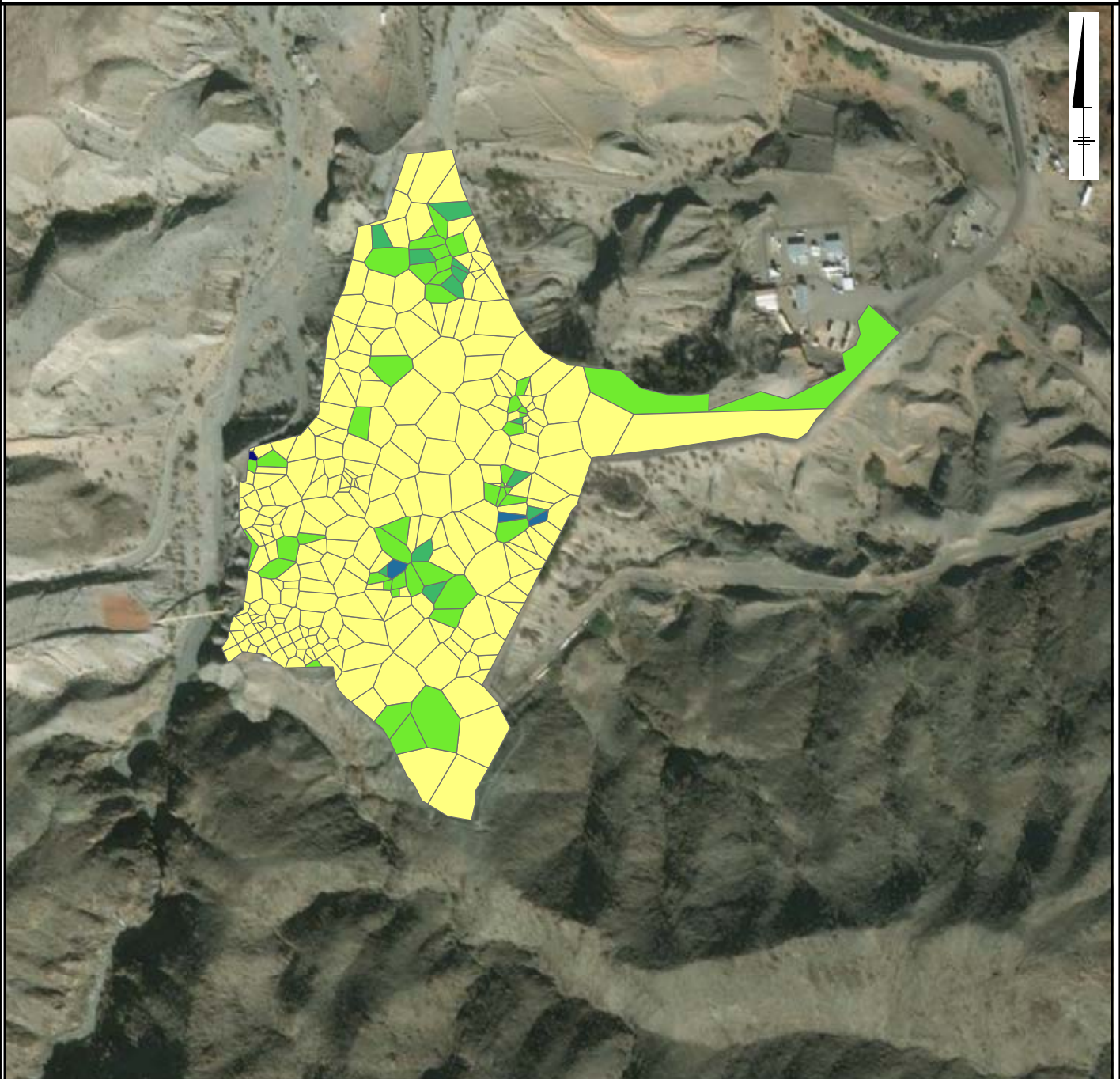
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AREA WEIGHTING**

ARCADIS Design & Consultancy
for natural and
built assets

**FIGURE
ICS-A3.55**

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE COPPER

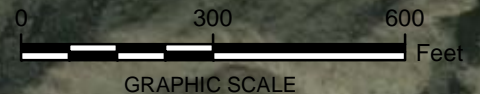


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

	NOT DETECTED
	1.97 - 26.00
	≥26.00 - 87.30
	≥87.30 - 265.00
	≥265.00 - 634.00
	≥634.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



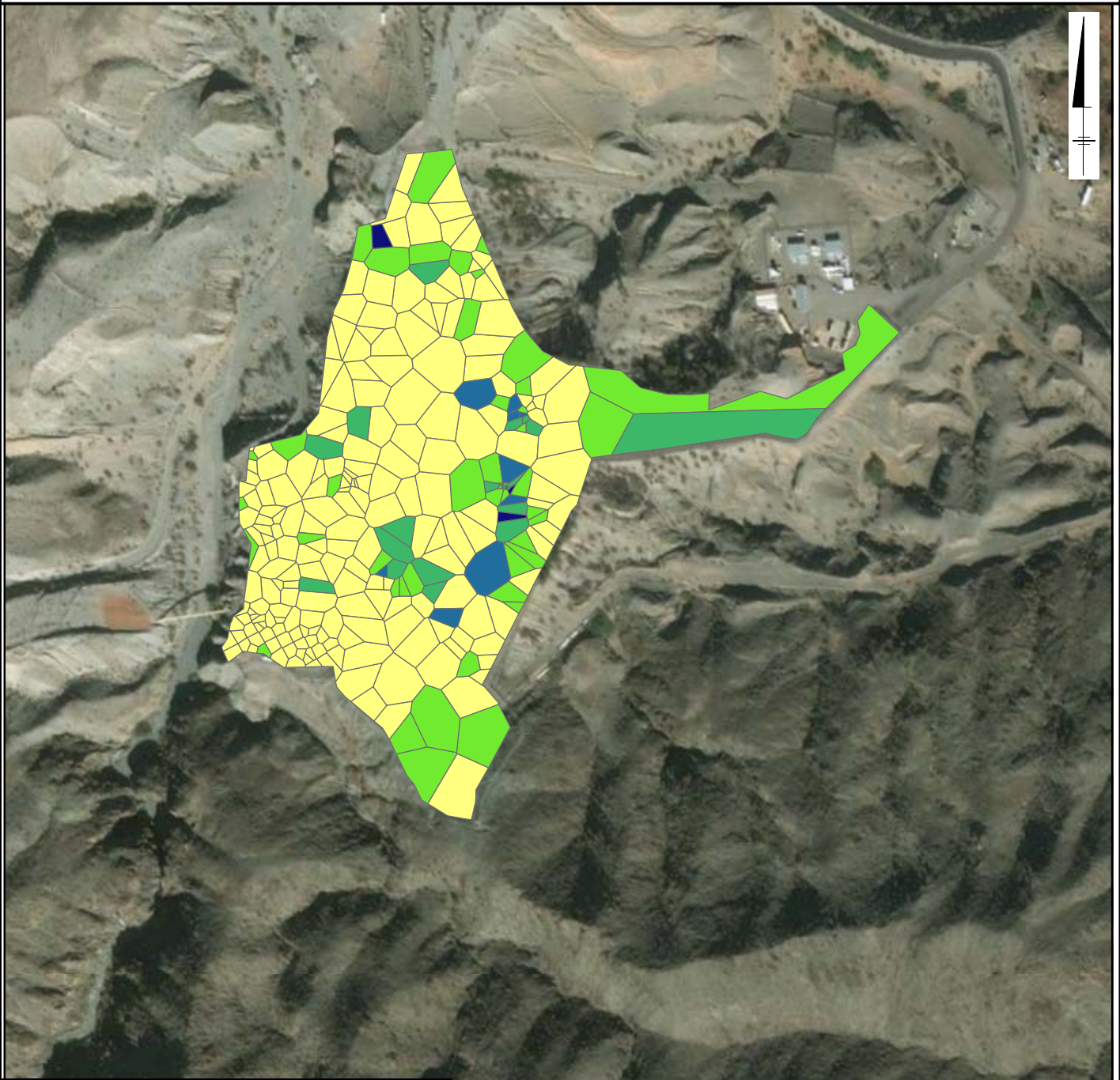
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FIGURE
ICS-A3.56

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE LEAD



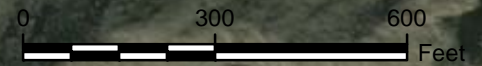
BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:

LEAD (MG/KG)

	NOT DETECTED
	1.13 - 14.00
	≥14.00 - 42.90
	≥42.90 - 108.00
	≥108.00 - 330.00
	≥330.00 - 684.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

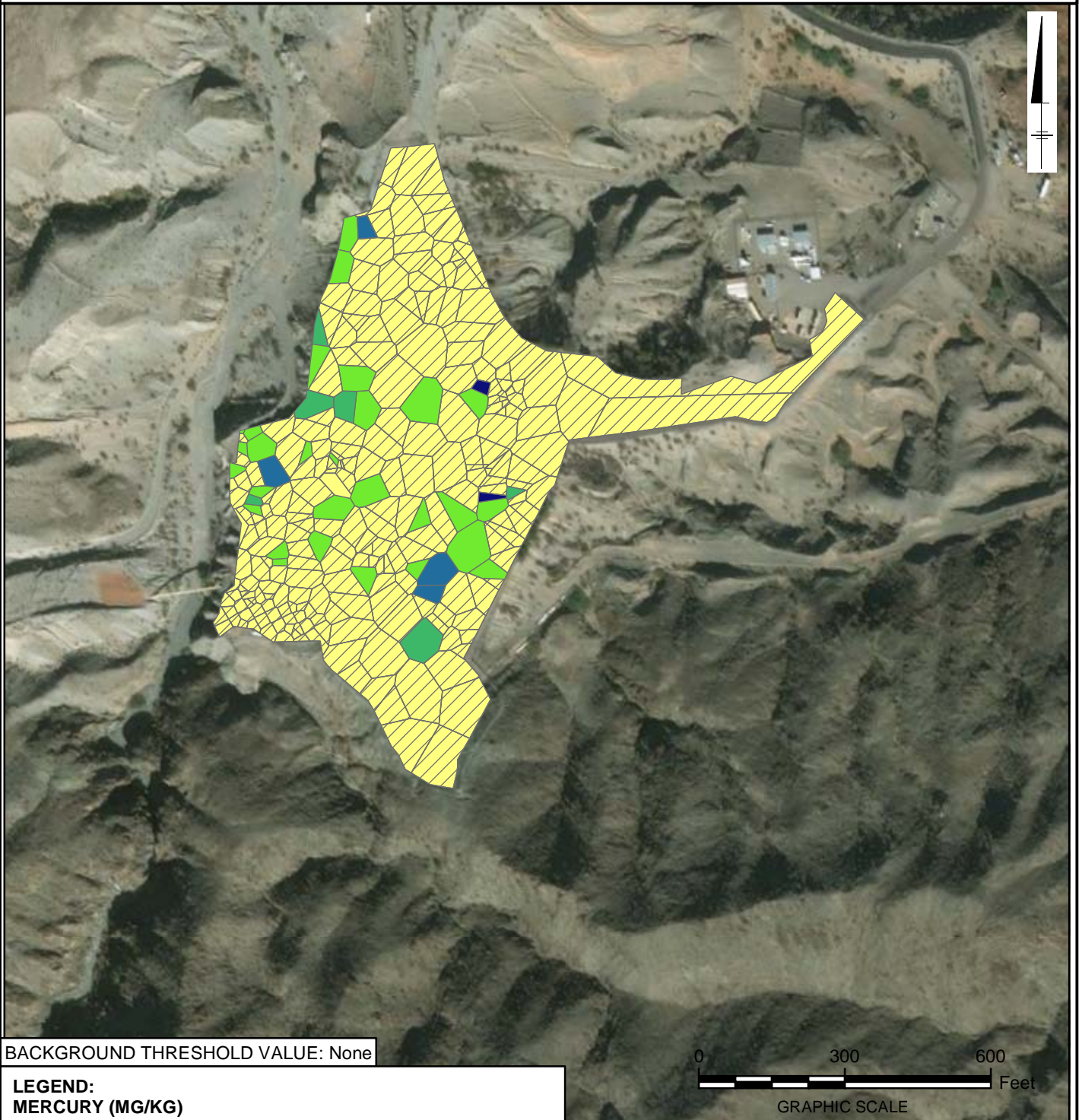
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FIGURE
ICS-A3.57

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE MERCURY



BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

	NOT DETECTED
	0.05 - 0.09
	≥0.09 - 0.22
	≥0.22 - 0.36
	≥0.36 - 0.64
	≥0.64 - 5.18

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

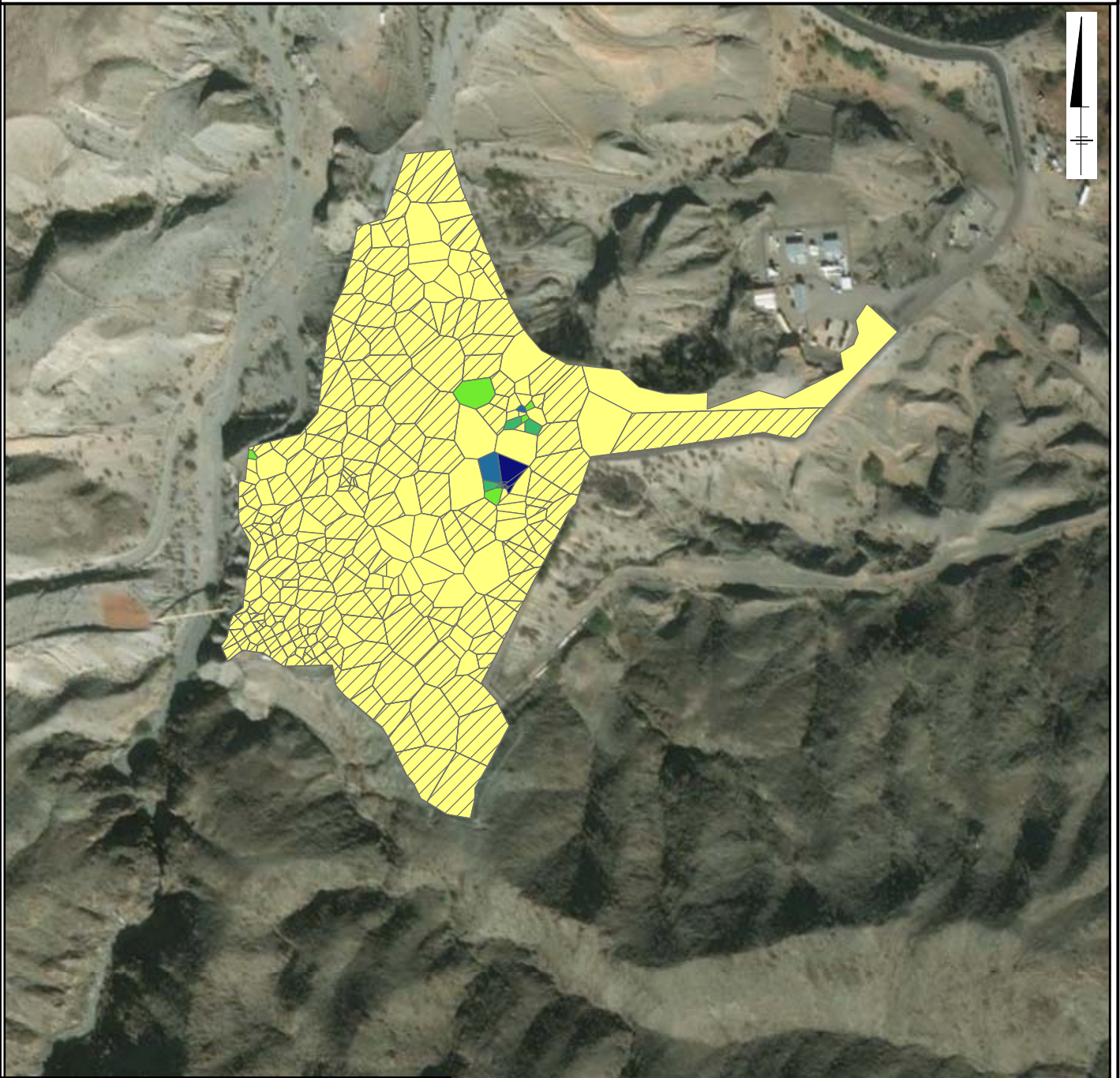
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FIGURE
ICS-A3.58

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE MOLYBDENUM



BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.14 - 29.90
	≥29.90 - 106.00
	≥106.00 - 260.00
	≥260.00 - 527.00
	≥527.00 - 1020.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



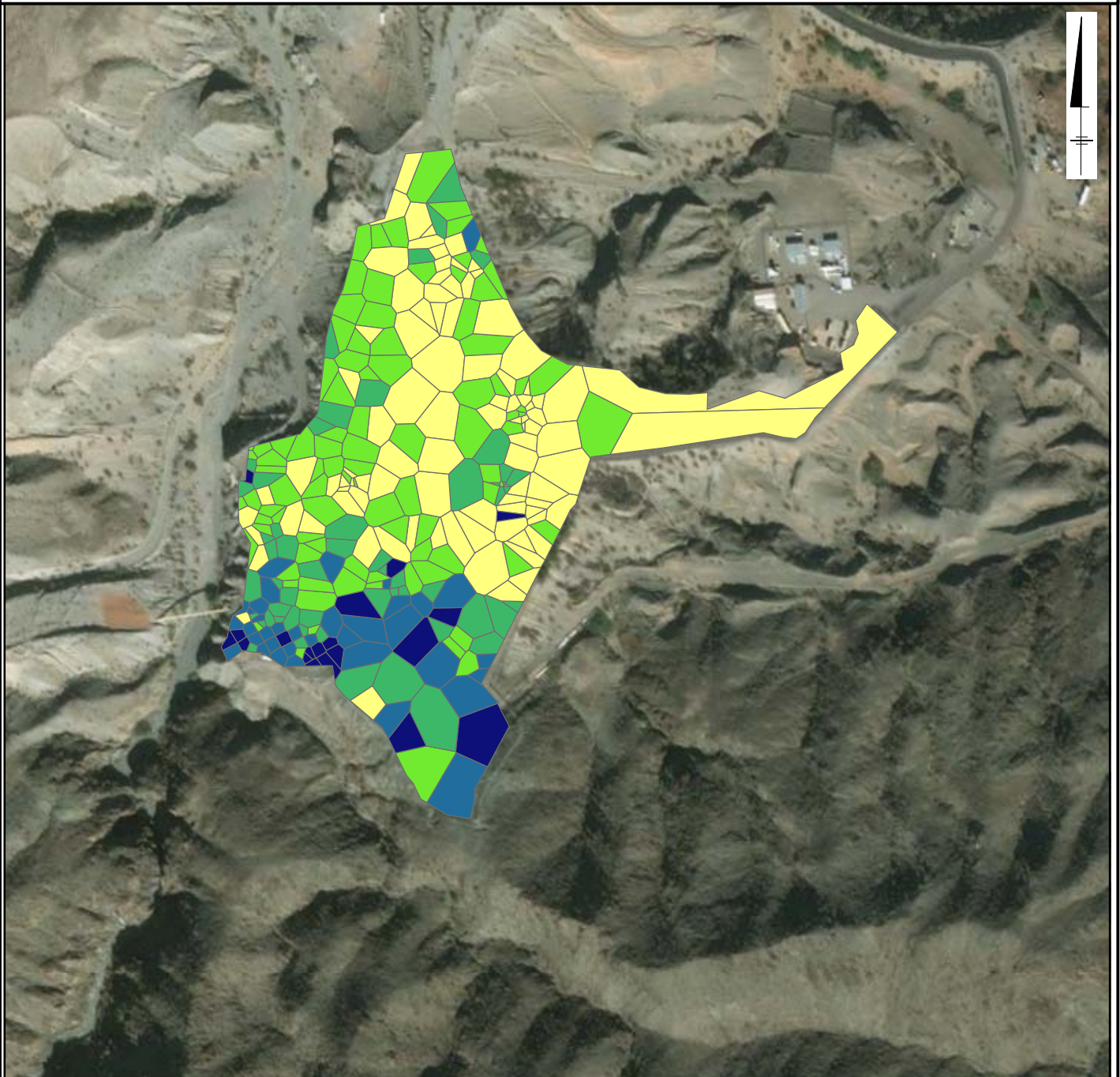
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FIGURE
ICS-A3.59

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE NICKEL

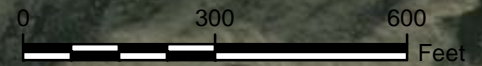


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

-  NOT DETECTED
-  1.90 - 9.80
-  ≥9.80 - 14.10
-  ≥14.10 - 20.30
-  ≥20.30 - 30.00
-  ≥30.00 - 64.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

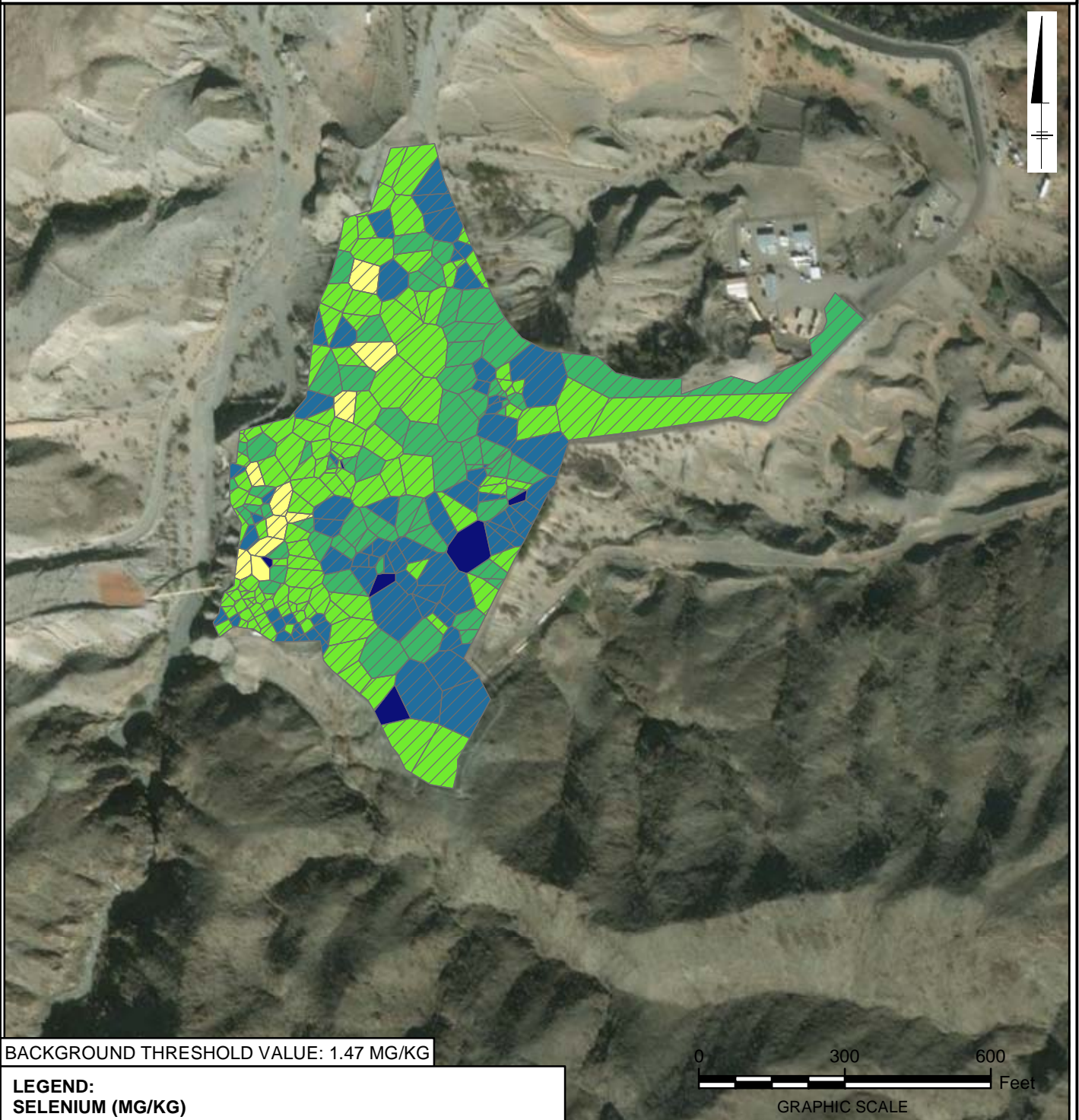
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FIGURE
ICS-A3.60

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE SELENIUM



BACKGROUND THRESHOLD VALUE: 1.47 MG/KG

LEGEND: SELENIUM (MG/KG)

- NOT DETECTED
- 0.13 - 0.30
- $\geq 0.30 - 0.50$
- $\geq 0.50 - 0.54$
- $\geq 0.54 - 0.60$
- $\geq 0.60 - 0.92$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

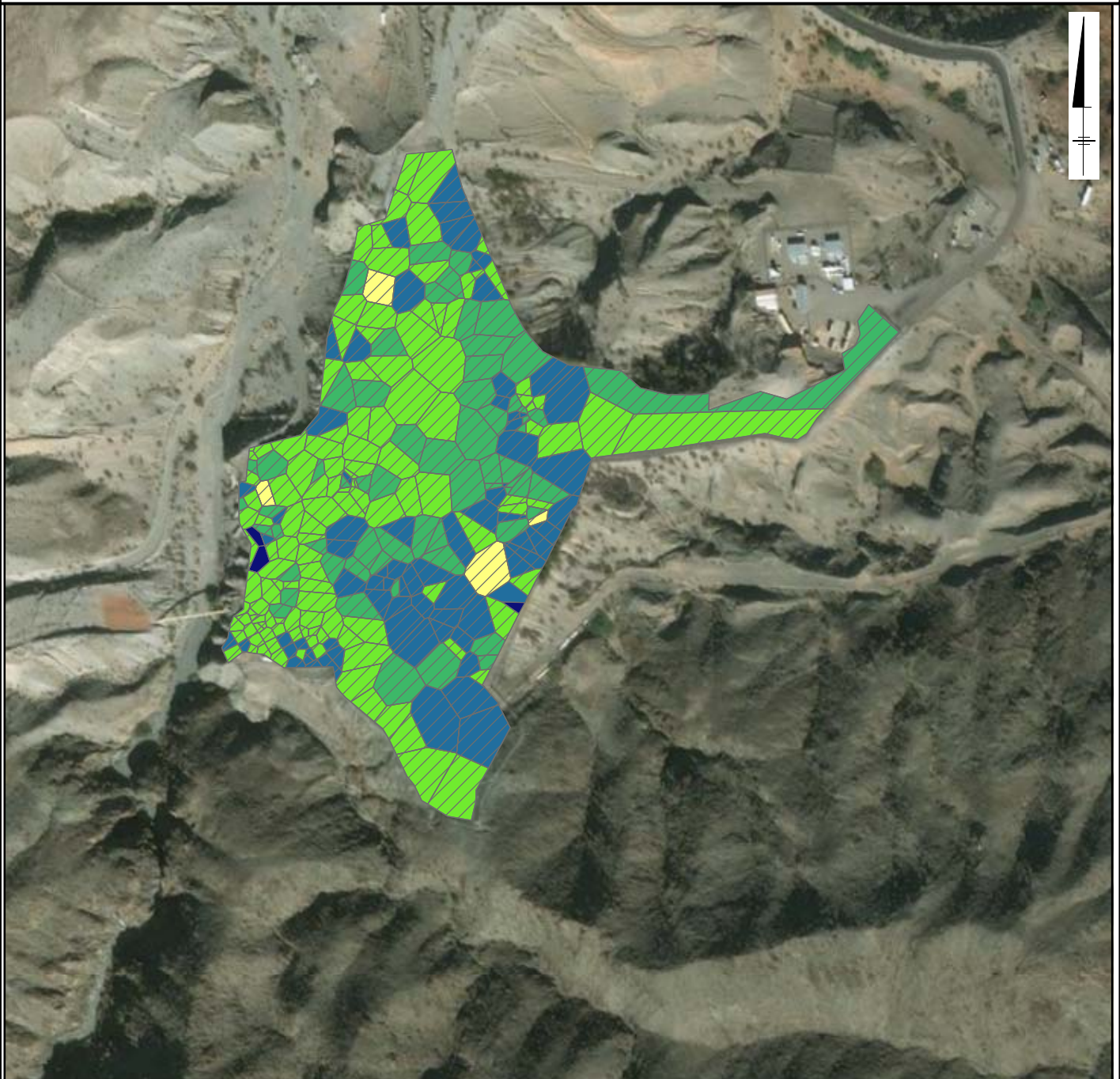
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FIGURE
ICS-A3.61

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE SILVER

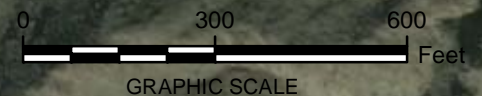


BACKGROUND THRESHOLD VALUE: None

LEGEND: SILVER (MG/KG)

	NOT DETECTED
	0.13 - 0.14
	≥0.14 - 0.51
	≥0.51 - 0.54
	≥0.54 - 0.73
	≥0.73 - 1.47

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



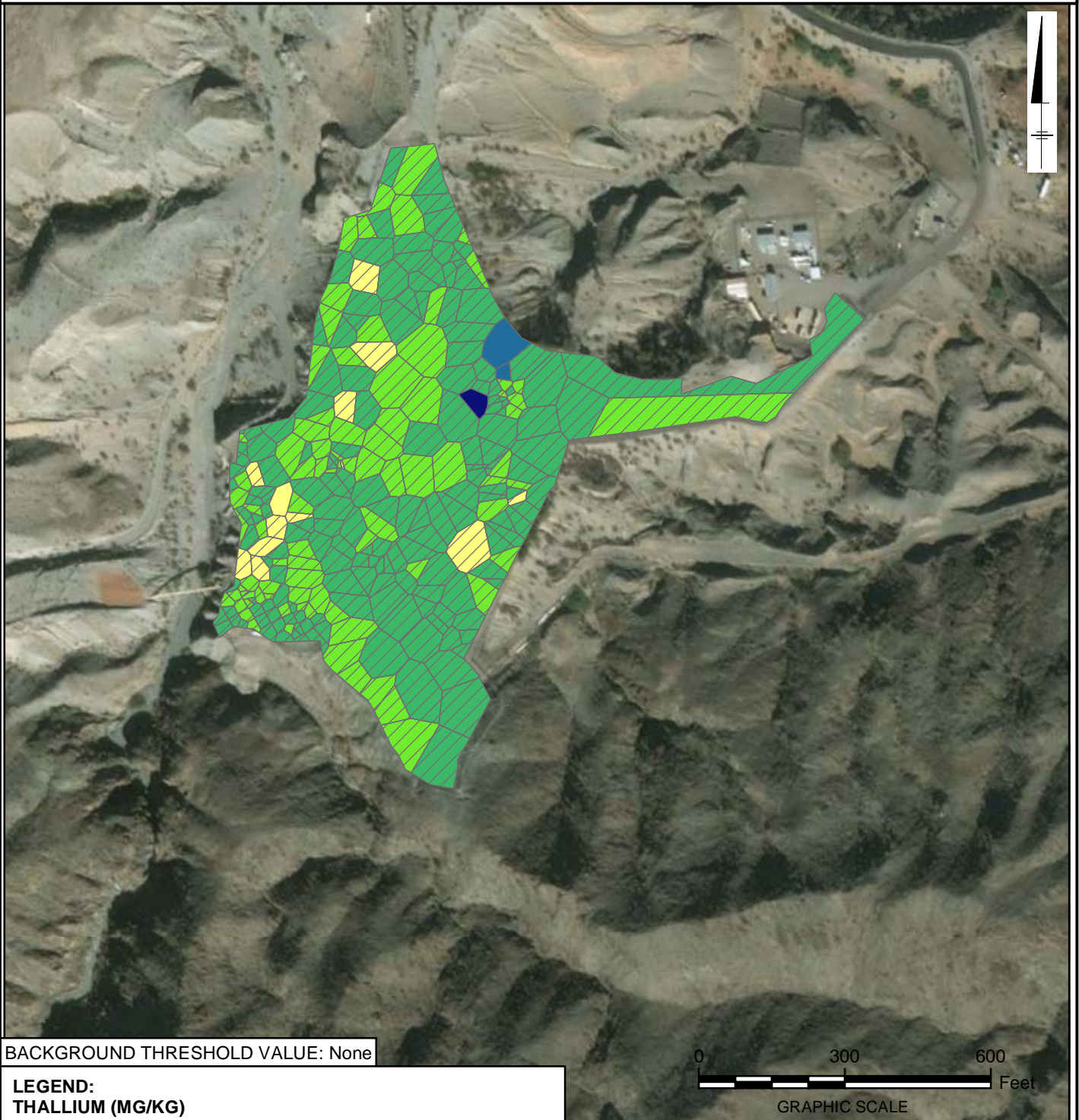
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FIGURE
ICS-A3.62

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE THALLIUM



BACKGROUND THRESHOLD VALUE: None

LEGEND: THALLIUM (MG/KG)

	NOT DETECTED
	0.13 - 0.62
	≥0.62 - 1.03
	≥1.03 - 1.15
	≥1.15 - 1.43
	≥1.43 - 2.37

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

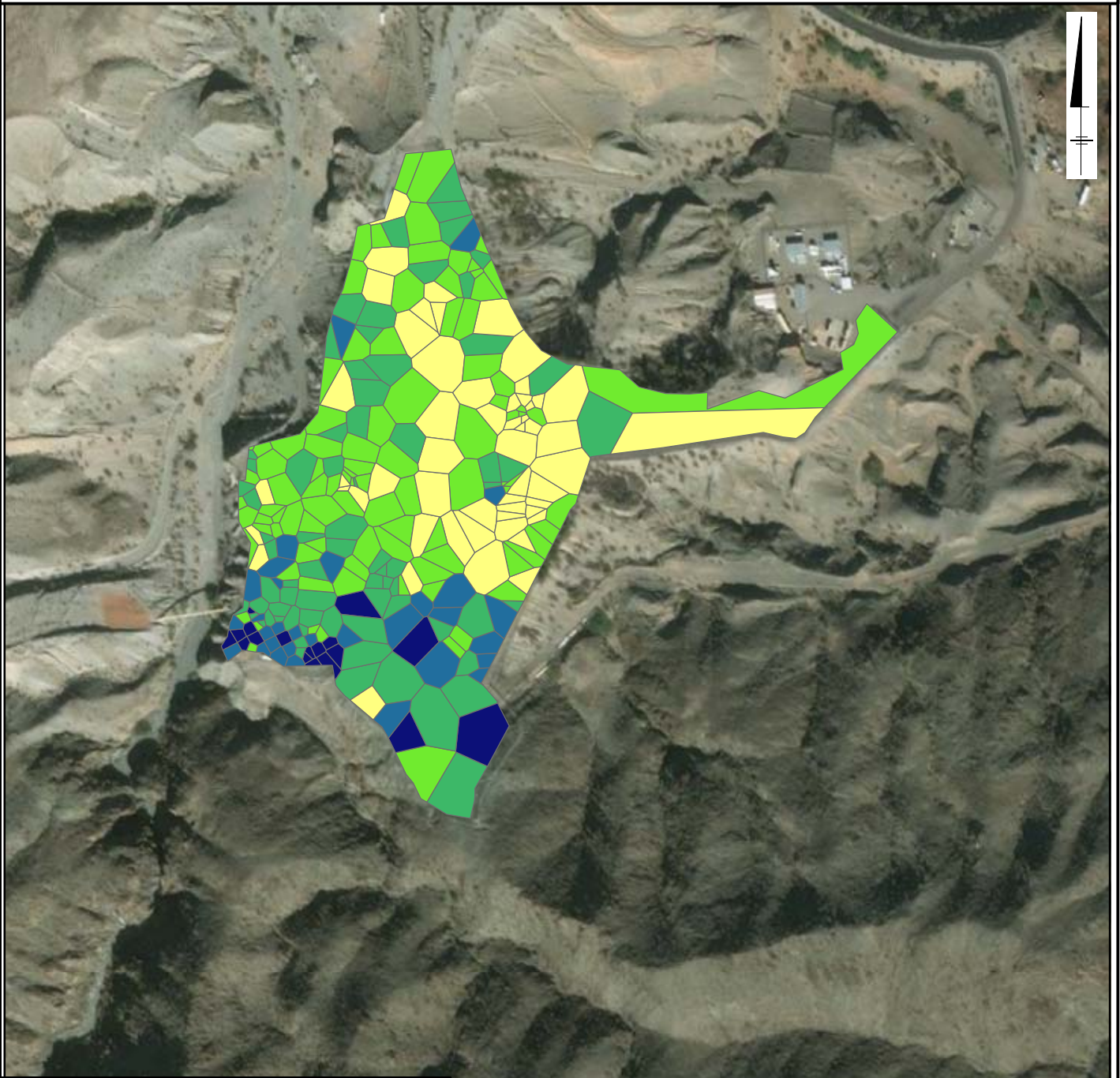
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FIGURE
ICS-A3.63

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	3.57 - 19.00
	≥19.00 - 26.30
	≥26.30 - 34.30
	≥34.30 - 46.00
	≥46.00 - 75.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



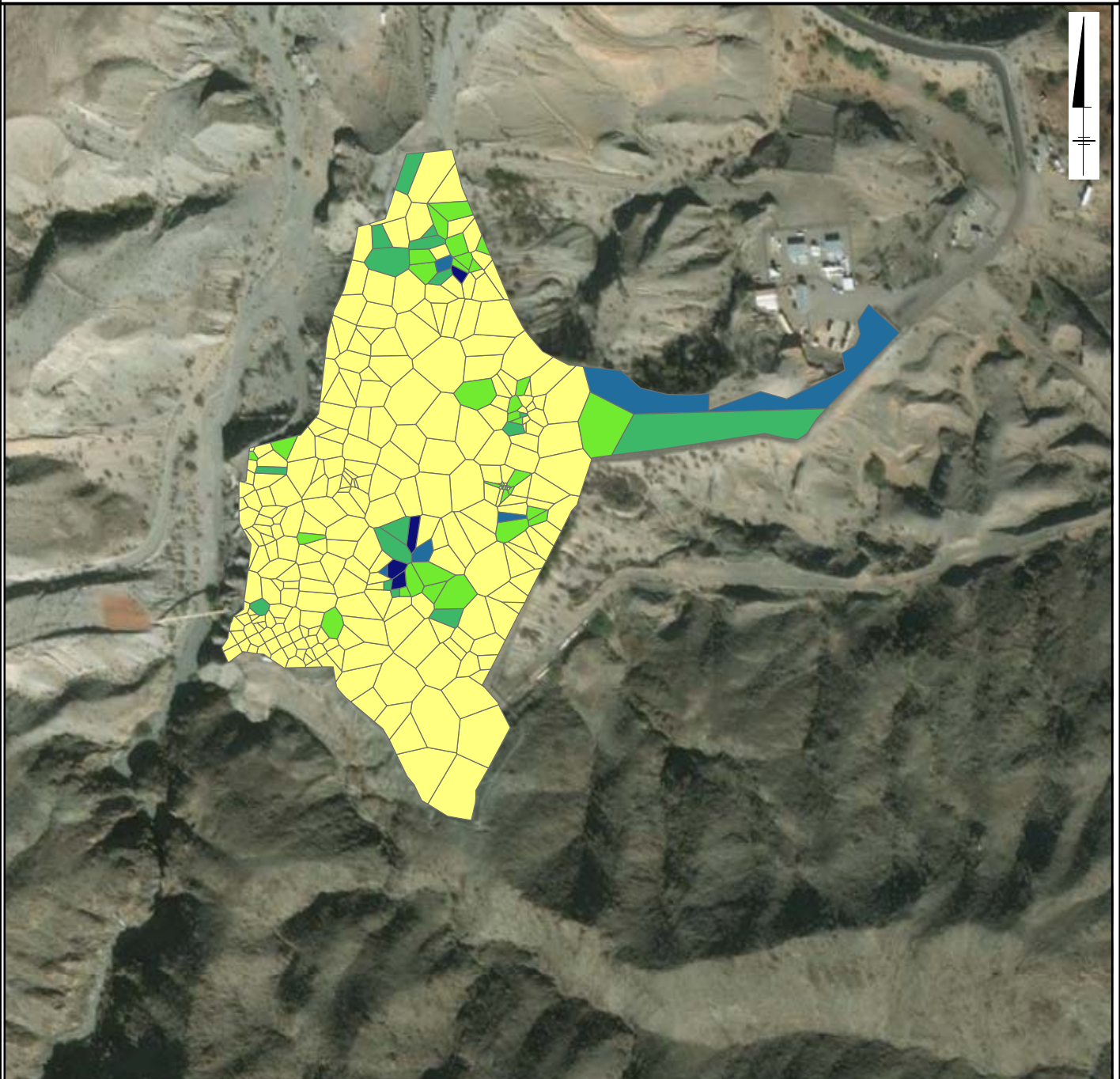
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FIGURE
ICS-A3.64

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 5.00 - 84.70
- ≥84.70 - 217.00
- ≥217.00 - 407.00
- ≥407.00 - 685.00
- ≥685.00 - 1310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



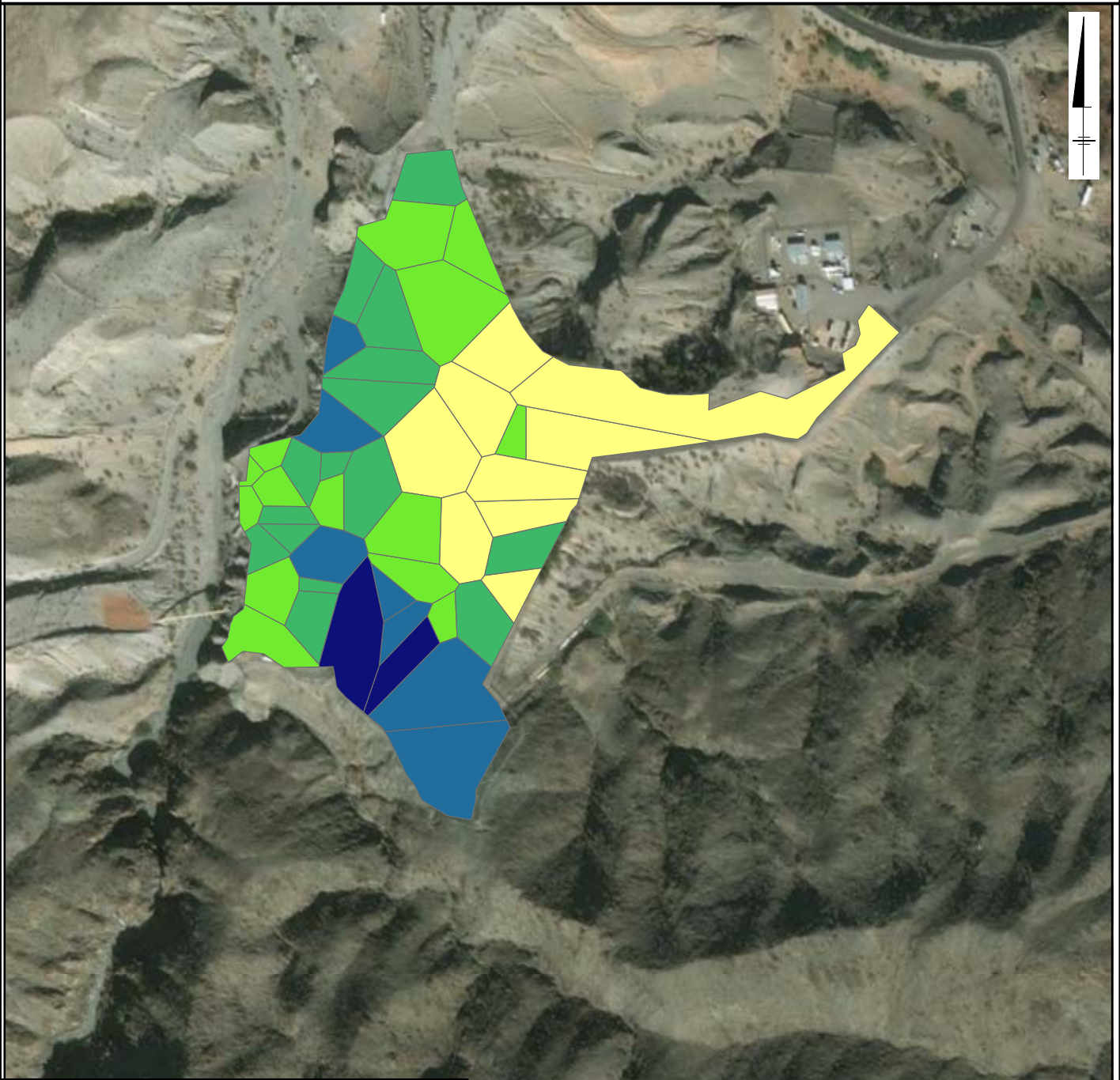
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FIGURE
ICS-A3.65

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ALUMINUM

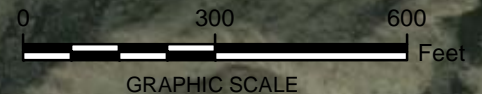


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

- NOT DETECTED
- 2000.00 - 4400.00
- ≥4400.00 - 7200.00
- ≥7200.00 - 10000.00
- ≥10000.00 - 14000.00
- ≥14000.00 - 17000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



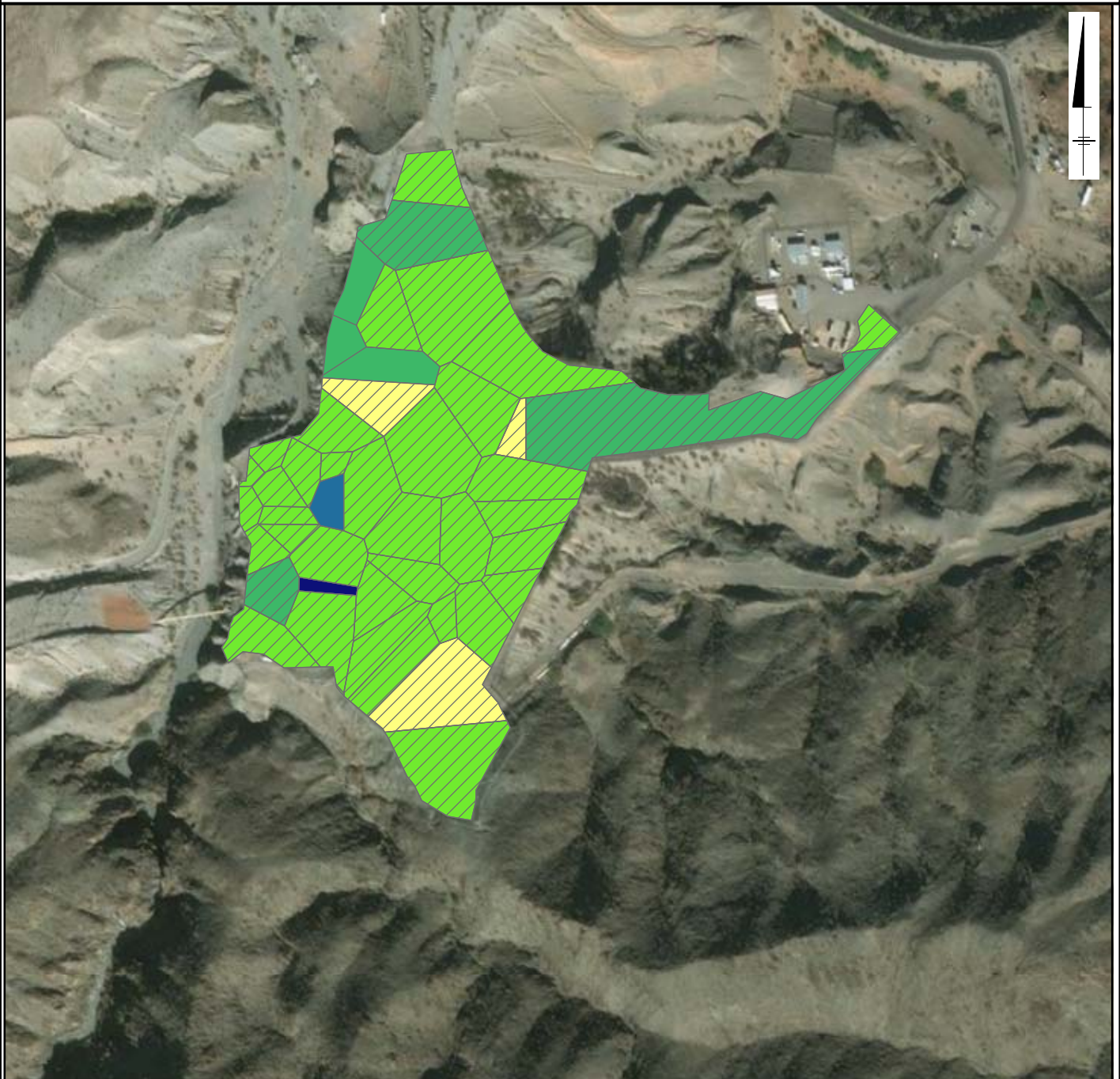
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FIGURE
ICS-A3.66

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE CYANIDE

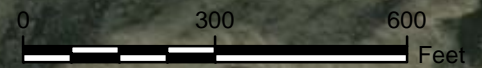


BACKGROUND THRESHOLD VALUE: None

LEGEND: CYANIDE (MG/KG)

	NOT DETECTED
	0.02 - 0.02
	≥0.02 - 0.13
	≥0.13 - 1.00
	≥1.00 - 1.90
	≥1.90 - 5.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

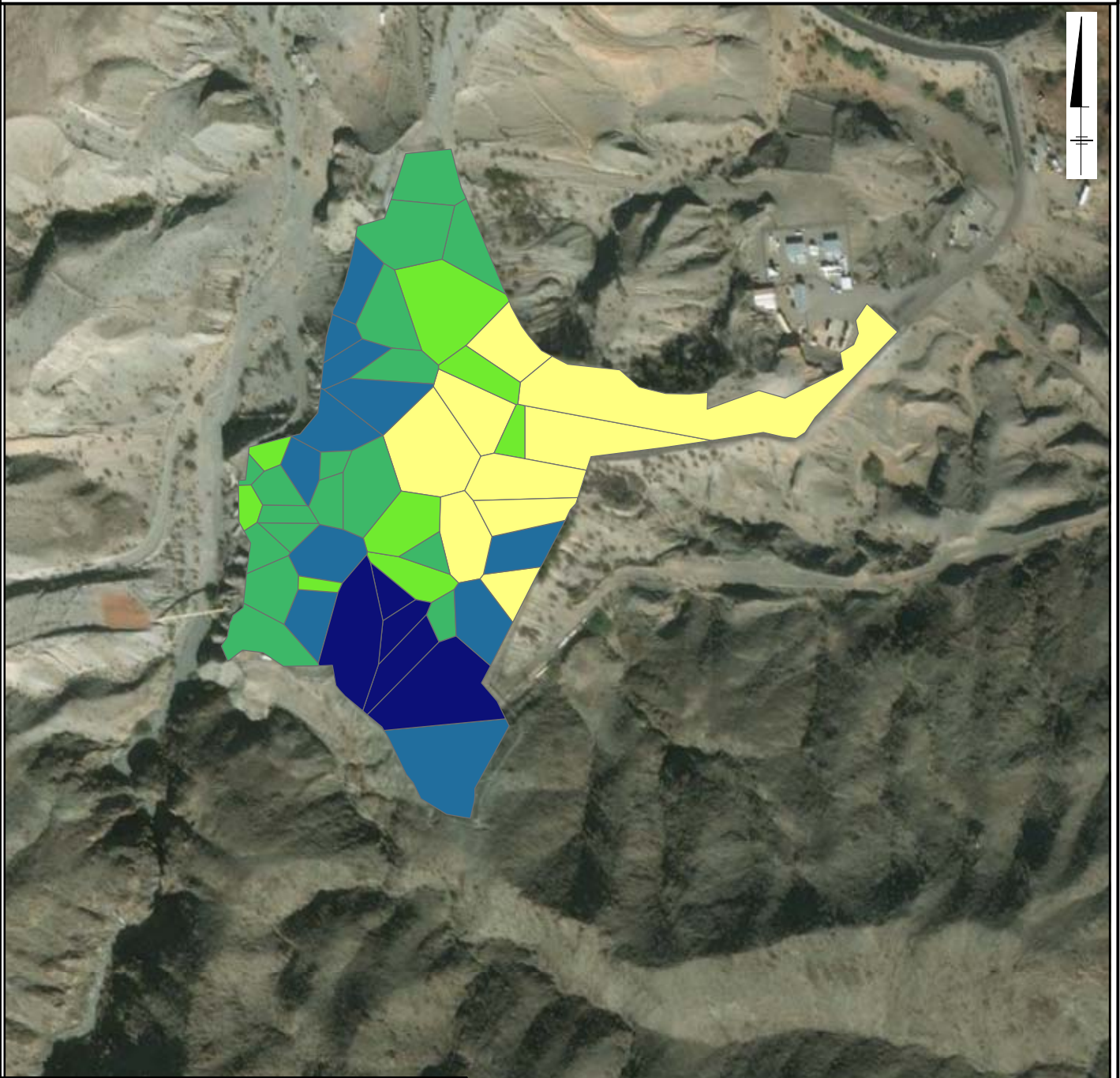
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FIGURE
ICS-A3.67

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE IRON

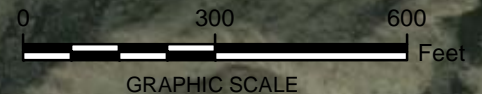


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

-  NOT DETECTED
-  4200.00 - 7600.00
-  ≥7600.00 - 12300.00
-  ≥12300.00 - 15300.00
-  ≥15300.00 - 20000.00
-  ≥20000.00 - 33300.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



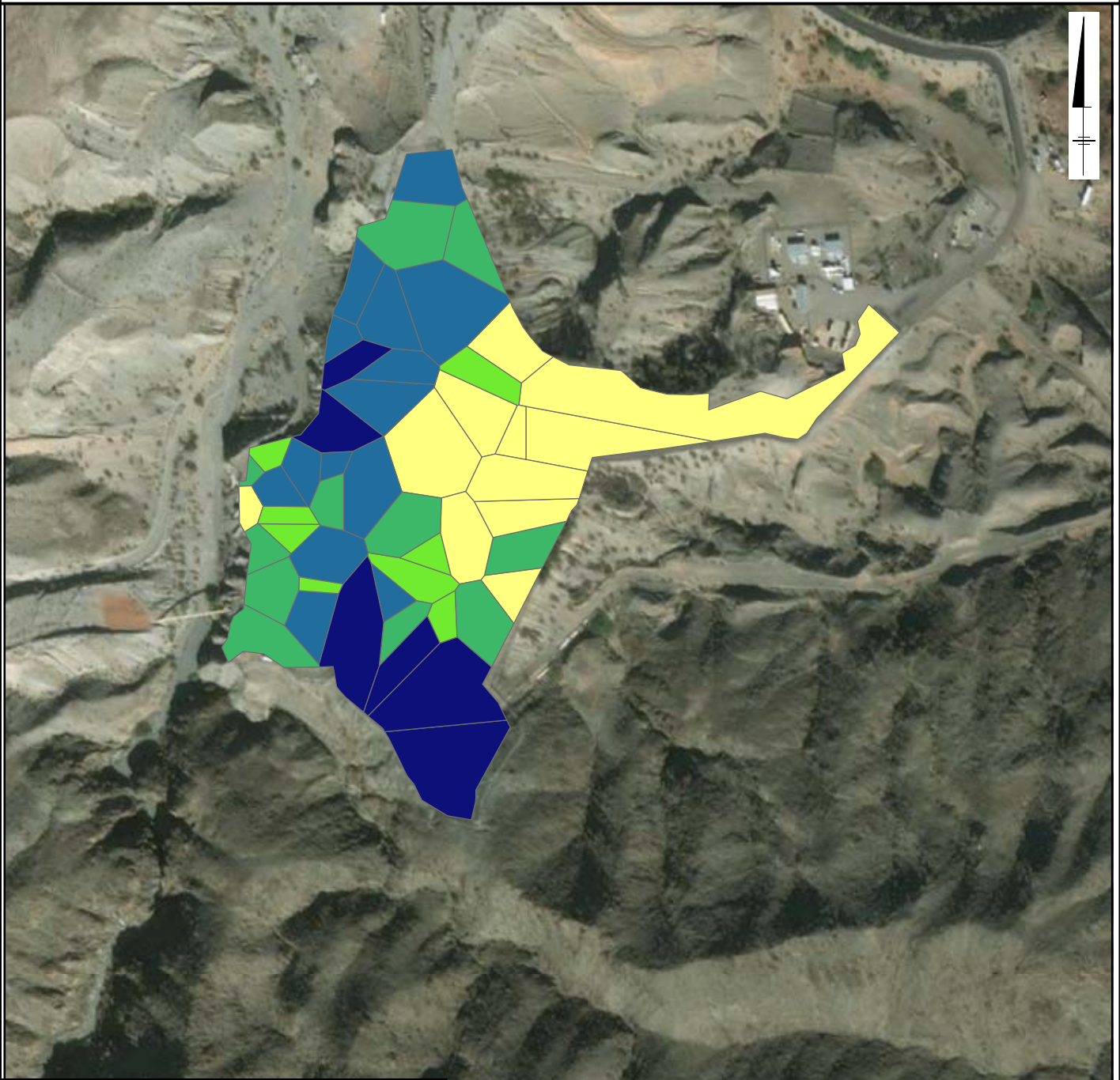
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FIGURE
ICS-A3.68

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE MANGANESE



BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

-  NOT DETECTED
-  70.00 - 153.00
-  ≥153.00 - 191.00
-  ≥191.00 - 227.00
-  ≥227.00 - 280.00
-  ≥280.00 - 360.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



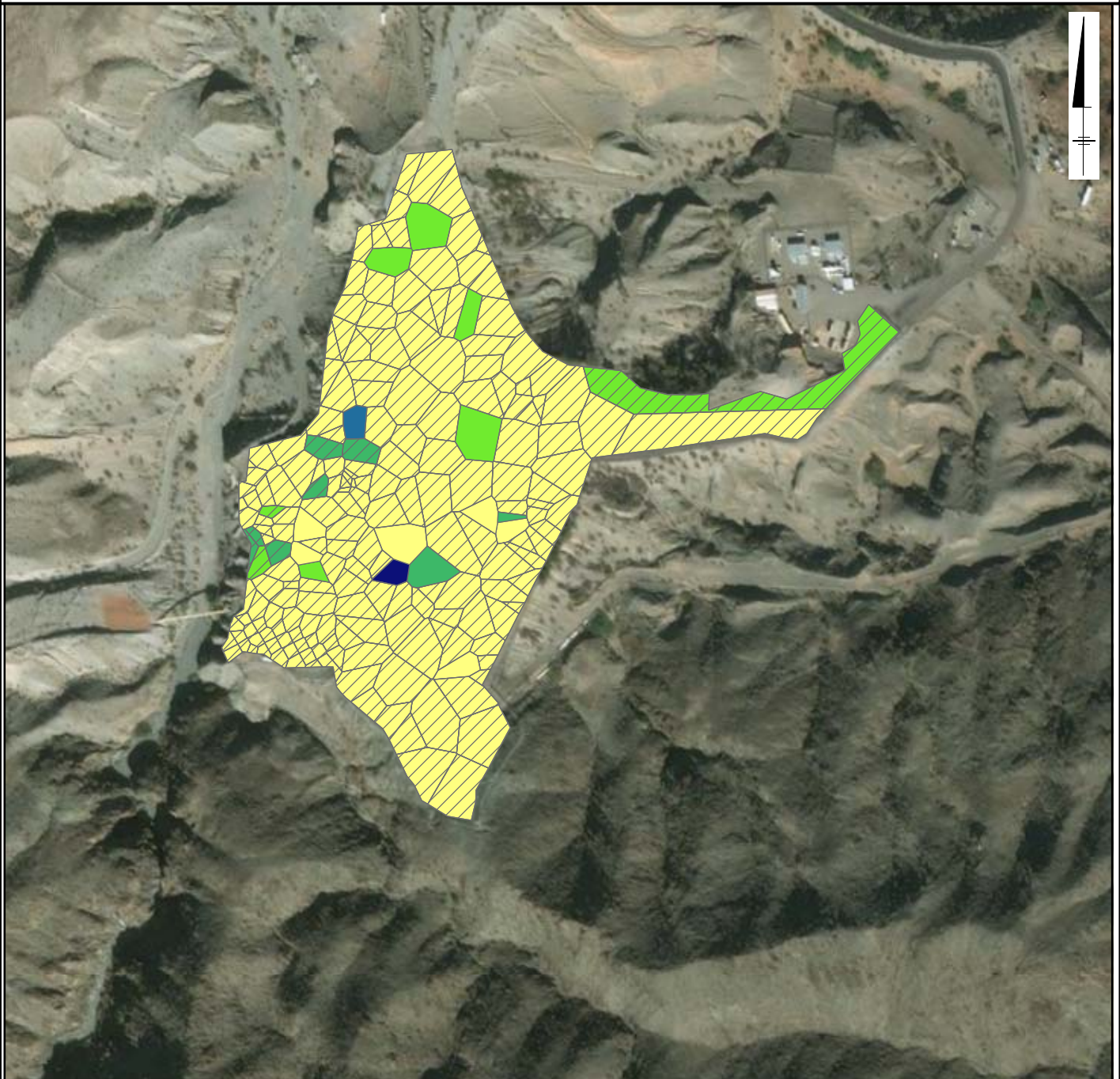
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FIGURE
ICS-A3.69

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE 1-METHYL NAPHTHALENE

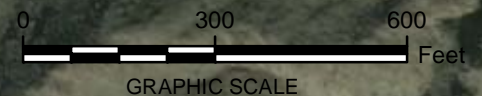


BACKGROUND THRESHOLD VALUE: None

LEGEND: 1-METHYL NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.68
- ≥6.68 - 18.10
- ≥18.10 - 82.00
- ≥82.00 - 1000.00
- ≥1000.00 - 2400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



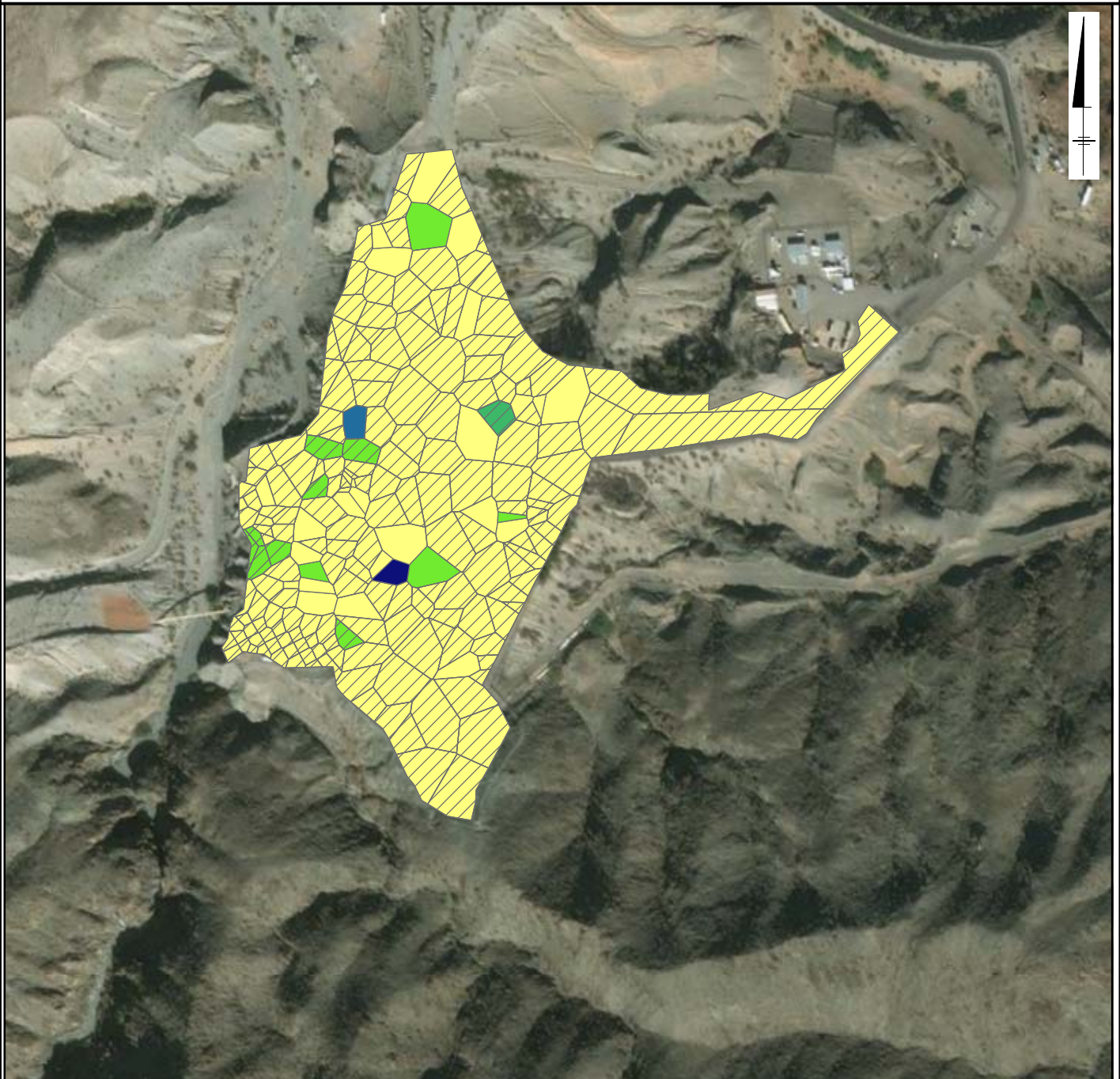
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FIGURE
ICS-A3.70

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE

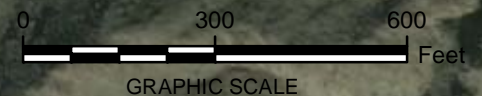


BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.50 - 9.55
	≥9.55 - 84.00
	≥84.00 - 175.00
	≥175.00 - 1000.00
	≥1000.00 - 2900.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



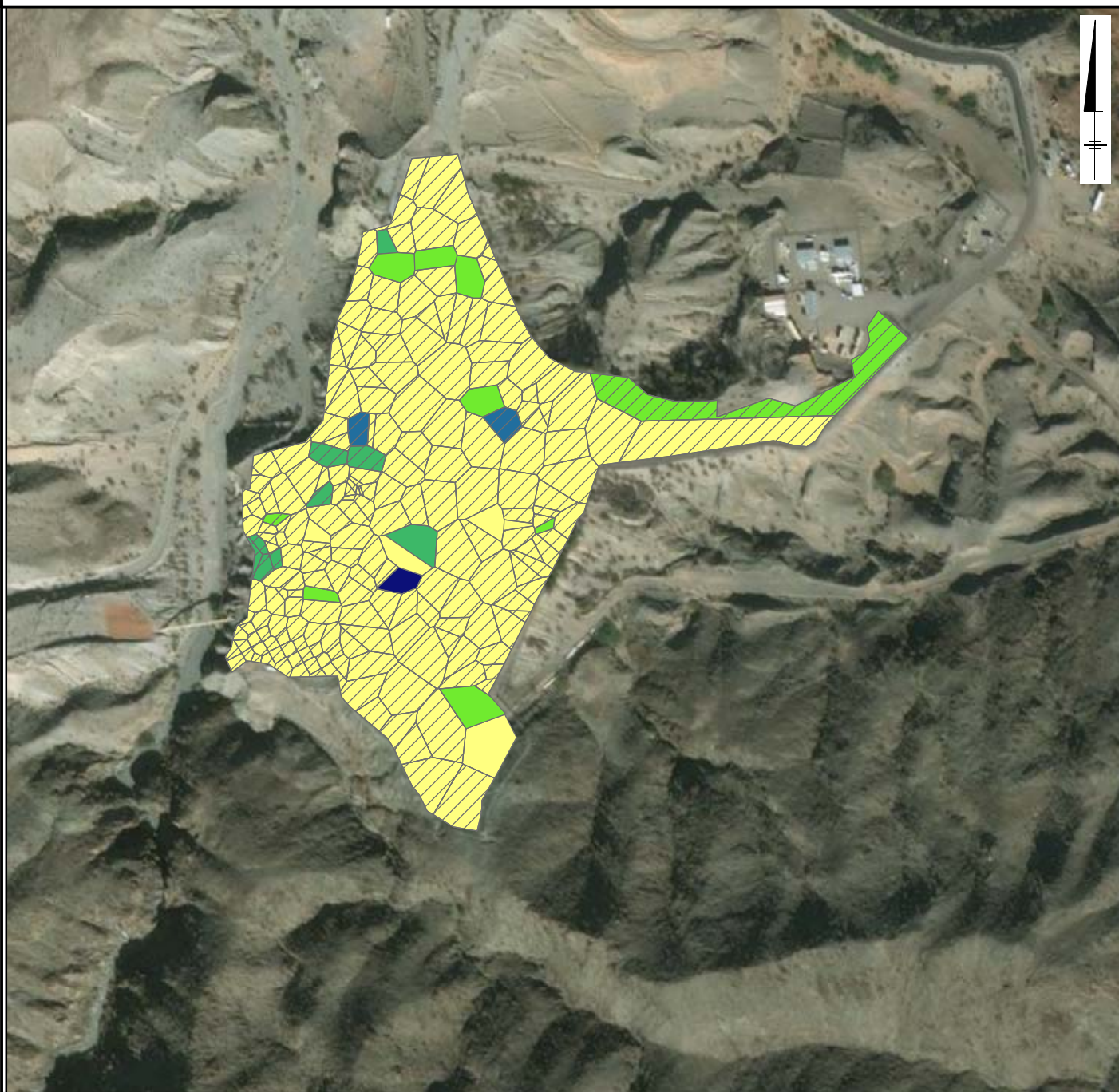
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FIGURE
ICS-A3.71

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ACENAPHTHENE

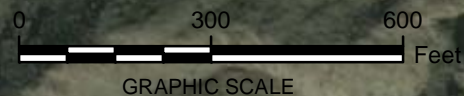


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHENE (UG/KG)

	NOT DETECTED
	2.50 - 5.50
	≥5.50 - 13.10
	≥13.10 - 27.20
	≥27.20 - 260.00
	≥260.00 - 440.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



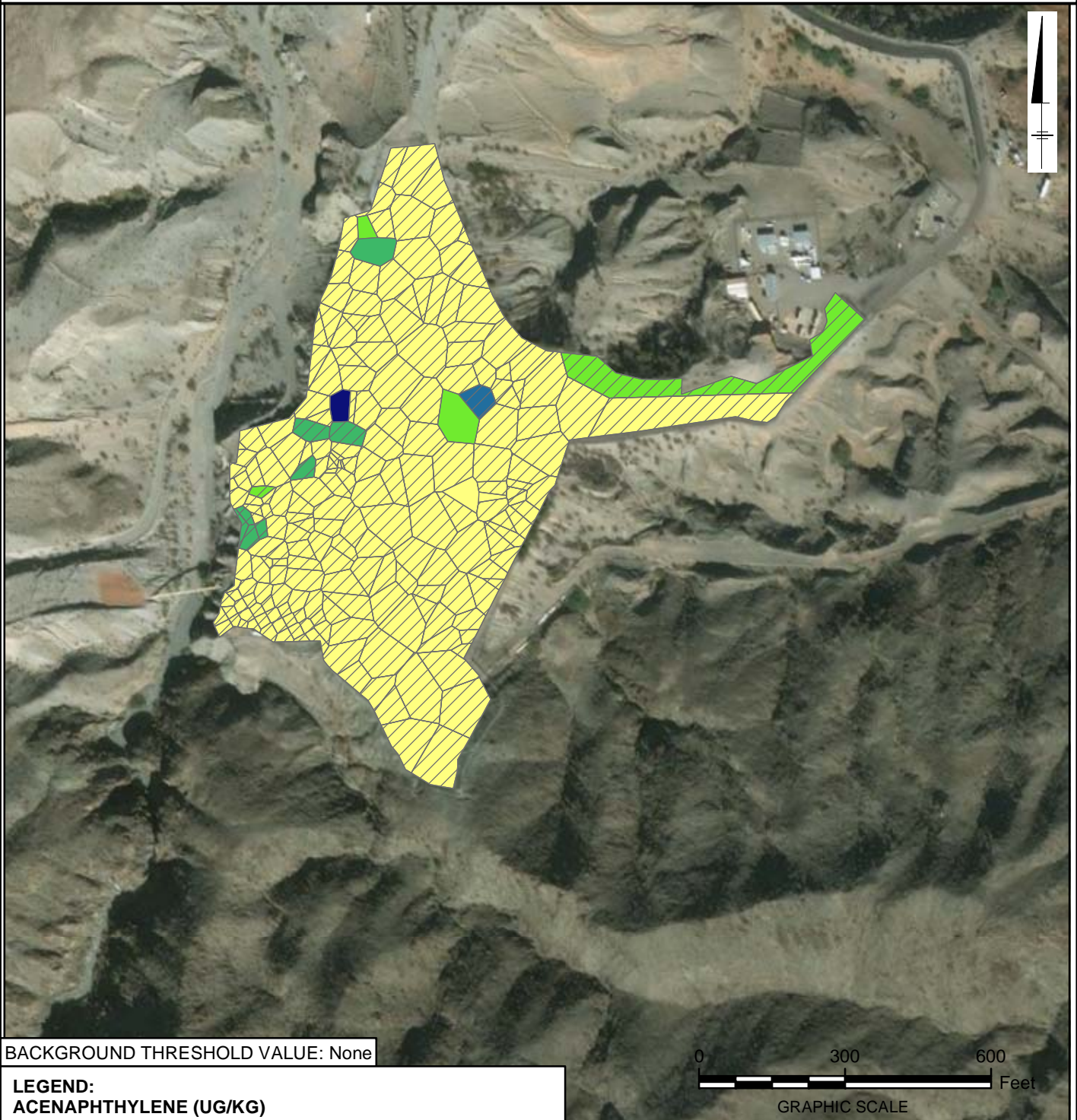
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FIGURE
ICS-A3.72

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ACENAPHTHYLENE



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PG&E Topock (RC000753.0040.00003)
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SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

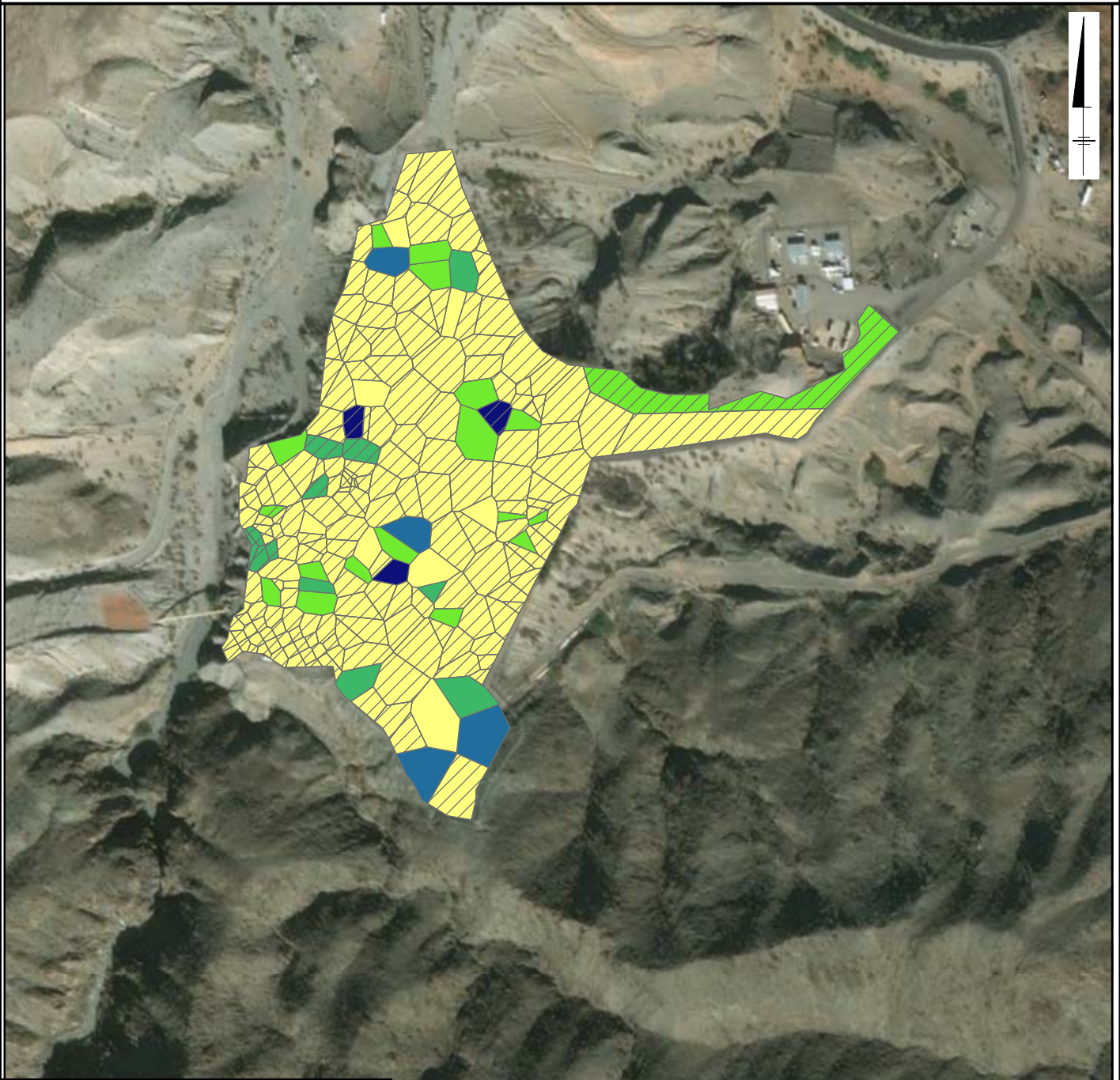
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**THIESSEN POLYGONS FOR
AREA WEIGHTING**

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**FIGURE
ICS-A3.73**

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.03
- ≥6.03 - 16.20
- ≥16.20 - 27.20
- ≥27.20 - 84.10
- ≥84.10 - 270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



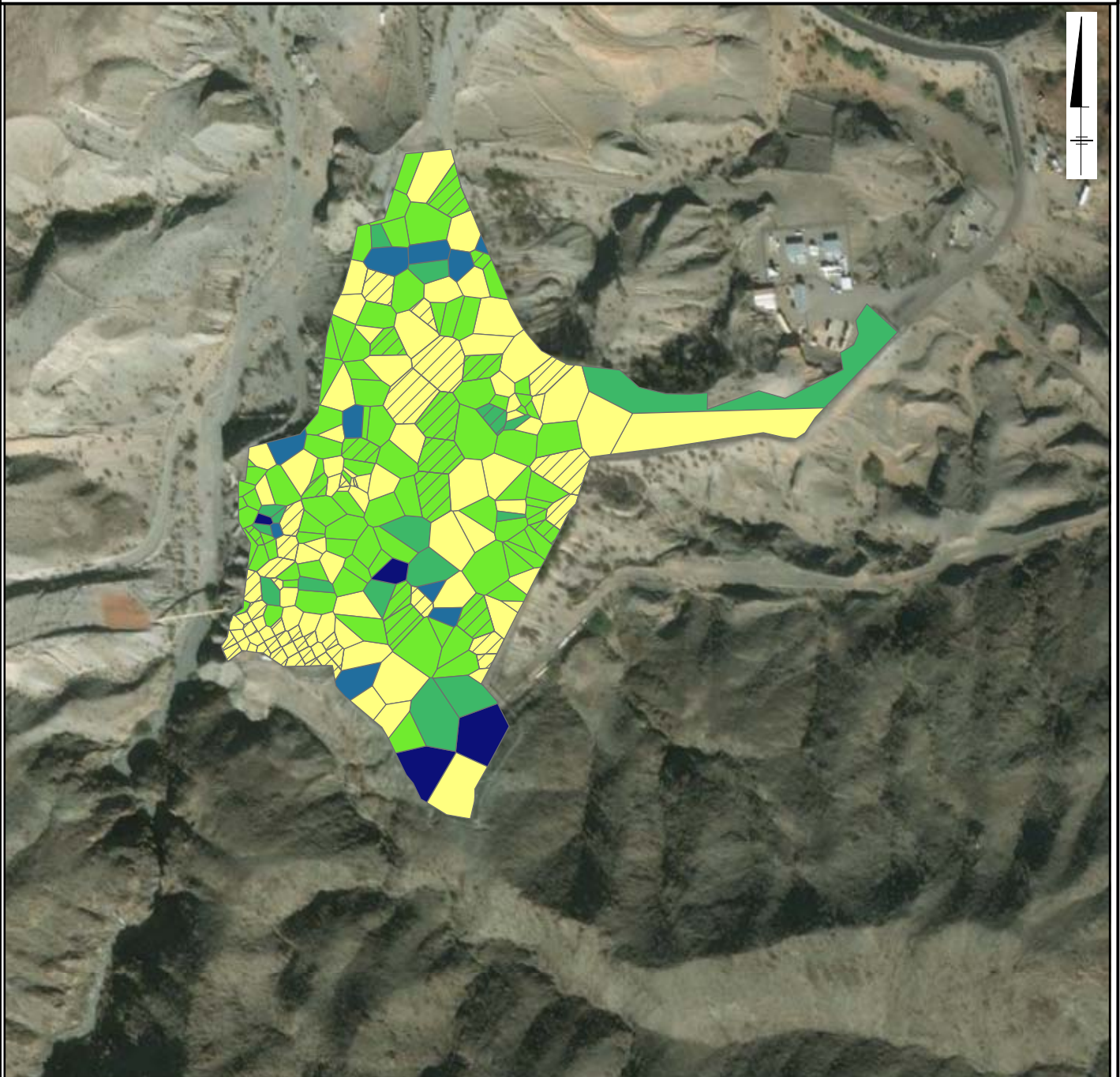
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FIGURE
ICS-A3.74

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.83 - 35.00
- ≥ 35.00 - 168.00
- ≥ 168.00 - 413.00
- ≥ 413.00 - 852.00
- ≥ 852.00 - 2570.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



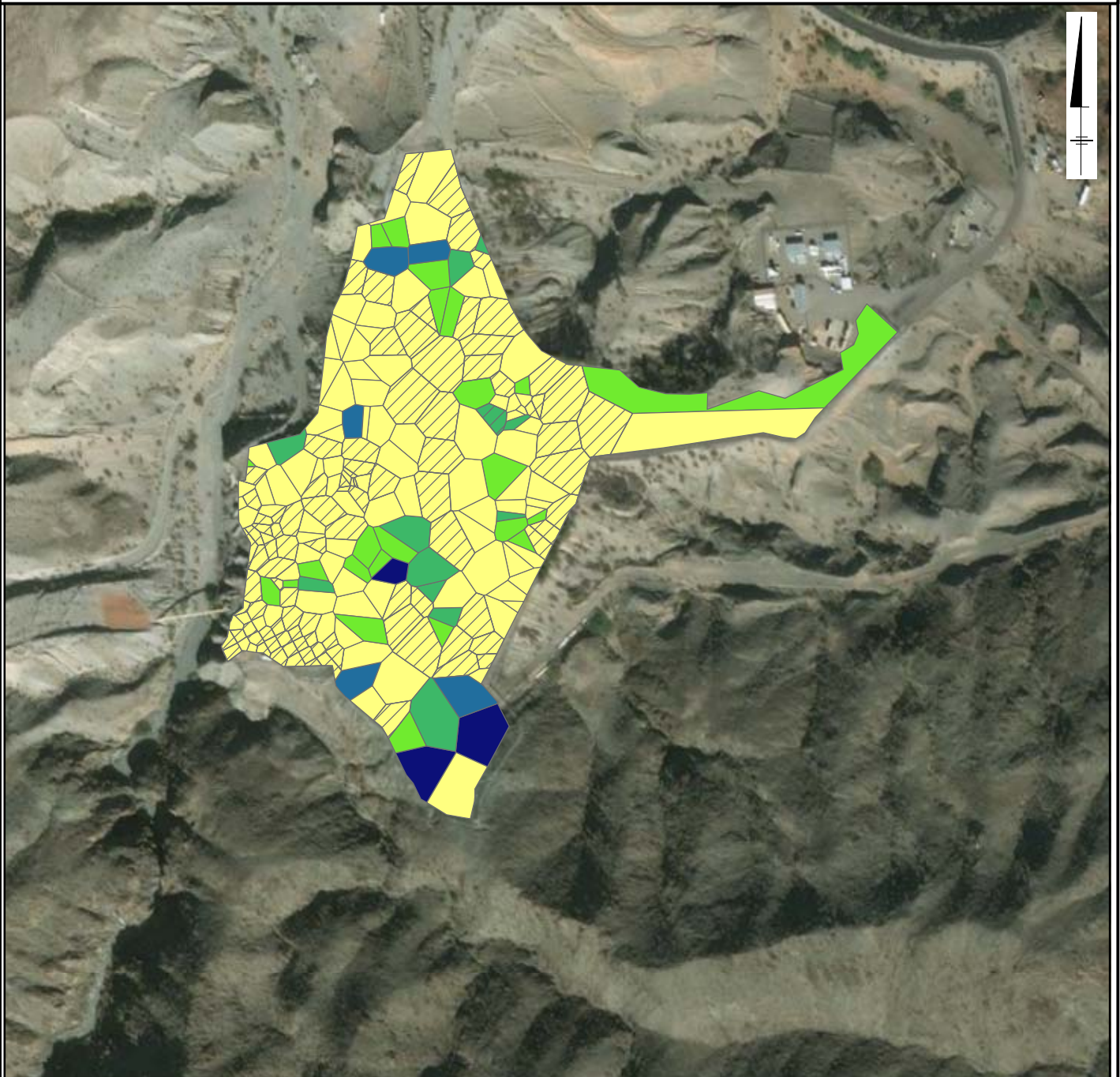
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.75

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE

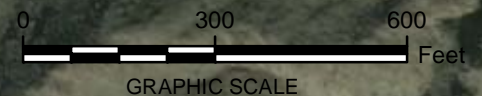


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 36.00
- ≥36.00 - 134.00
- ≥134.00 - 340.00
- ≥340.00 - 730.00
- ≥730.00 - 3180.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



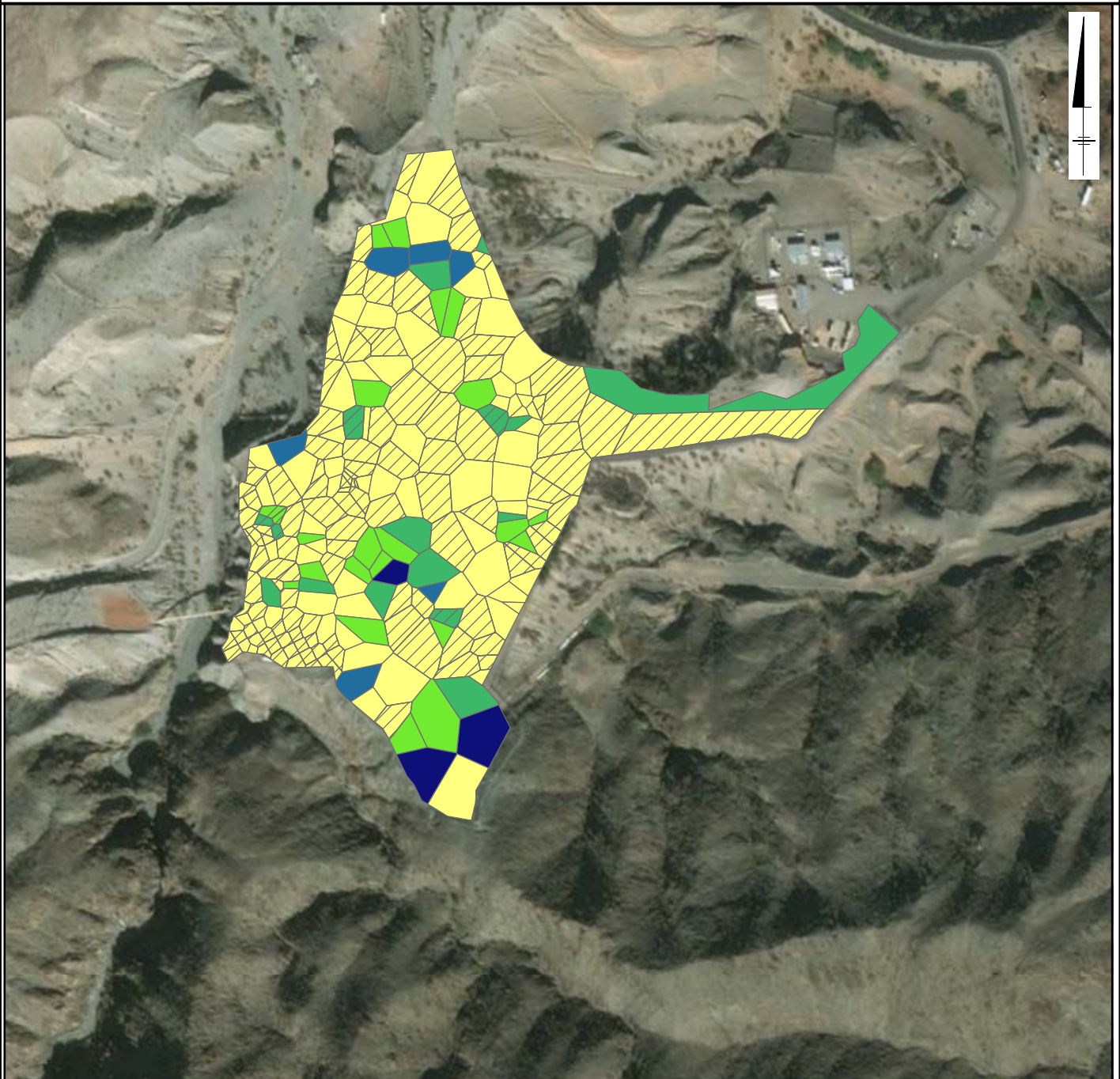
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FIGURE
ICS-A3.76







INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



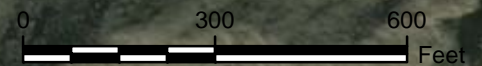
BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 42.70
-  ≥42.70 - 124.00
-  ≥124.00 - 300.00
-  ≥300.00 - 596.00
-  ≥596.00 - 1700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

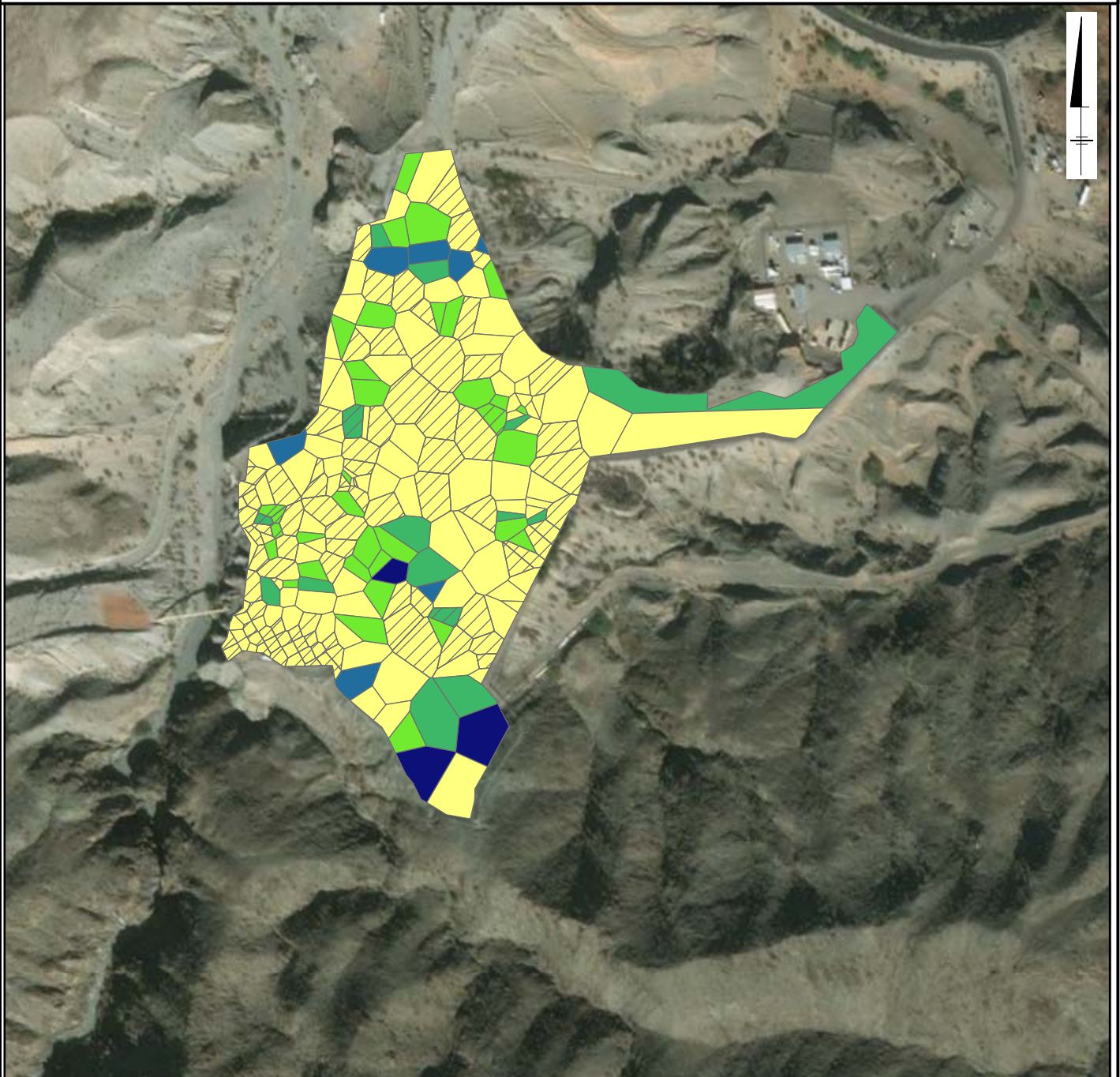
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AREA WEIGHTING



FIGURE
ICS-A3.77

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.52 - 68.00
- ≥68.00 - 232.00
- ≥232.00 - 556.00
- ≥556.00 - 1320.00
- ≥1320.00 - 3650.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

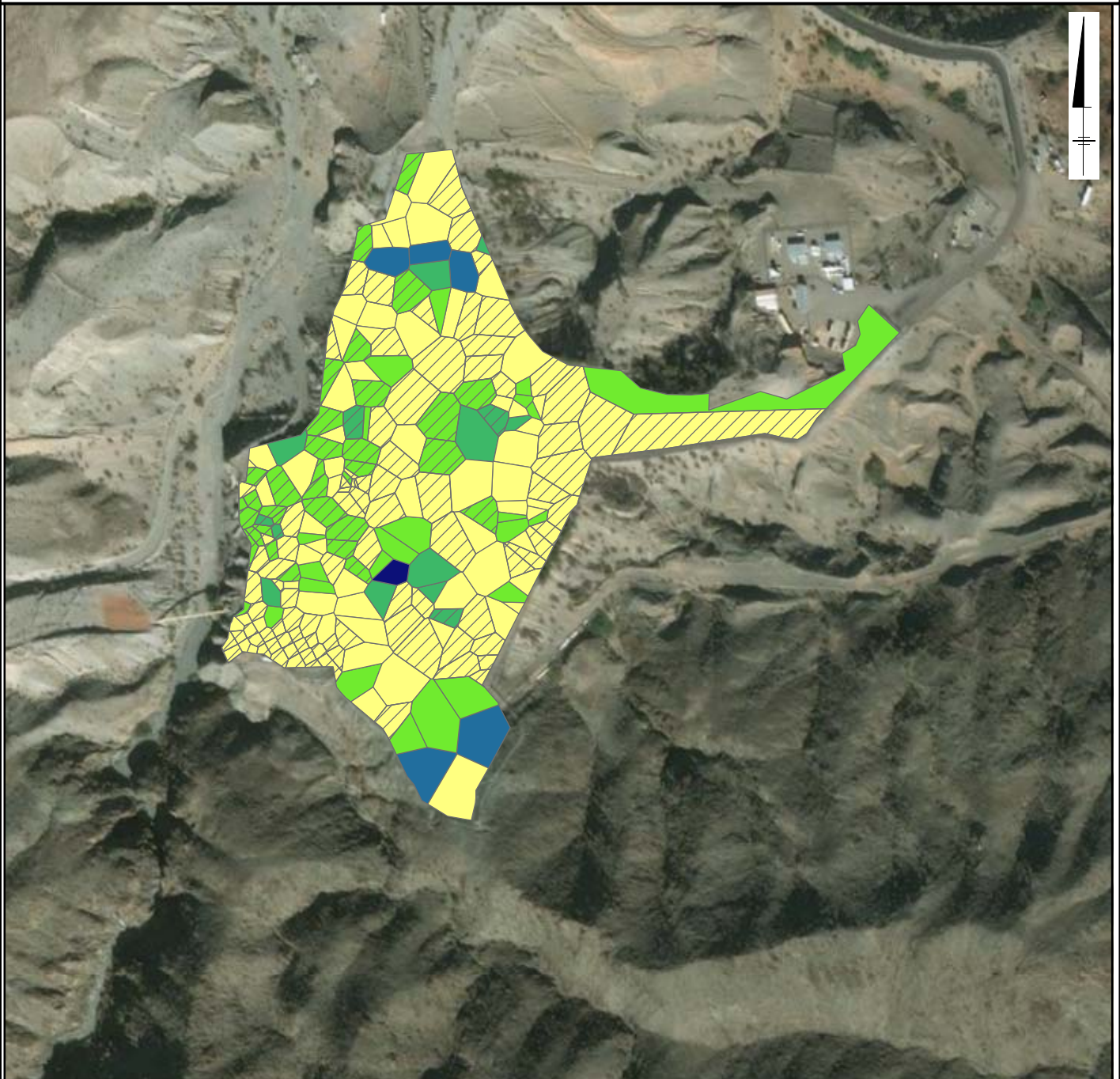
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FIGURE
ICS-A3.78

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 24.00
	≥24.00 - 106.00
	≥106.00 - 280.00
	≥280.00 - 638.00
	≥638.00 - 970.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet
GRAPHIC SCALE

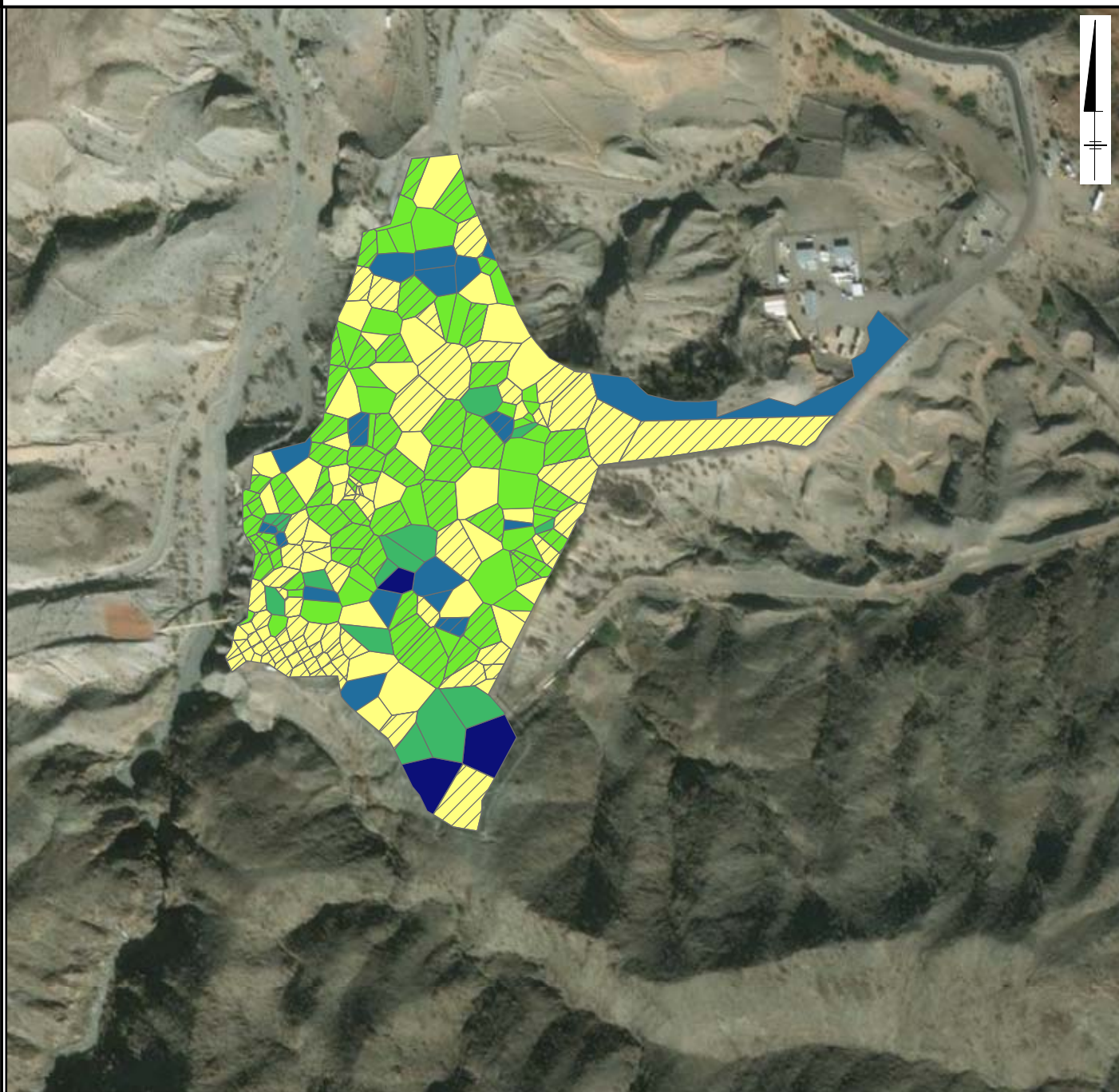
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FIGURE
ICS-A3.79

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE

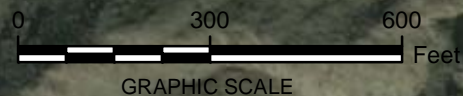


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 13.70
- ≥ 13.70 - 51.00
- ≥ 51.00 - 116.00
- ≥ 116.00 - 349.00
- ≥ 349.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



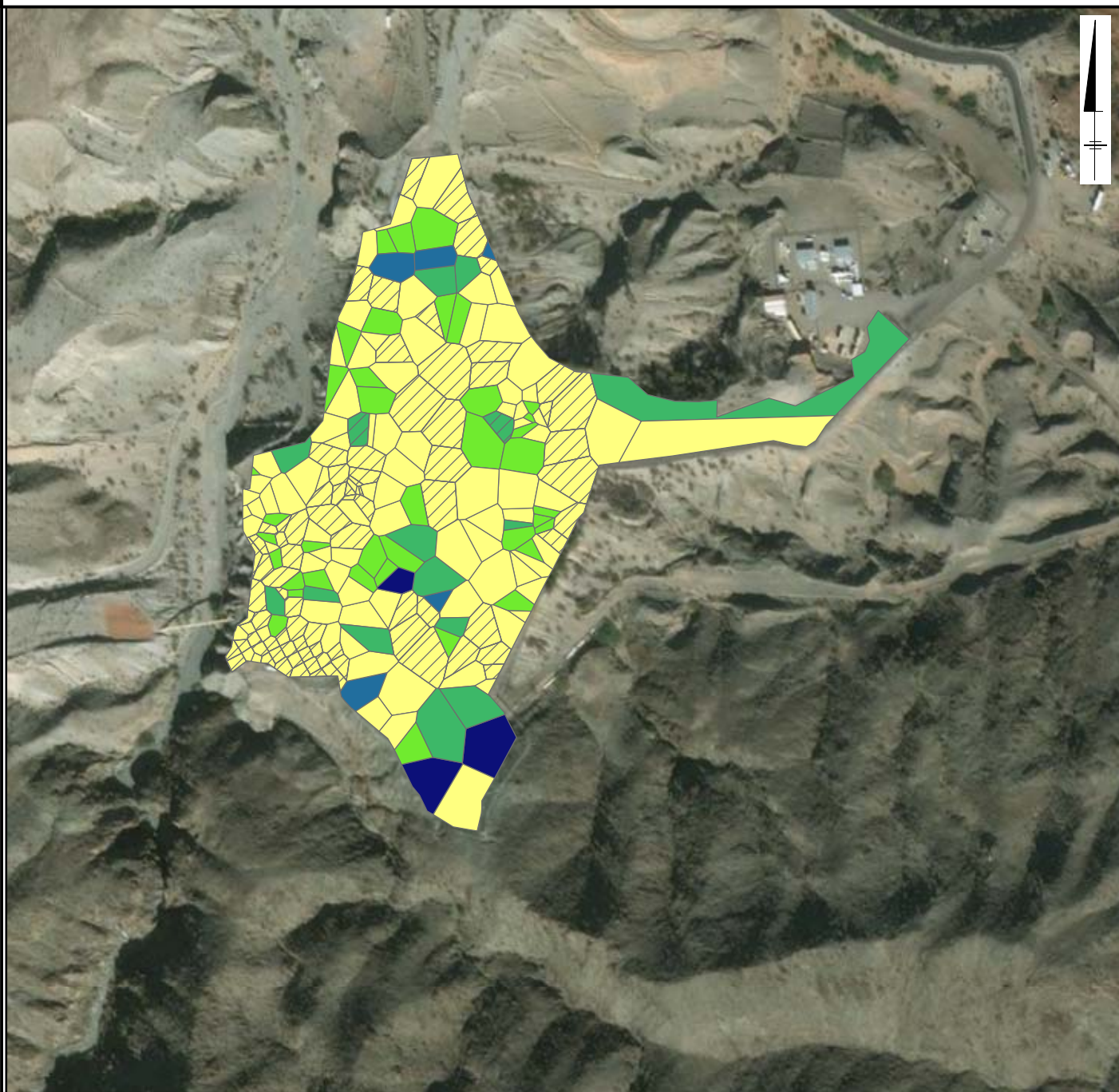
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FIGURE
ICS-A3.80

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE CHRYSENE

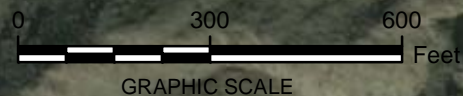


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.50 - 34.60
- ≥34.60 - 142.00
- ≥142.00 - 350.00
- ≥350.00 - 693.00
- ≥693.00 - 2200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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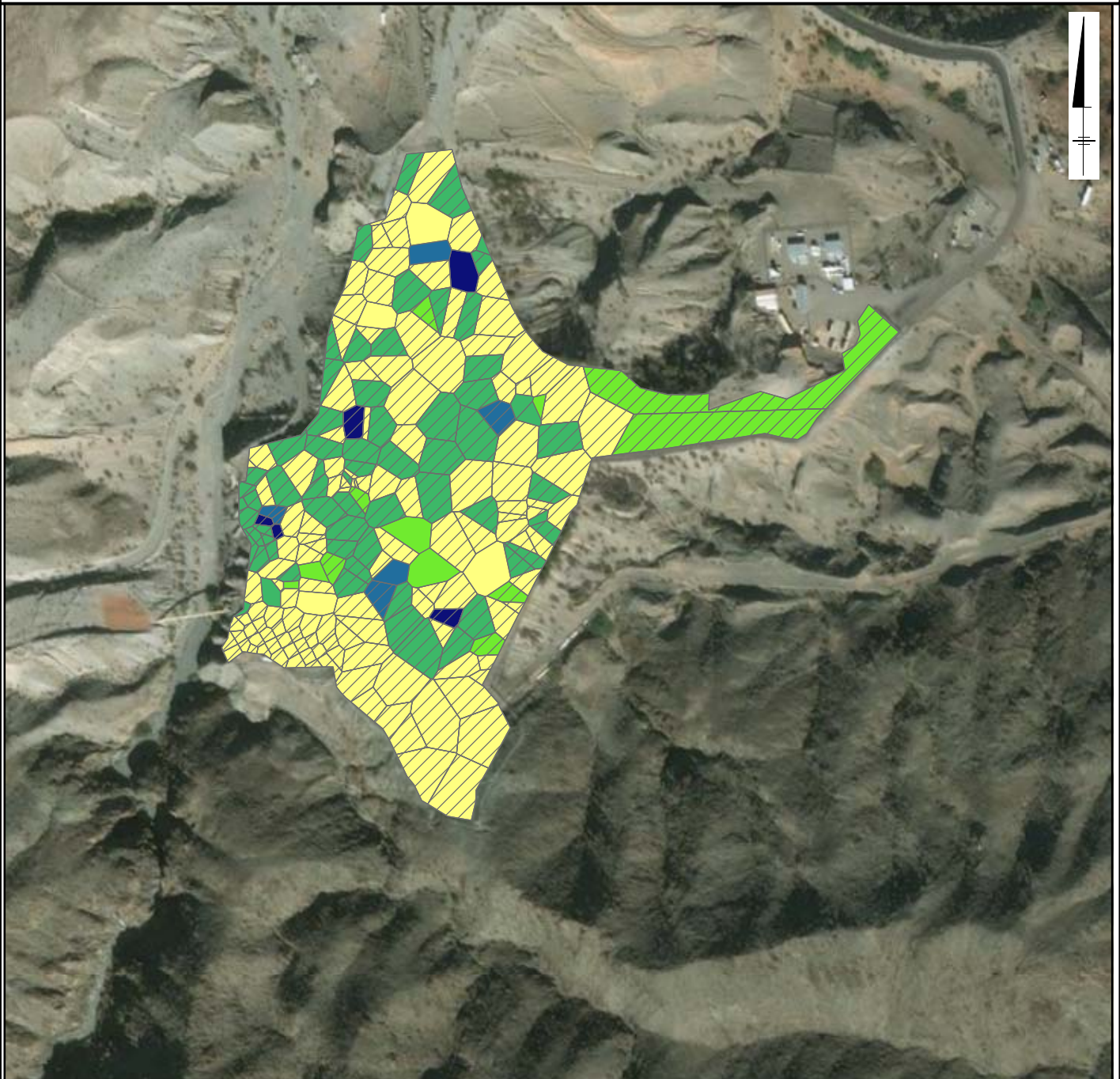
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FIGURE
ICS-A3.81

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE DIBENZO (A,H) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.43
- ≥5.43 - 15.00
- ≥15.00 - 68.00
- ≥68.00 - 181.00
- ≥181.00 - 310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

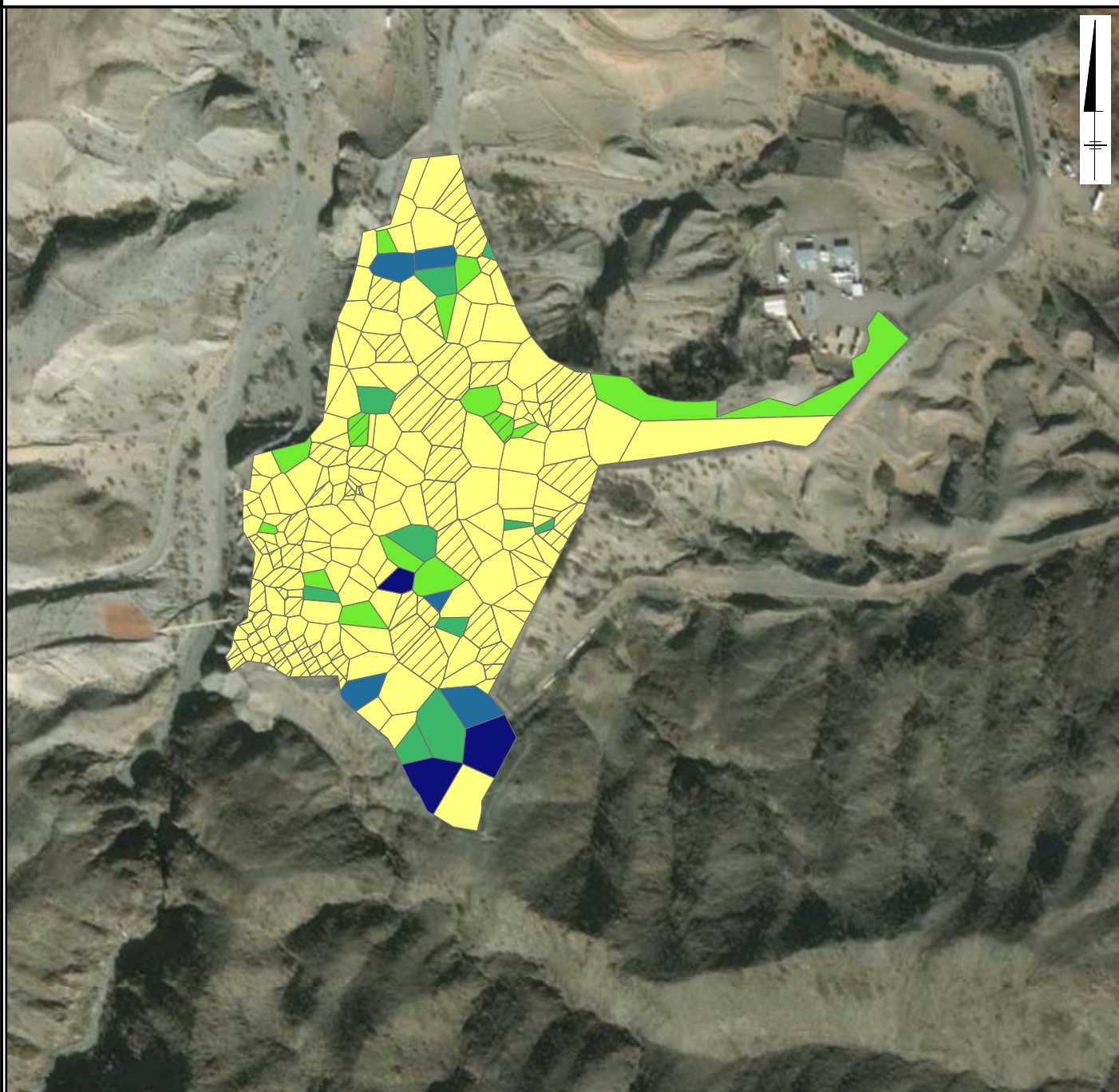
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FIGURE
ICS-A3.82

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE FLUORANTHENE

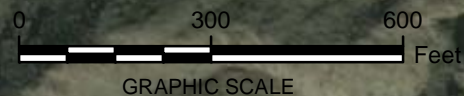


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 112.00
-  ≥112.00 - 313.00
-  ≥313.00 - 590.00
-  ≥590.00 - 1490.00
-  ≥1490.00 - 5200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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NEEDLES, CALIFORNIA

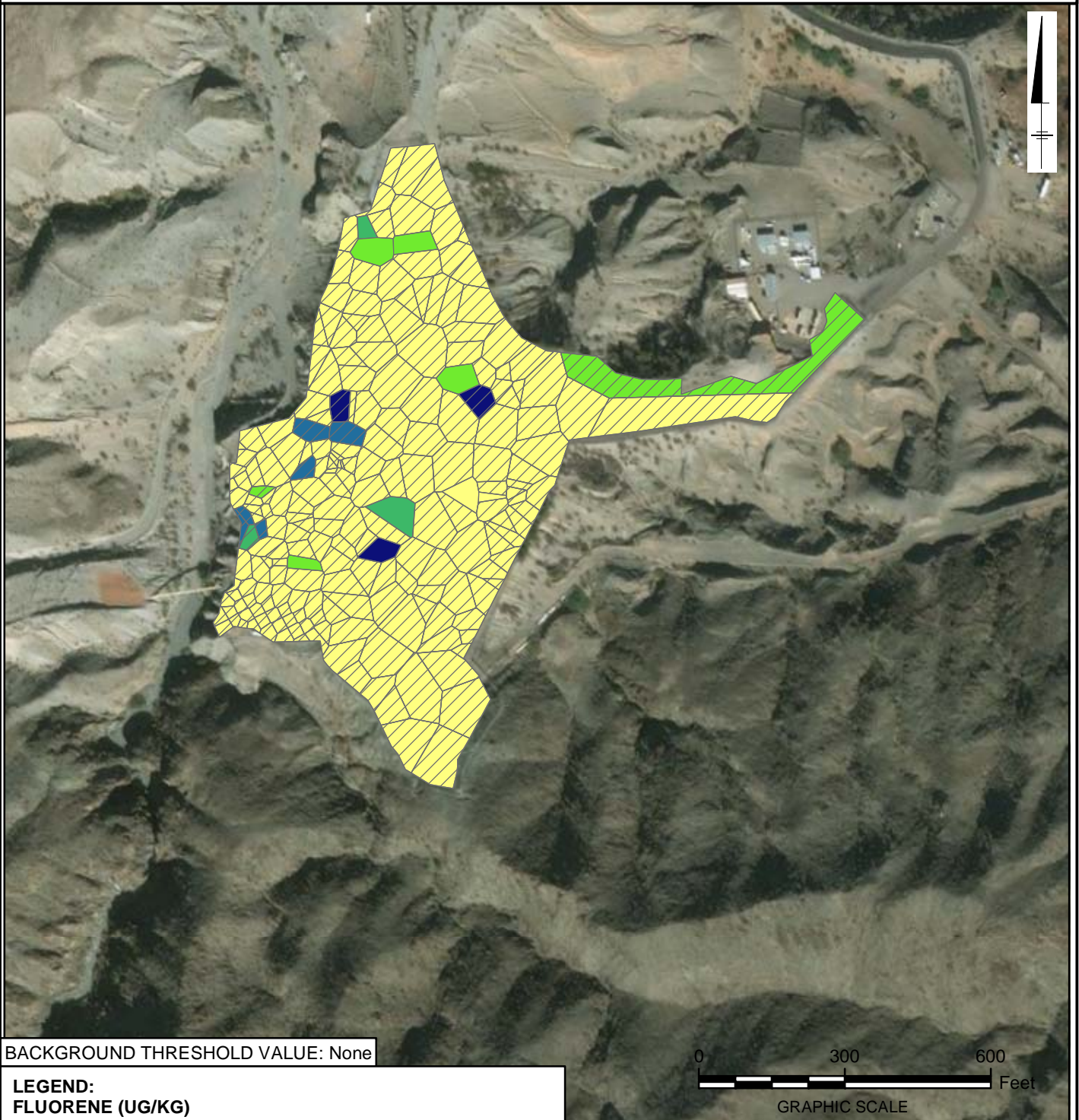
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THIESSEN POLYGONS FOR
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FIGURE
ICS-A3.83

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE FLUORENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORENE (UG/KG)

	NOT DETECTED
	2.50 - 5.00
	≥5.00 - 10.70
	≥10.70 - 19.50
	≥19.50 - 27.20
	≥27.20 - 260.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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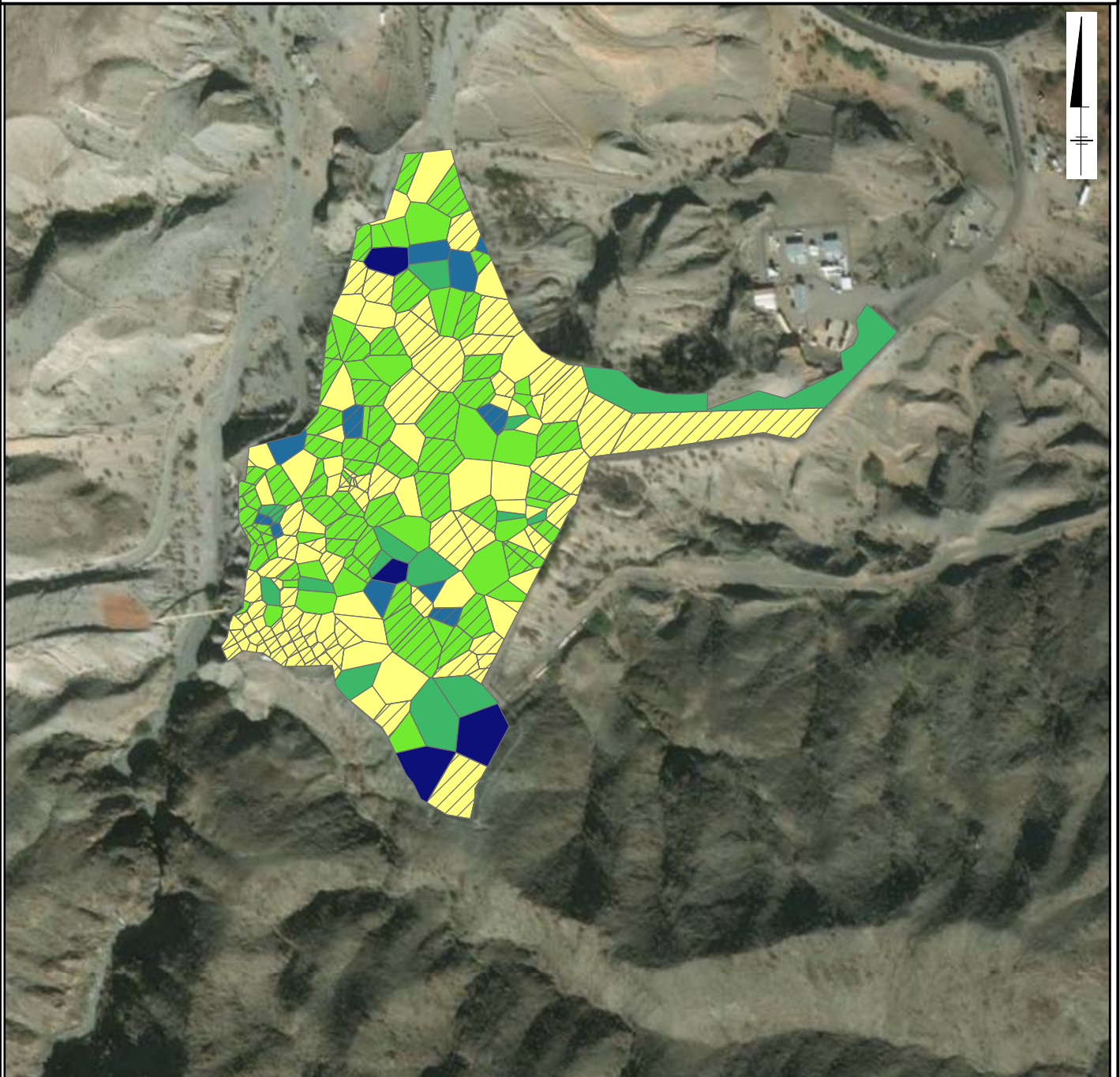
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FIGURE
ICS-A3.84

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

	NOT DETECTED
	2.50 - 14.20
	≥14.20 - 49.50
	≥49.50 - 117.00
	≥117.00 - 280.00
	≥280.00 - 770.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet
GRAPHIC SCALE

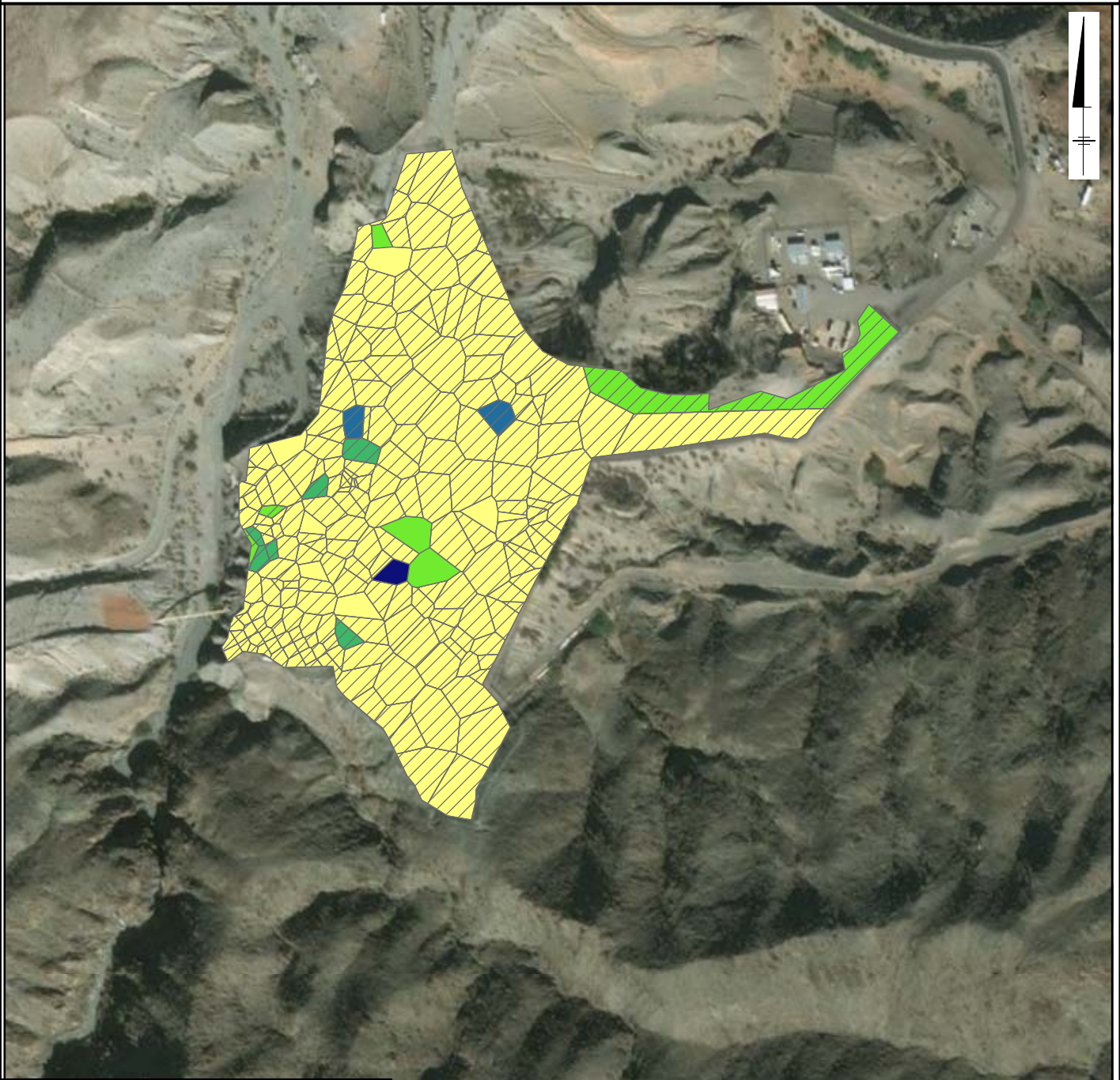
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FIGURE
ICS-A3.85

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.25 - 5.50
- ≥5.50 - 10.80
- ≥10.80 - 25.50
- ≥25.50 - 260.00
- ≥260.00 - 990.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
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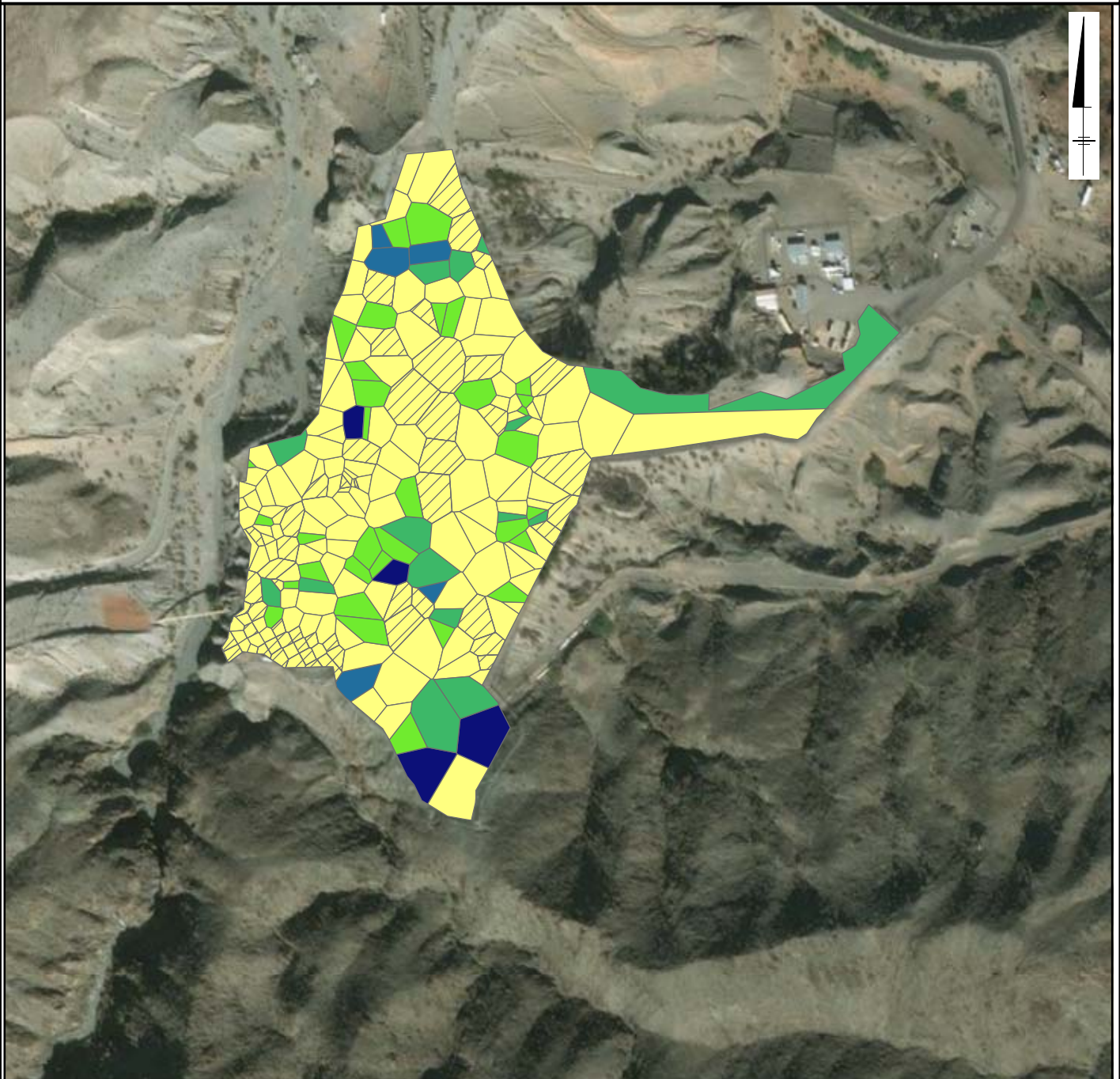
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.86

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 289.00
- ≥289.00 - 1190.00
- ≥1190.00 - 3310.00
- ≥3310.00 - 6830.00
- ≥6830.00 - 28700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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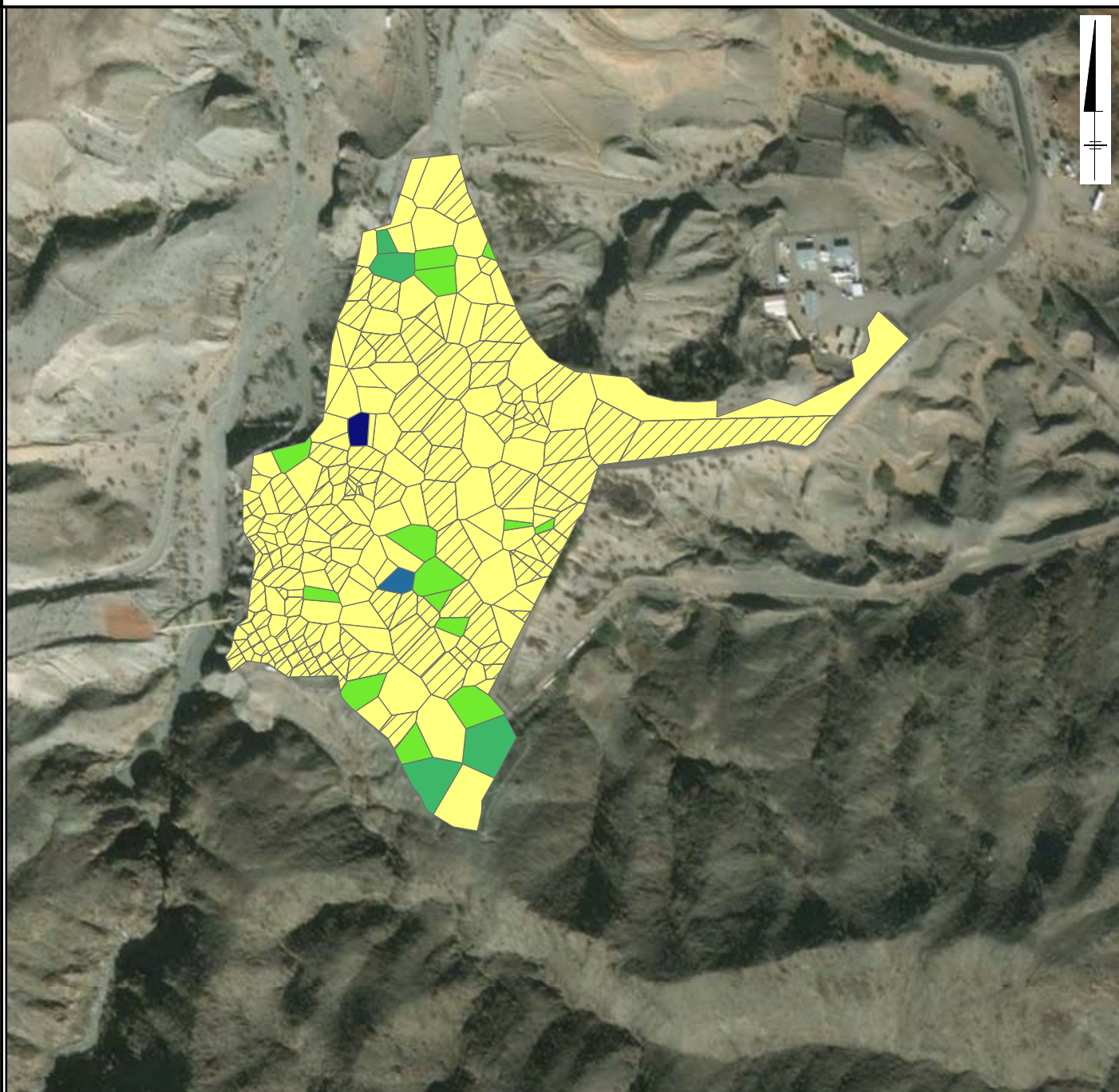
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FIGURE
ICS-A3.87

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

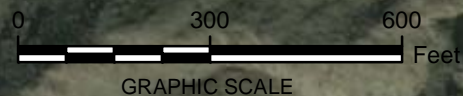


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 109.00
- ≥109.00 - 386.00
- ≥386.00 - 985.00
- ≥985.00 - 8340.00
- ≥8340.00 - 33000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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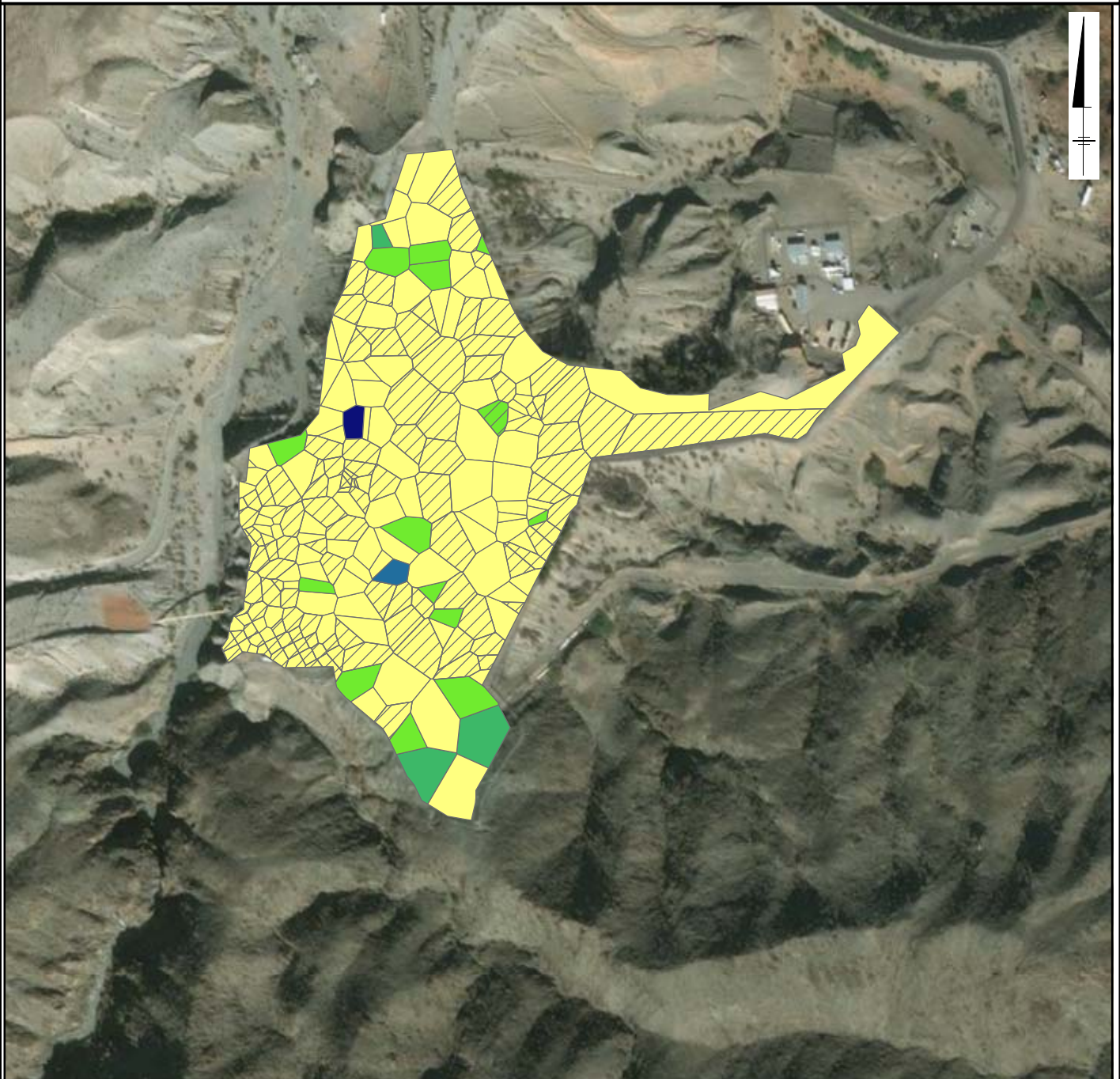
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FIGURE
ICS-A3.88

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE PHENANTHRENE

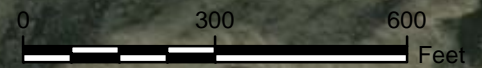


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.50 - 100.00
- ≥ 100.00 - 369.00
- ≥ 369.00 - 883.00
- ≥ 883.00 - 3470.00
- ≥ 3470.00 - 29000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

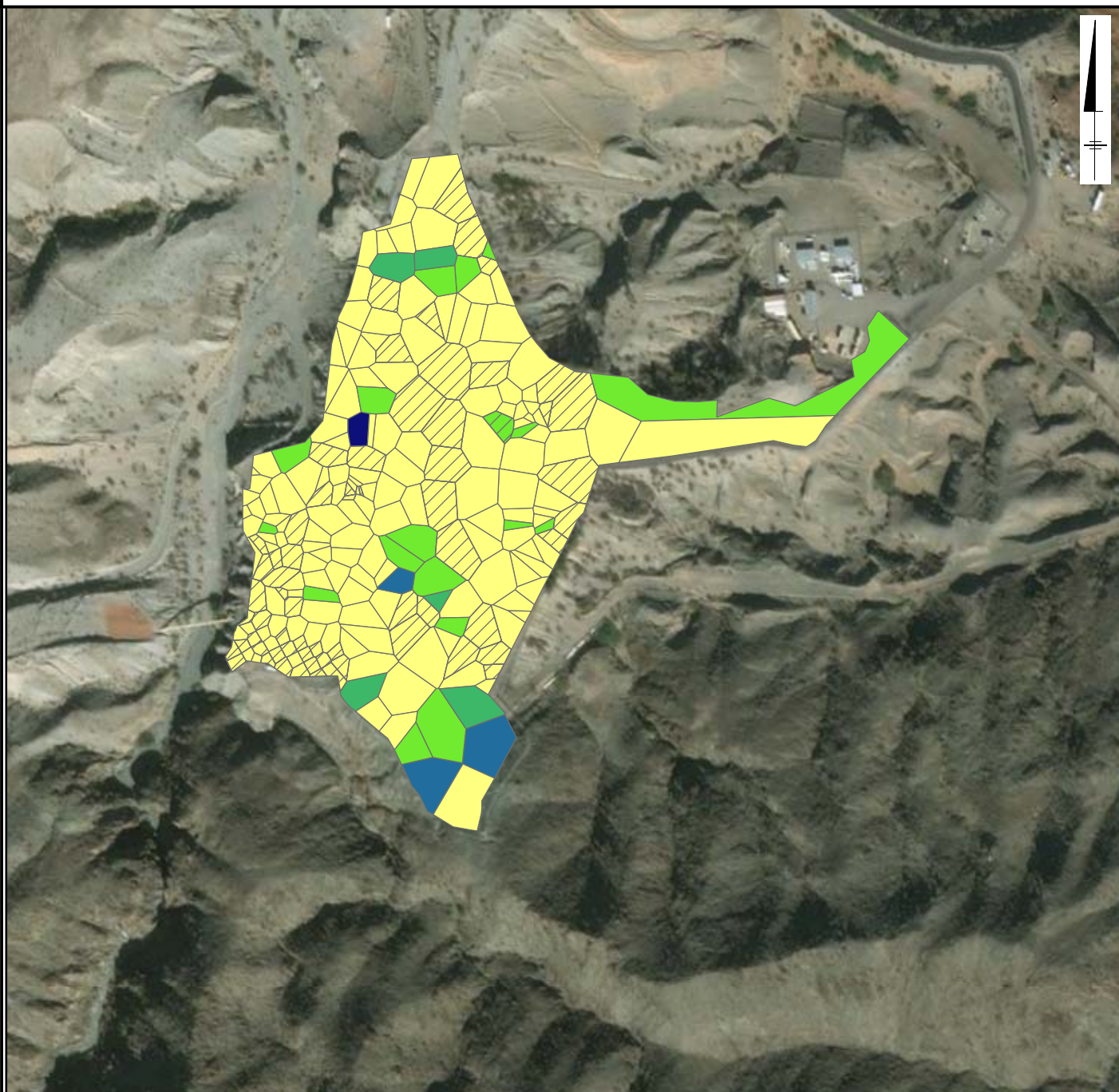
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FIGURE
ICS-A3.89

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE PYRENE

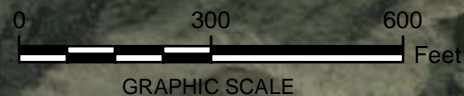


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 145.00
- ≥145.00 - 570.00
- ≥570.00 - 1390.00
- ≥1390.00 - 5280.00
- ≥5280.00 - 28000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



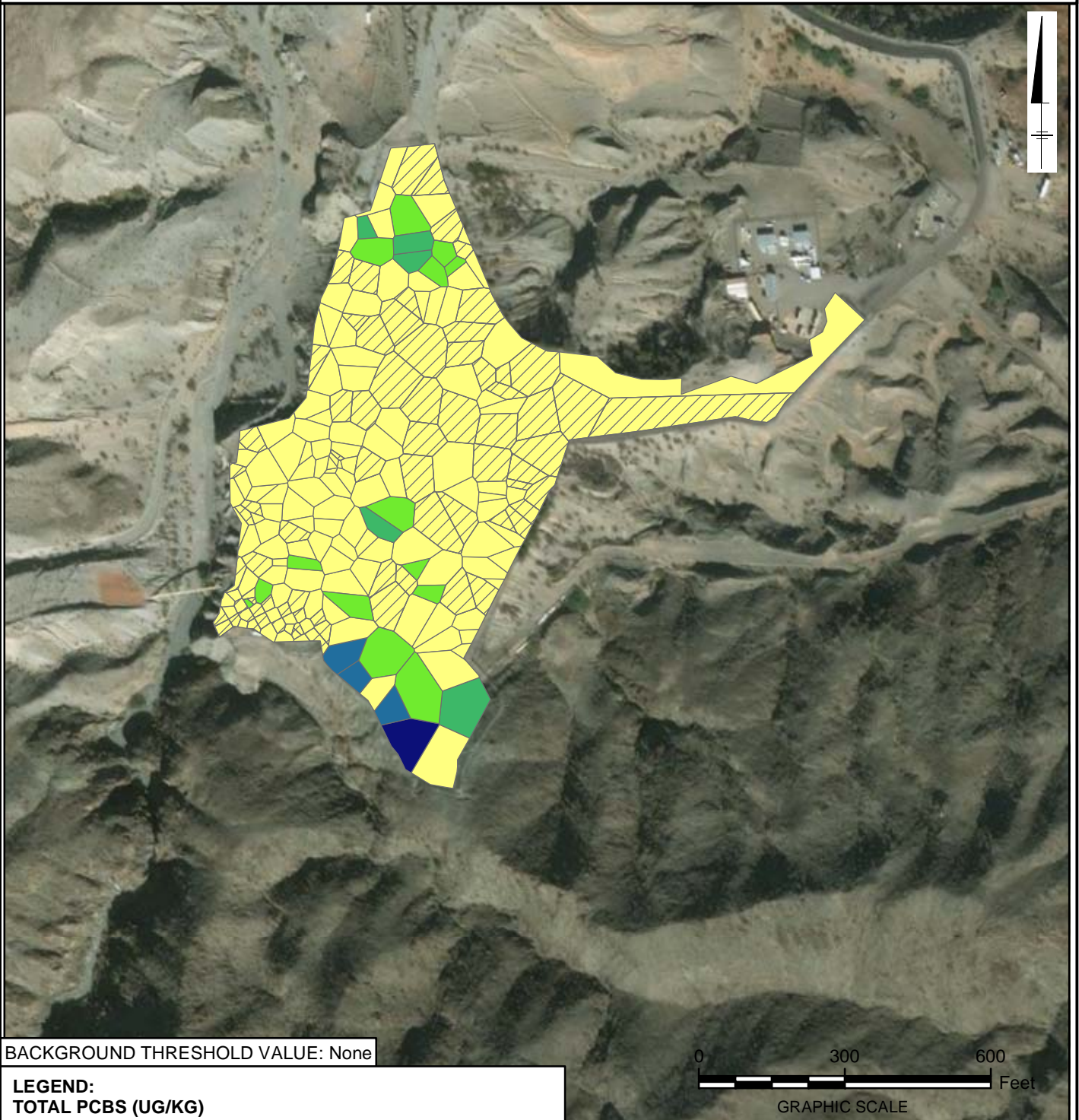
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FIGURE
ICS-A3.90

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TOTAL PCBS



BACKGROUND THRESHOLD VALUE: None

LEGEND: TOTAL PCBS (UG/KG)

- NOT DETECTED
- 34.00 - 416.00
- ≥416.00 - 1650.00
- ≥1650.00 - 3290.00
- ≥3290.00 - 7210.00
- ≥7210.00 - 13800.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
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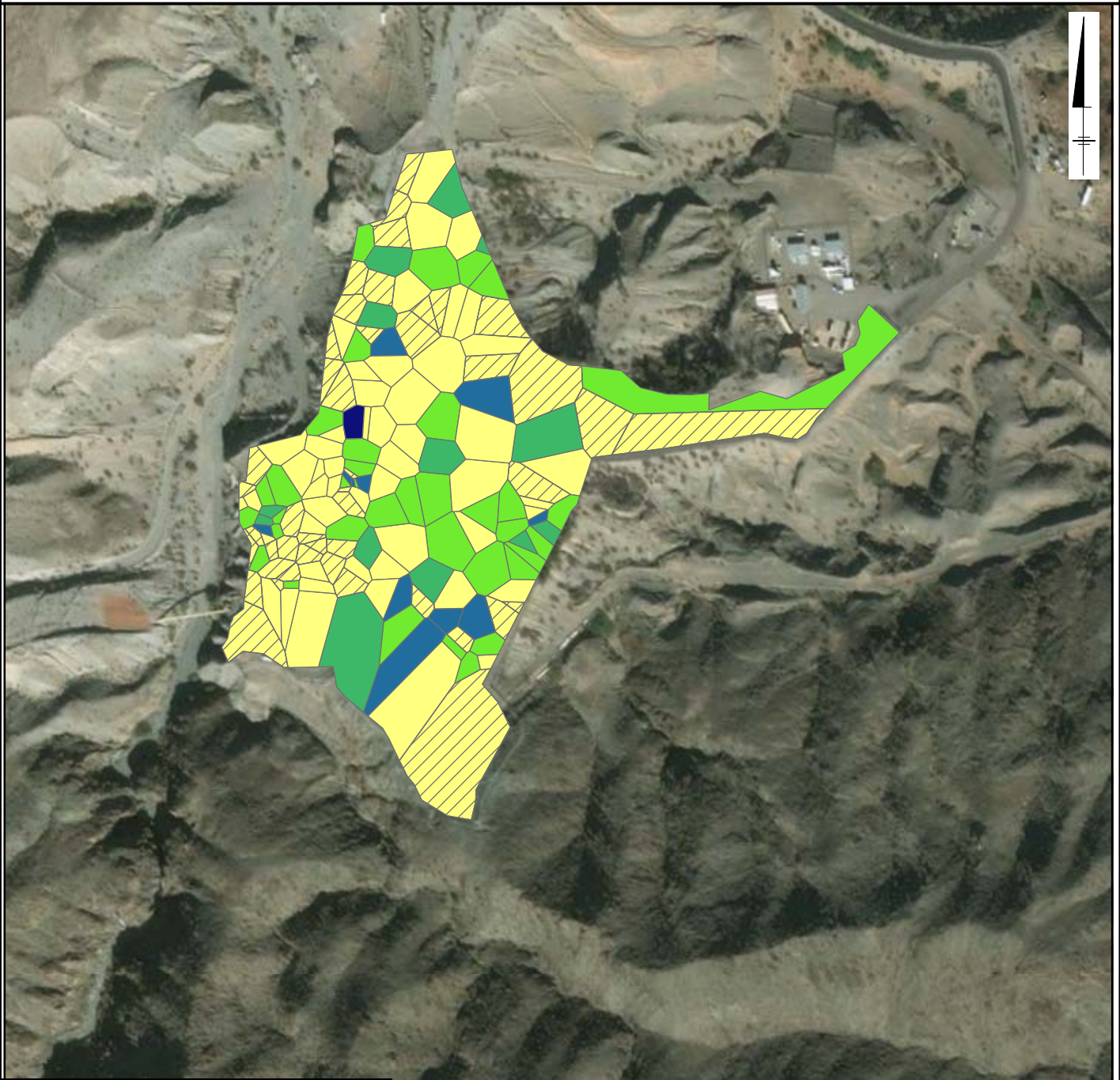
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FIGURE
ICS-A3.91

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 18.30
- ≥18.30 - 43.70
- ≥43.70 - 81.80
- ≥81.80 - 182.00
- ≥182.00 - 7100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet
GRAPHIC SCALE

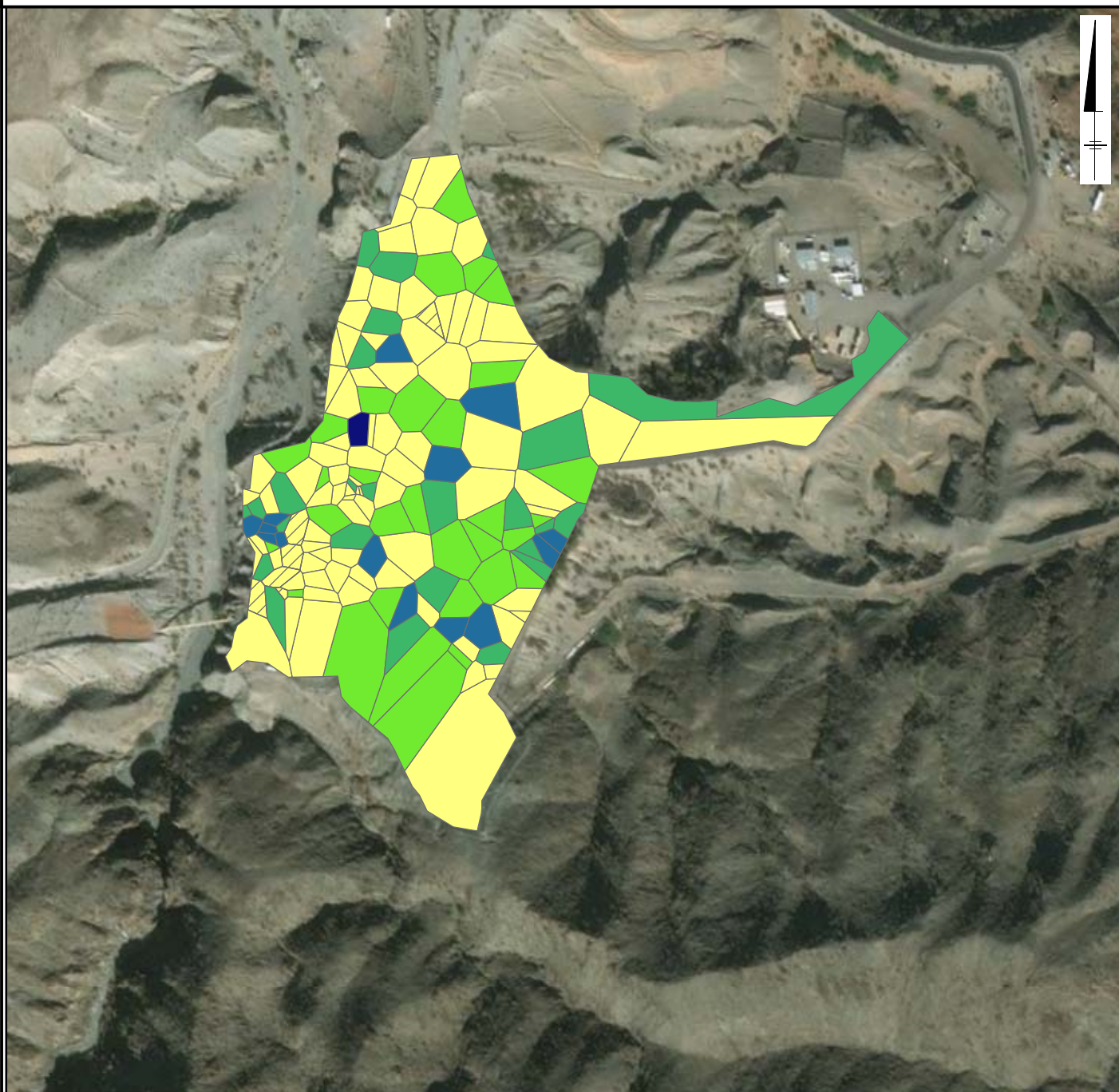
PG&E TOPOCK COMPRESSOR STATION
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.92

INSIDE TOPOCK COMPRESSOR STATION 0 - 3 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



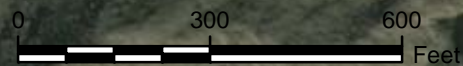
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

- NOT DETECTED
- 5.00 - 81.30
- ≥81.30 - 182.00
- ≥182.00 - 360.00
- ≥360.00 - 740.00
- ≥740.00 - 21000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

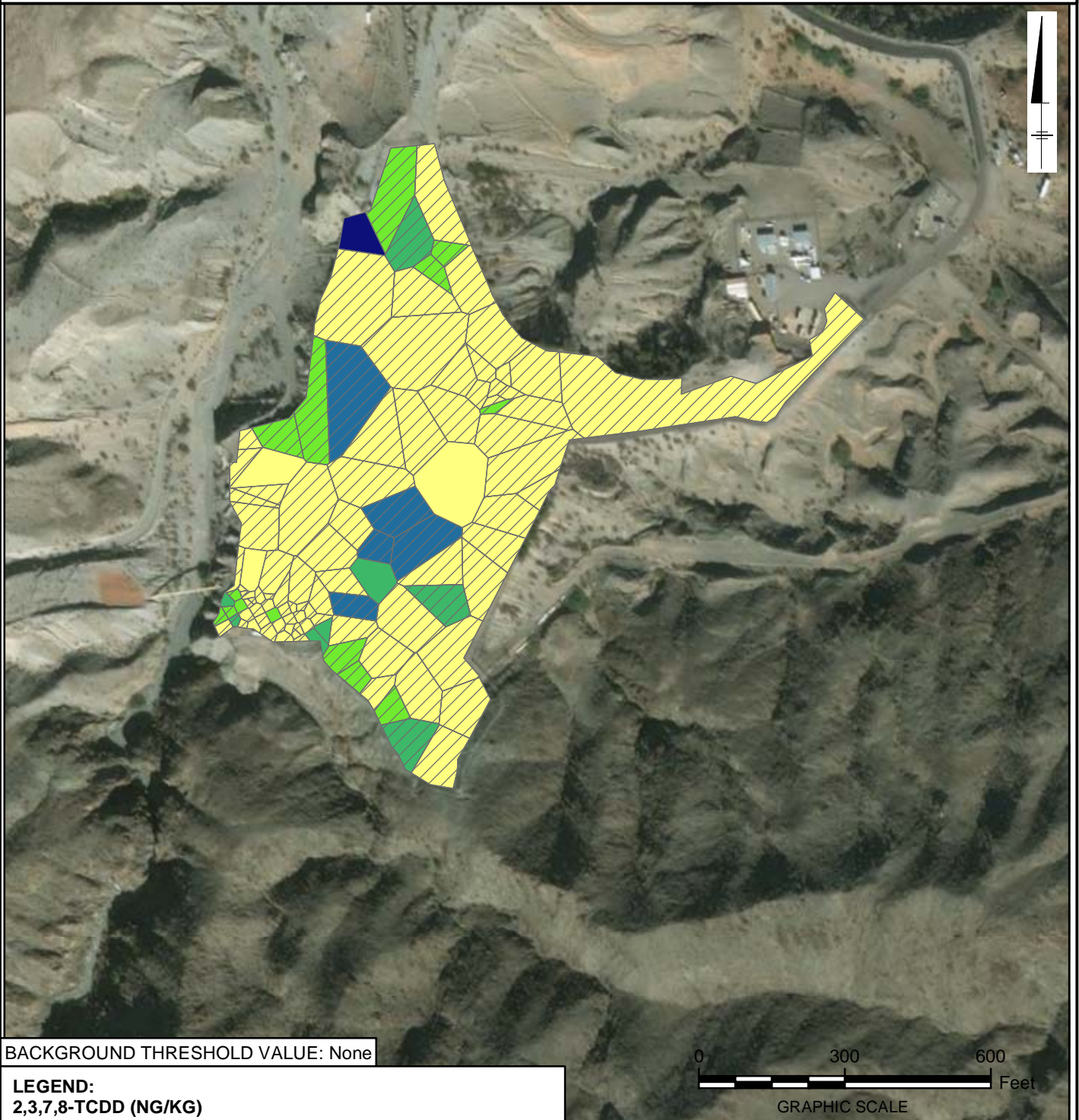
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FIGURE
ICS-A3.93

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PGE Topock (RC000753.0040.00003)
Z:\GIS\Projects\ENV\PG\Topock\MapBooks\Appendix\Thiessen MXD\ThiessenAreaWeighting_InsideCompStn.mxd 6/18/2018 12:58:08 PM

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

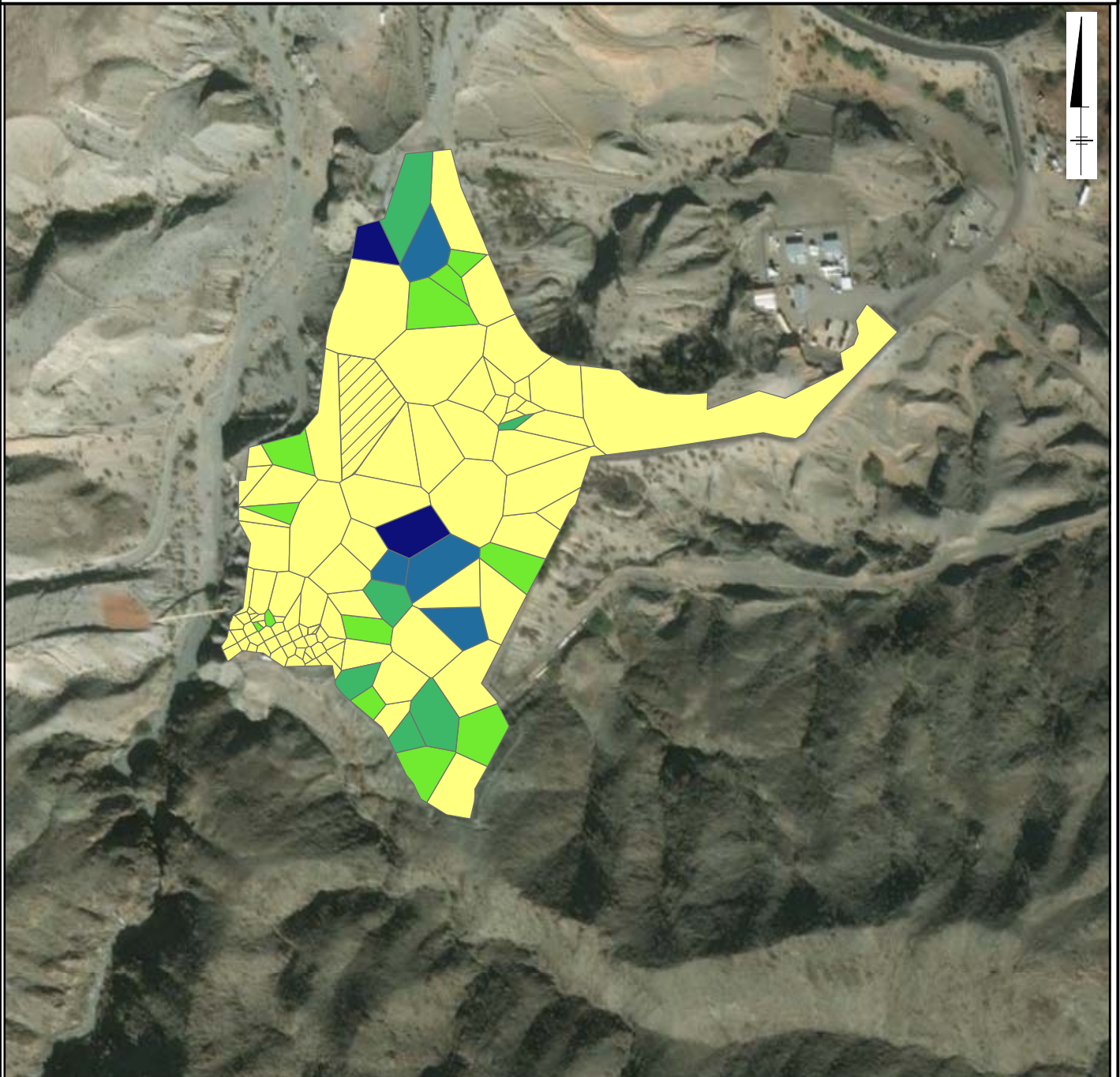
PG&E TOPOCK COMPRESSOR STATION
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ECOLOGICAL RISK ASSESSMENT**

**THIESSEN POLYGONS FOR
AREA WEIGHTING**

ARCADIS Design & Consultancy
for natural and built assets

**FIGURE
ICS-A3.94**

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.23 - 23.00
- ≥23.00 - 71.00
- ≥71.00 - 120.00
- ≥120.00 - 397.00
- ≥397.00 - 700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

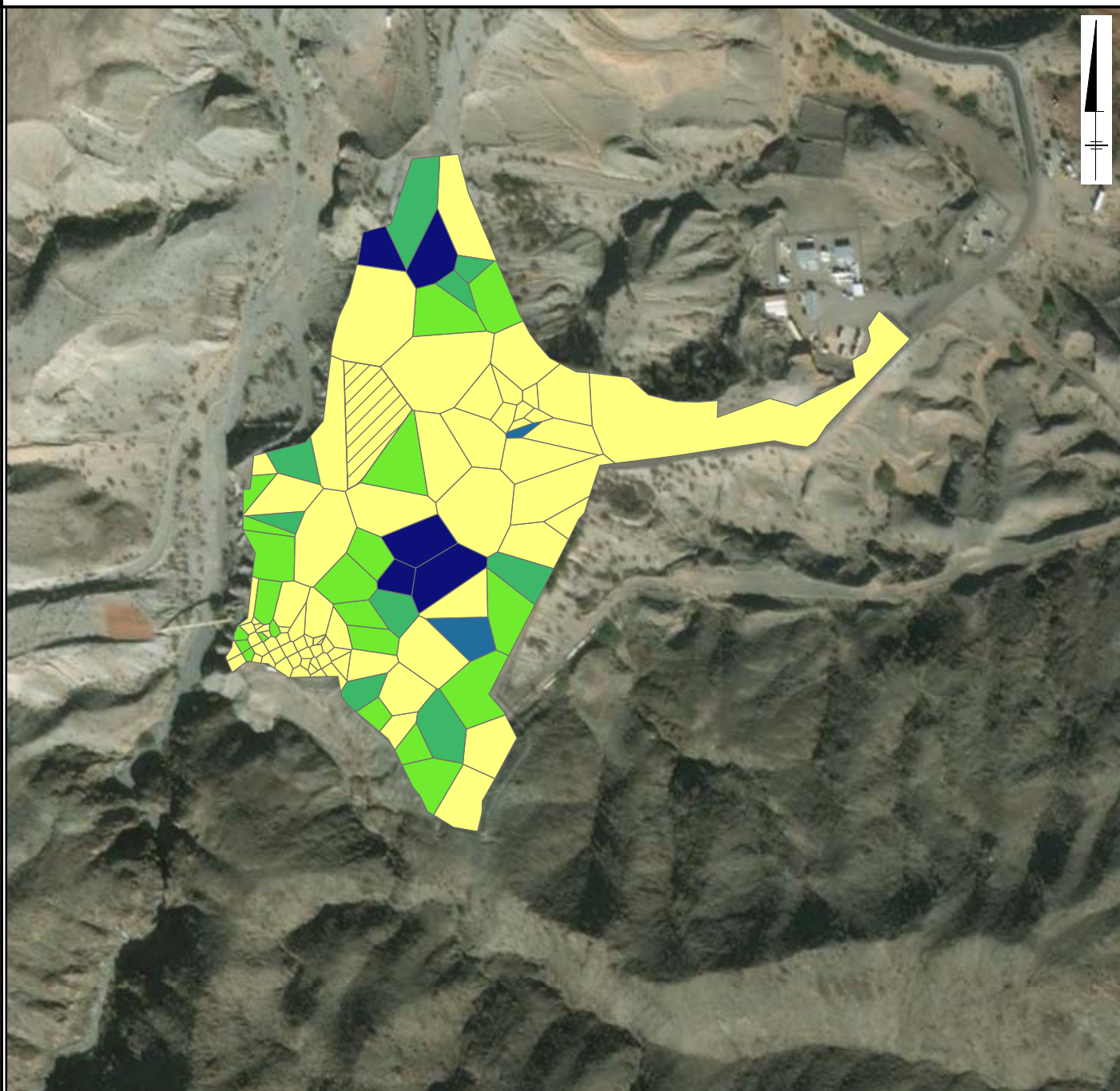
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.95

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TEQ HUMAN

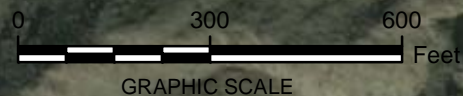


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.18 - 19.00
- ≥ 19.00 - 60.30
- ≥ 60.30 - 160.00
- ≥ 160.00 - 440.00
- ≥ 440.00 - 1070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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NEEDLES, CALIFORNIA

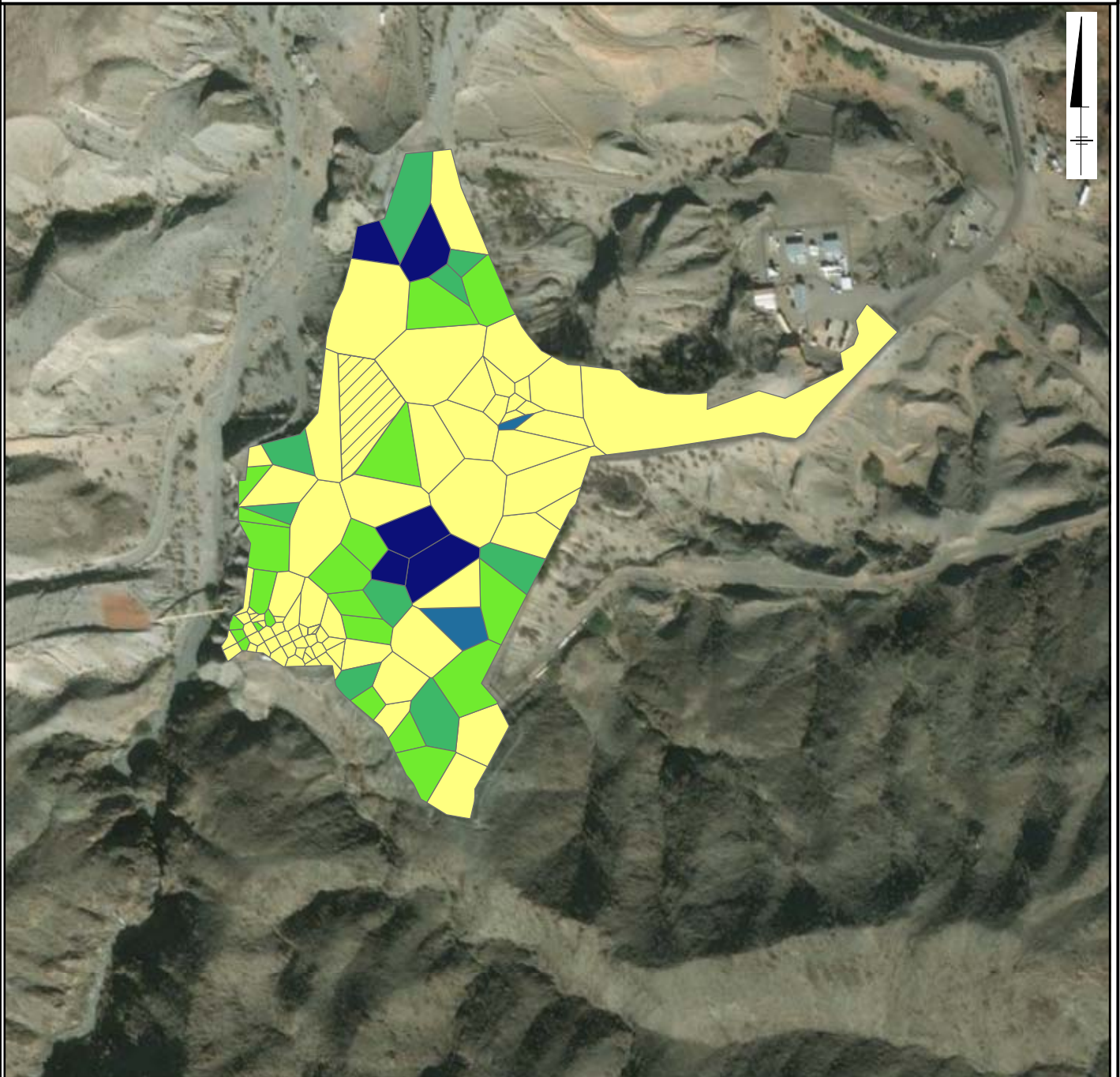
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FIGURE
ICS-A3.96

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TEQ MAMMALS



BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.18 - 19.00
- ≥ 19.00 - 60.30
- ≥ 60.30 - 160.00
- ≥ 160.00 - 440.00
- ≥ 440.00 - 1070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

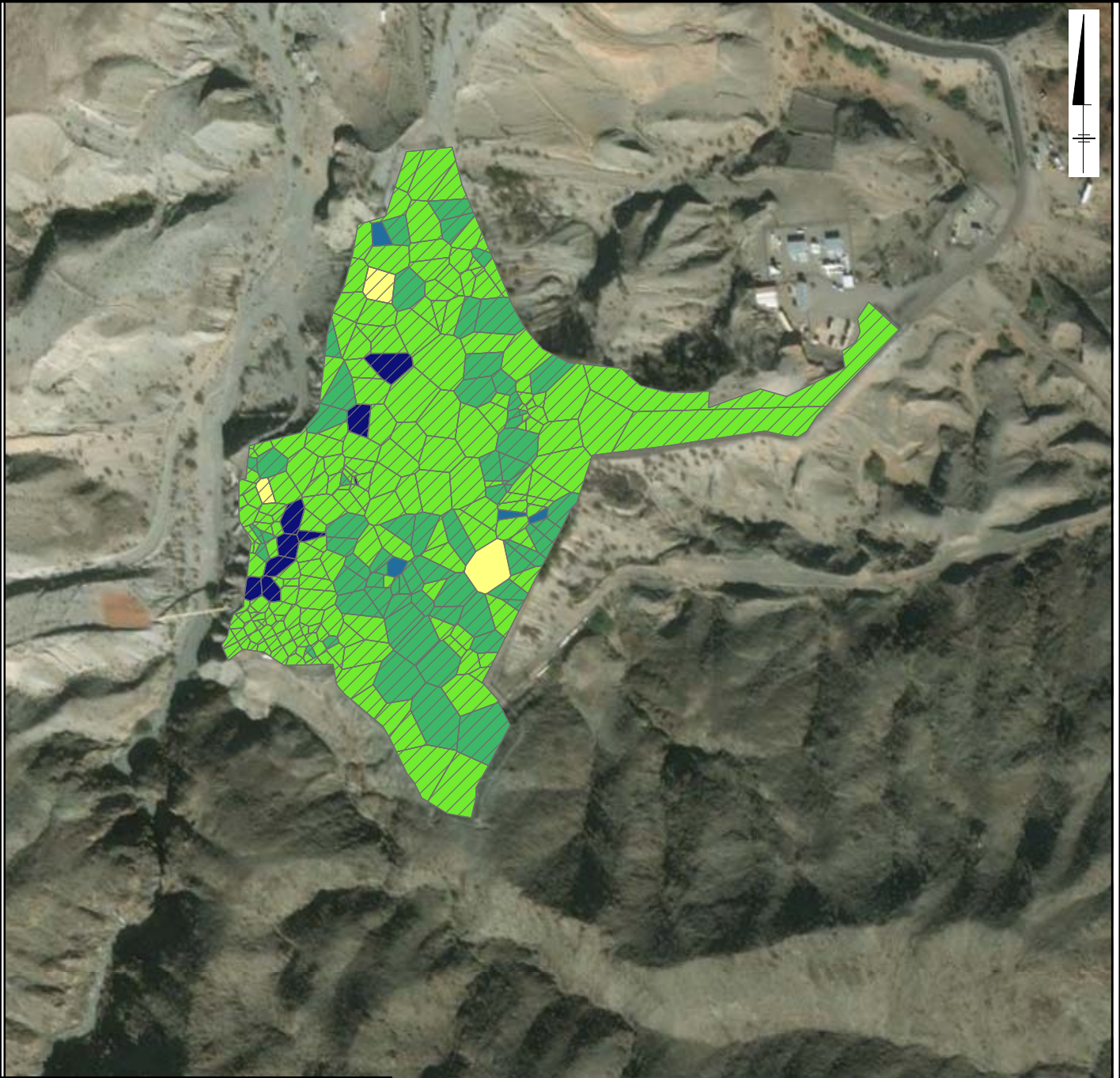
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**FIGURE
ICS-A3.97**

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ANTIMONY



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTIMONY (MG/KG)

	NOT DETECTED
	0.13 - 0.56
	≥0.56 - 1.06
	≥1.06 - 1.22
	≥1.22 - 1.80
	≥1.80 - 3.18

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



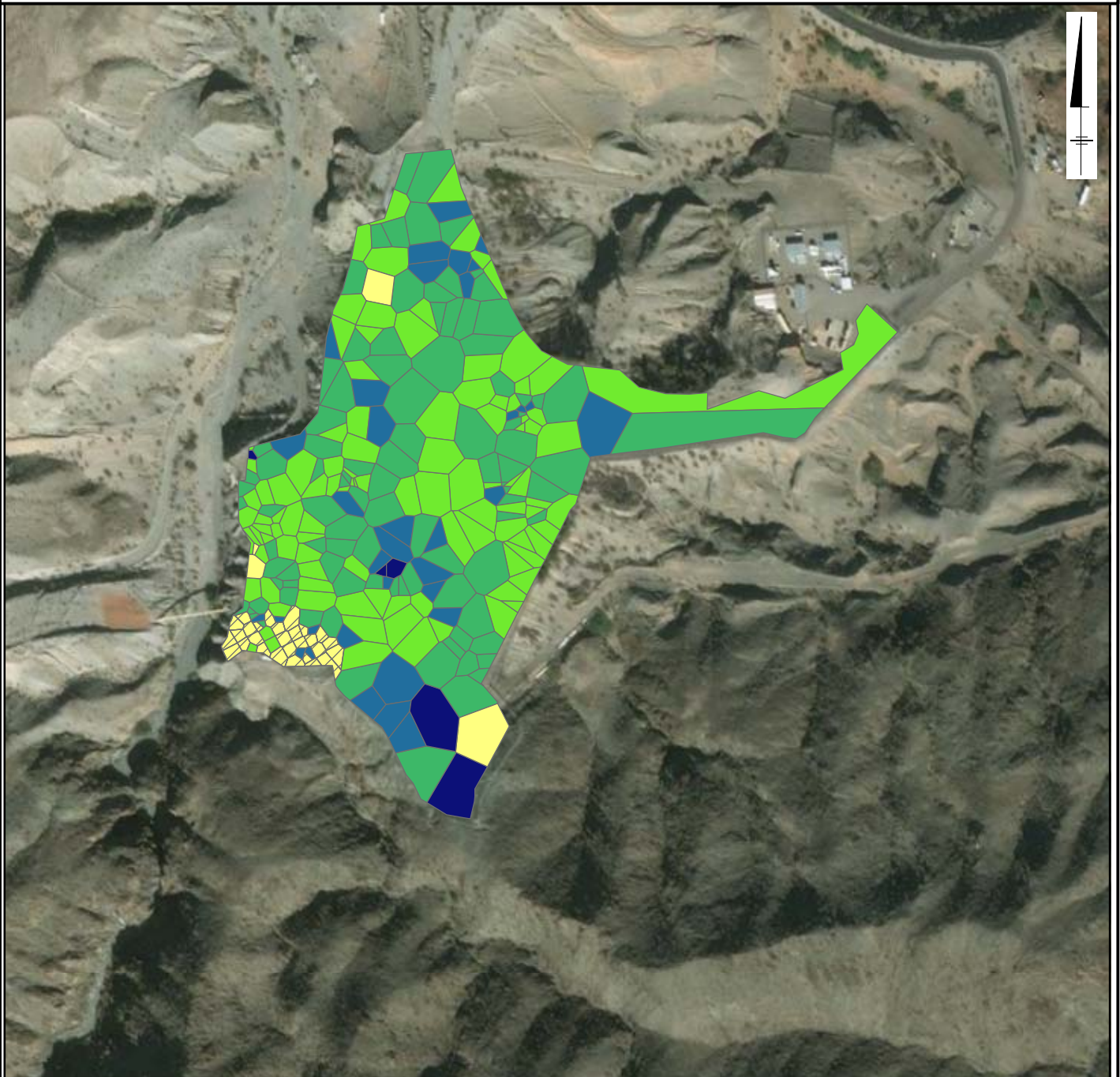
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FIGURE
ICS-A3.98

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ARSENIC

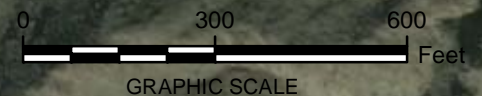


BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

	NOT DETECTED
	0.50 - 1.43
	≥1.43 - 3.47
	≥3.47 - 4.57
	≥4.57 - 6.60
	≥6.60 - 12.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



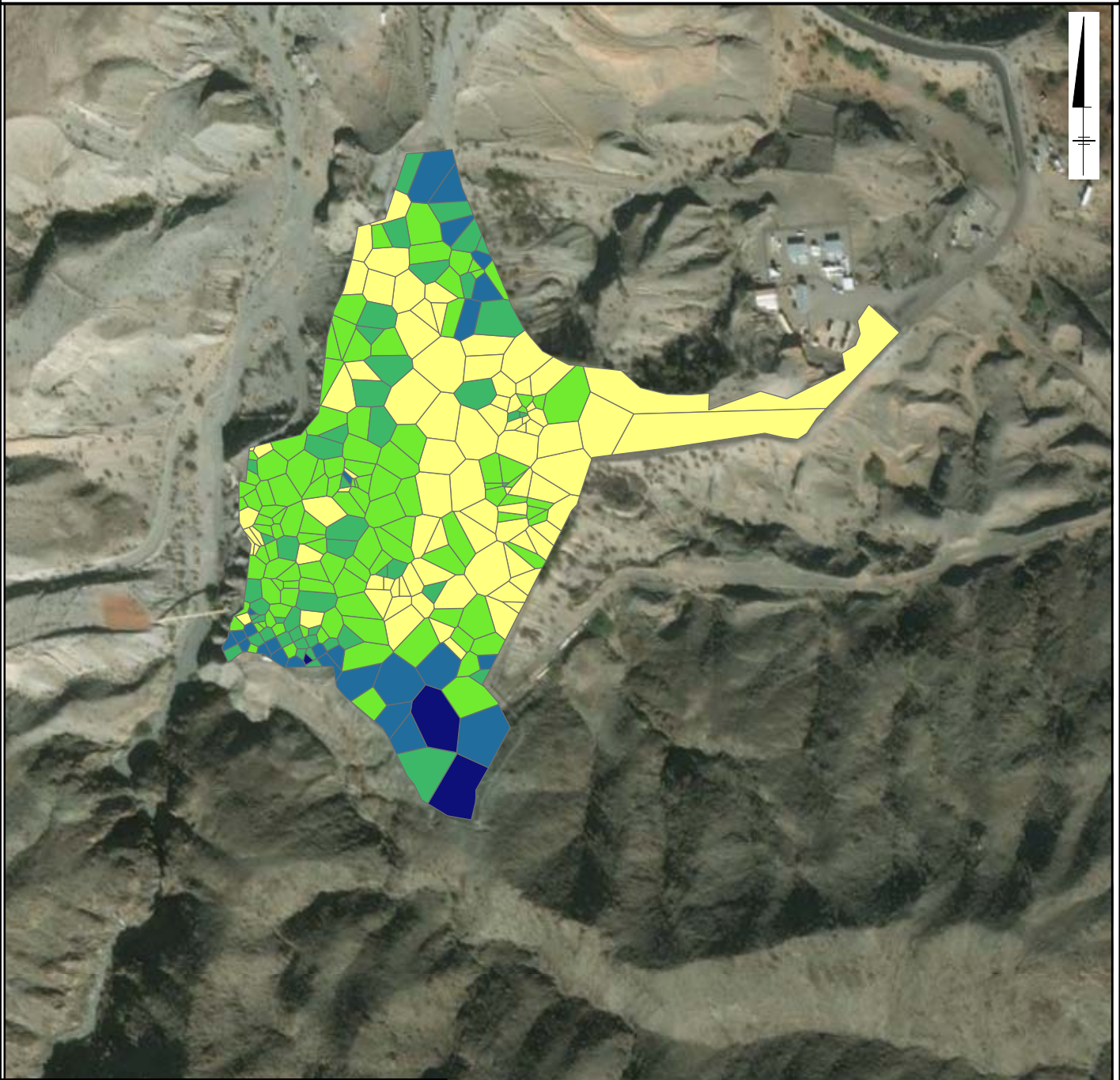
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THIESSEN POLYGONS FOR AREA WEIGHTING









FIGURE
ICS-A3.99

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BARIUM

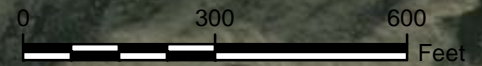


BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

-  NOT DETECTED
-  44.50 - 108.00
-  ≥108.00 - 154.00
-  ≥154.00 - 220.00
-  ≥220.00 - 400.00
-  ≥400.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

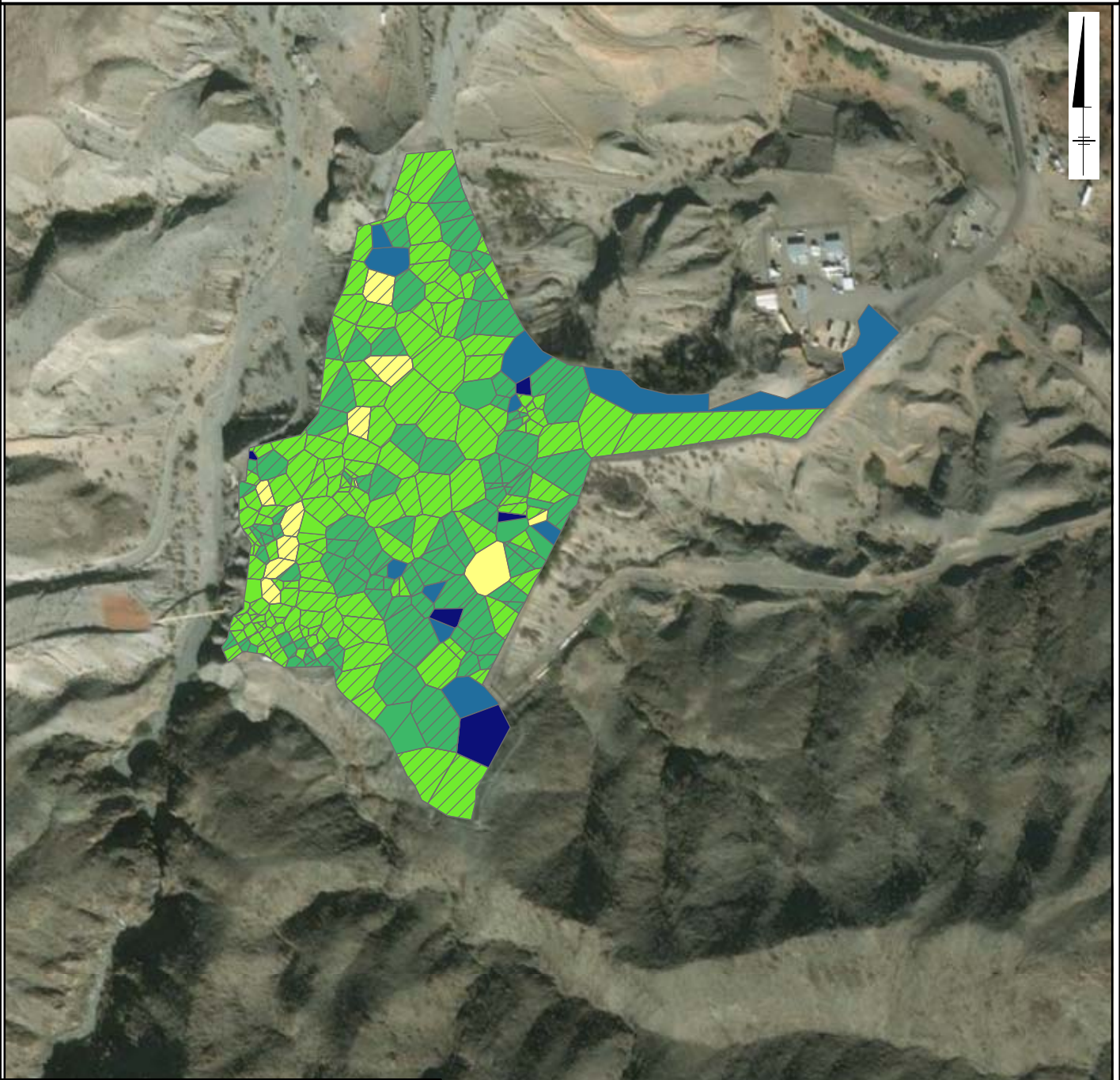
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AREA WEIGHTING



FIGURE
ICS-A3.100

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE CADMIUM

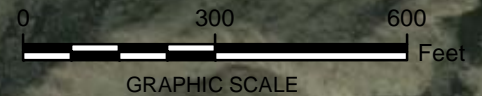


BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.13 - 0.26
	≥0.26 - 0.53
	≥0.53 - 0.75
	≥0.75 - 1.23
	≥1.23 - 2.73

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



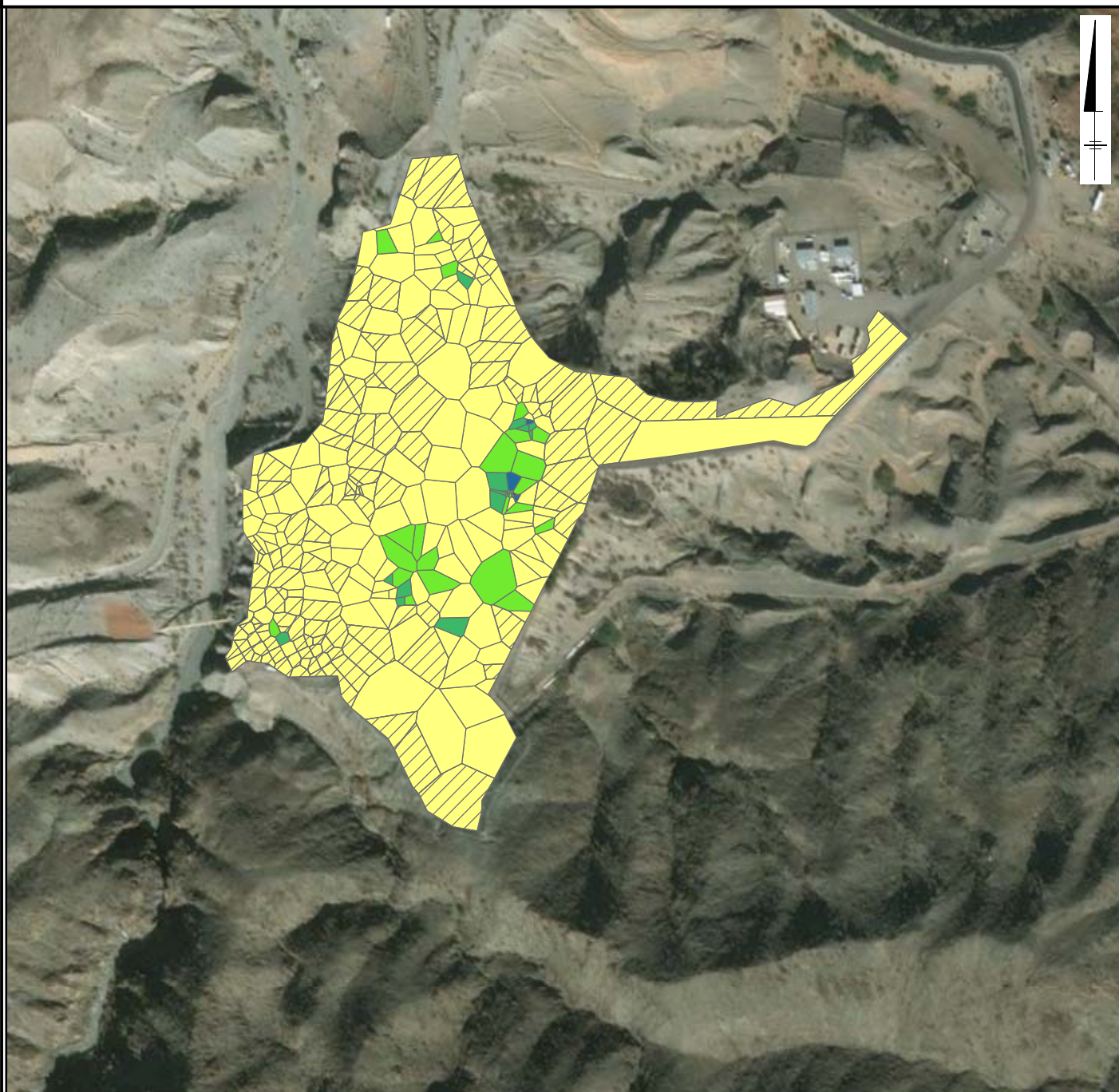
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FIGURE
ICS-A3.101

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT

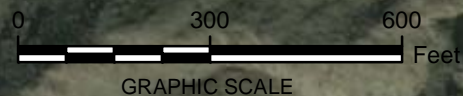


BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

-  NOT DETECTED
-  0.10 - 2.35
-  ≥2.35 - 7.60
-  ≥7.60 - 20.00
-  ≥20.00 - 38.30
-  ≥38.30 - 79.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



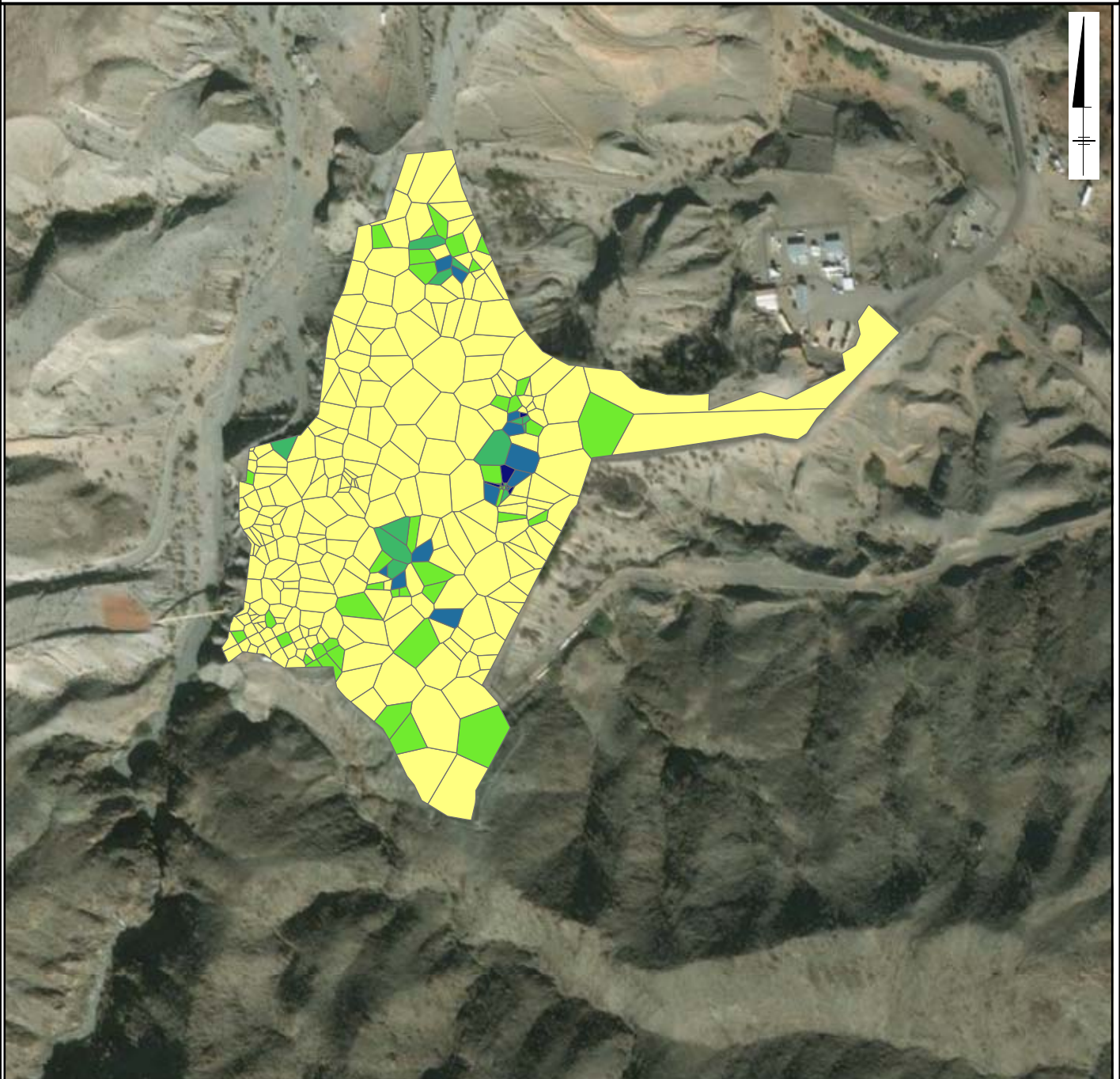
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FIGURE
ICS-A3.102

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

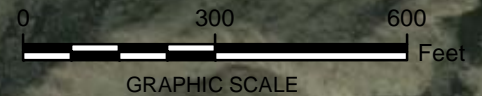


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 4.37 - 45.00
- ≥45.00 - 120.00
- ≥120.00 - 291.00
- ≥291.00 - 535.00
- ≥535.00 - 1070.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



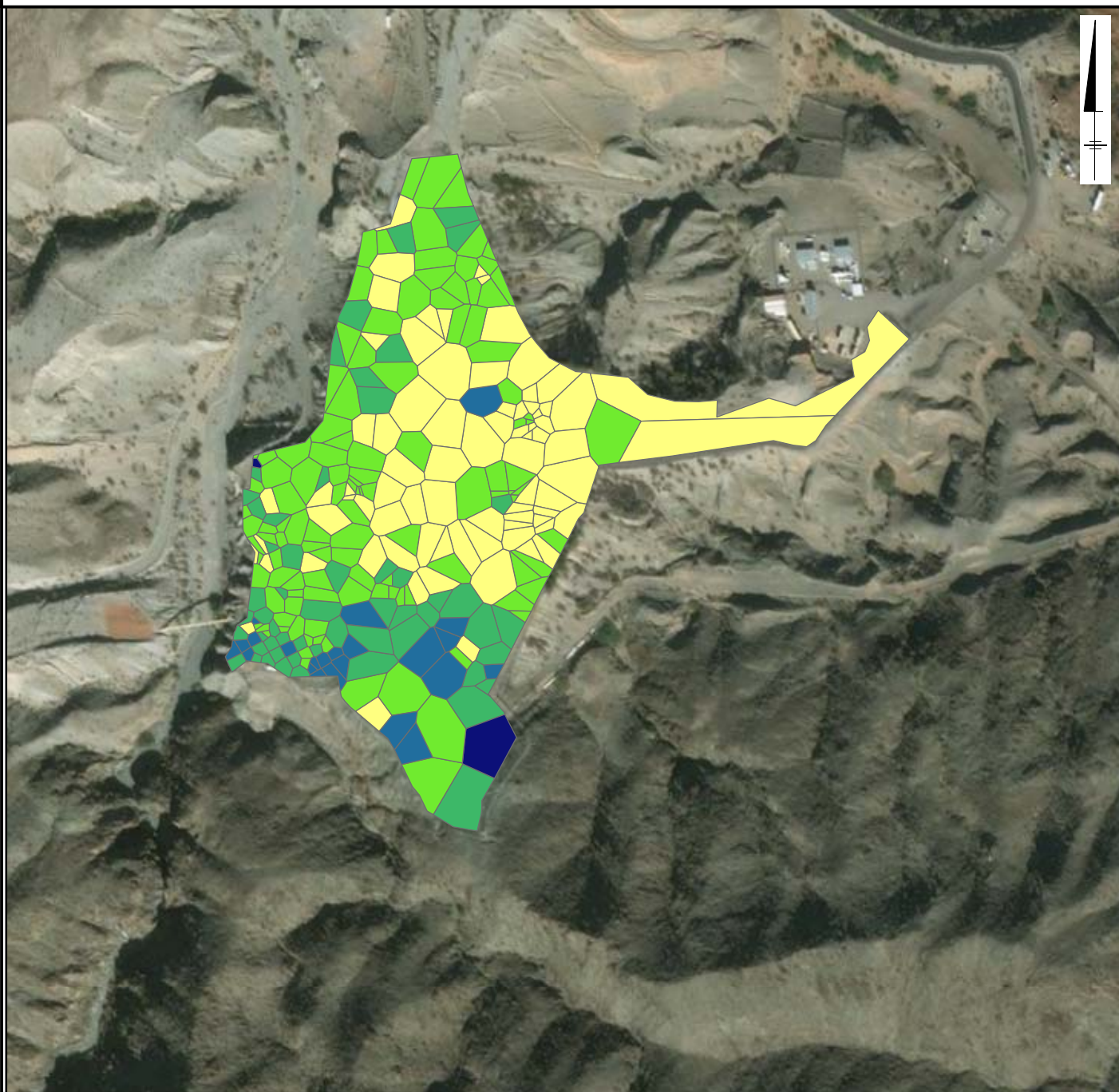
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ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.103

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE COBALT

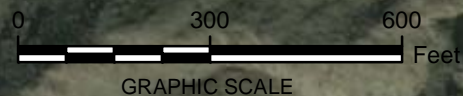


BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 1.72 - 4.60
- ≥ 4.60 - 6.88
- ≥ 6.88 - 9.70
- ≥ 9.70 - 15.50
- ≥ 15.50 - 26.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



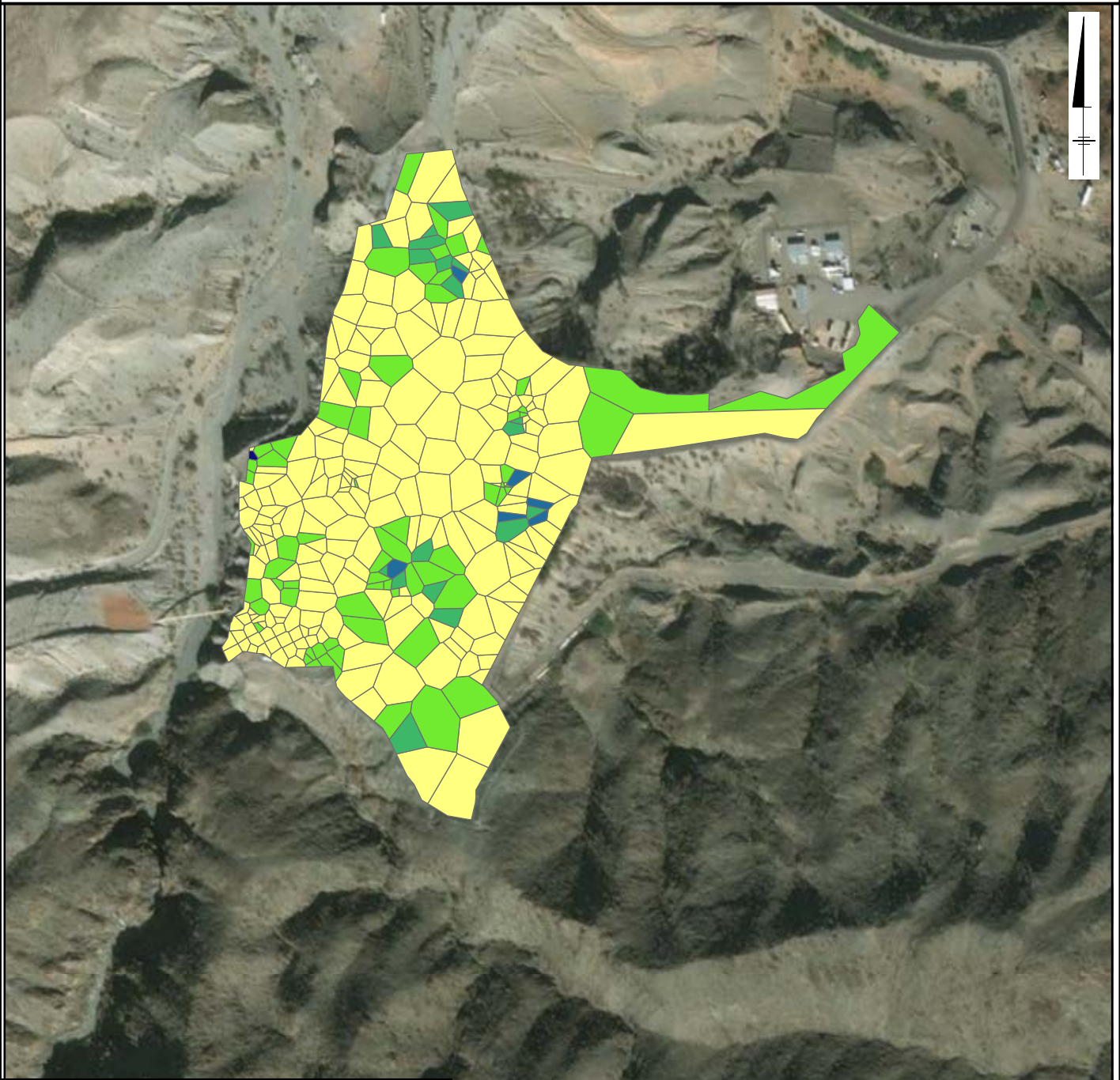
PG&E TOPOCK COMPRESSOR STATION
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.104

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE COPPER



BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

- NOT DETECTED
- 2.76 - 18.00
- ≥ 18.00 - 44.00
- ≥ 44.00 - 110.00
- ≥ 110.00 - 382.00
- ≥ 382.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



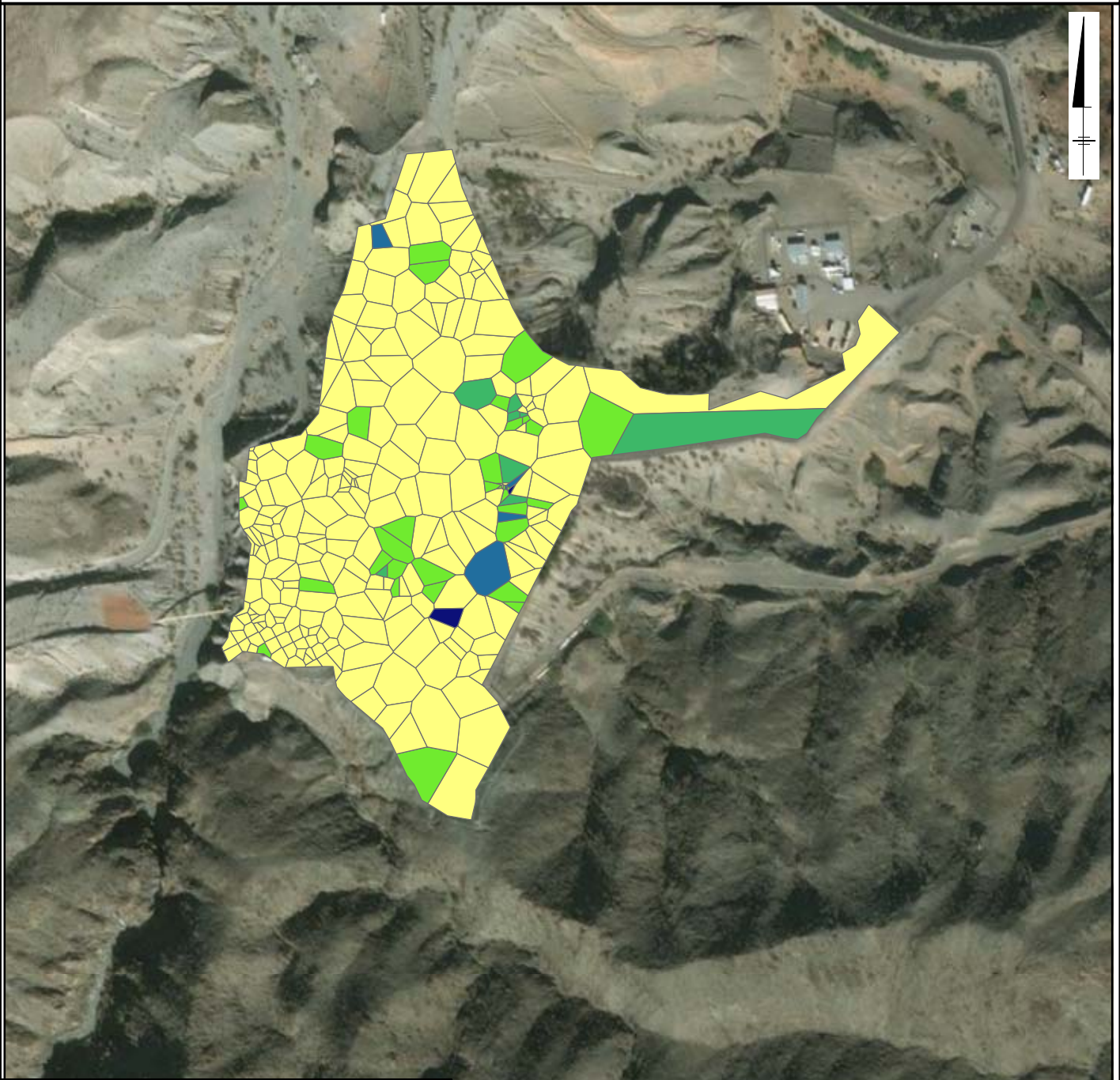
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.105

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE LEAD



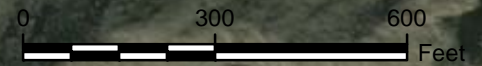
BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:

LEAD (MG/KG)

	NOT DETECTED
	1.17 - 20.80
	≥20.80 - 68.80
	≥68.80 - 147.00
	≥147.00 - 248.00
	≥248.00 - 413.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

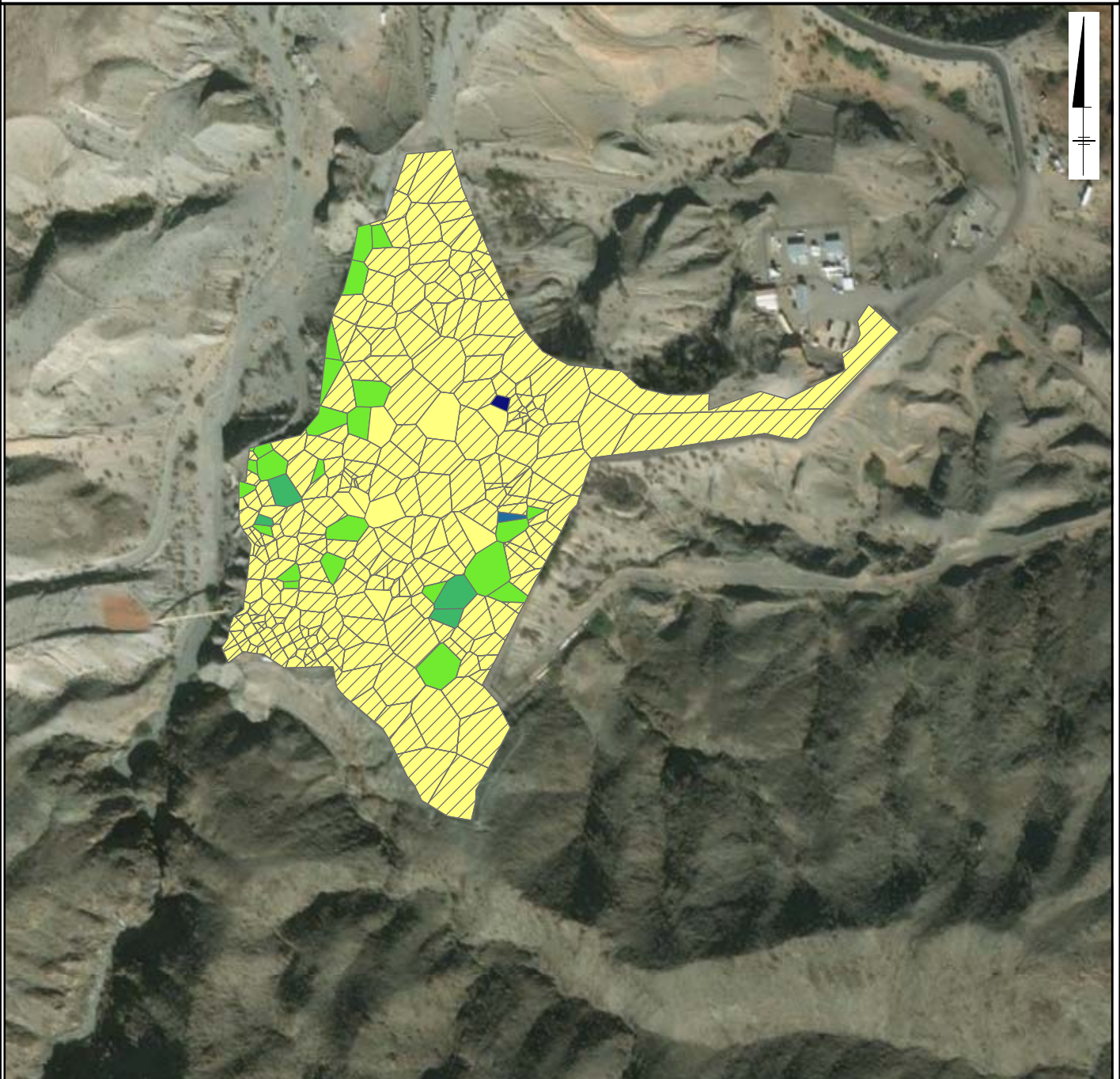
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**THIESSEN POLYGONS FOR
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FIGURE
ICS-A3.106

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE MERCURY



BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

	NOT DETECTED
	0.05 - 0.11
	≥0.11 - 0.33
	≥0.33 - 0.65
	≥0.65 - 2.61
	≥2.61 - 5.53

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



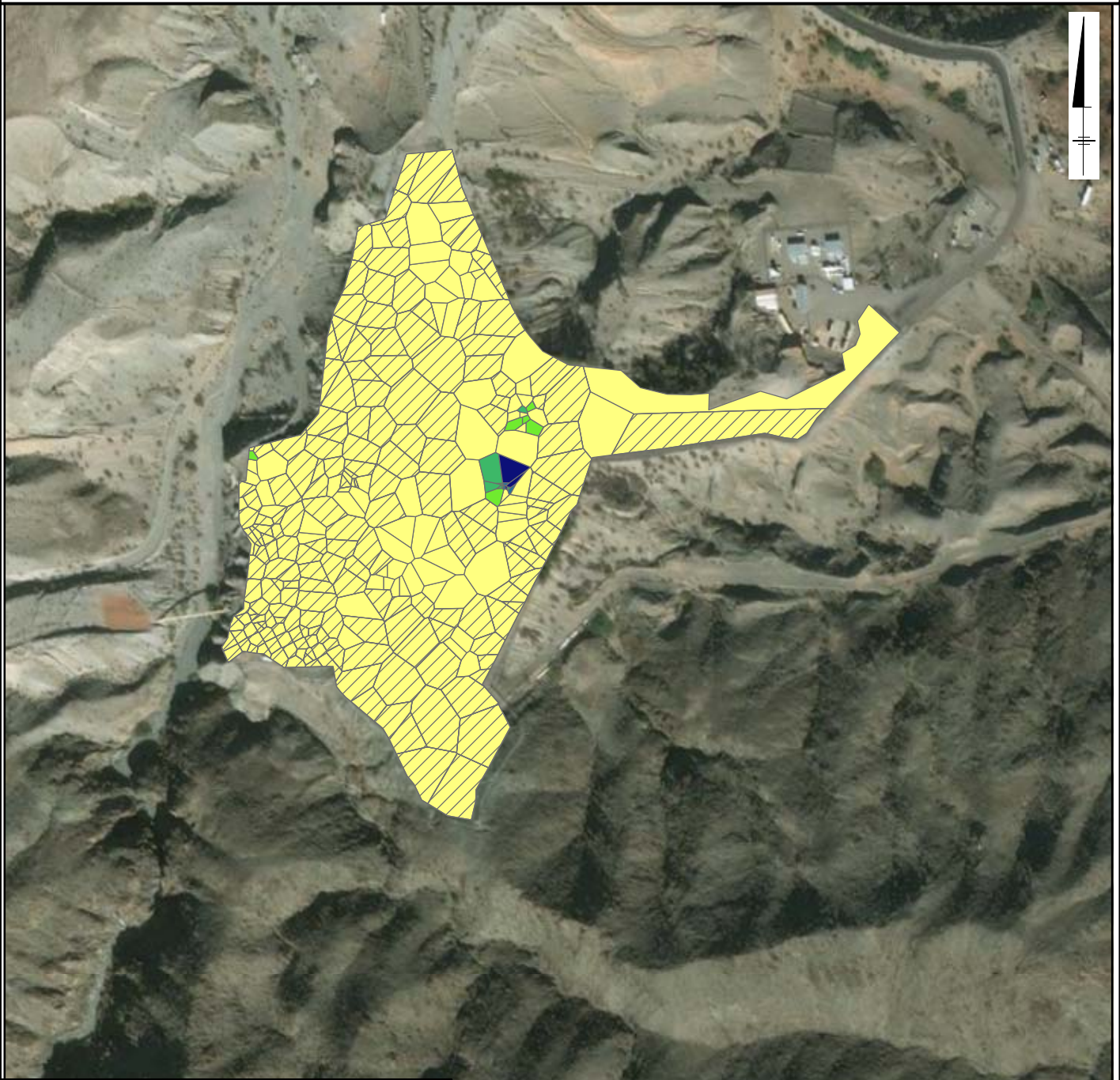
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FIGURE
ICS-A3.107

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE MOLYBDENUM



BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

	NOT DETECTED
	0.14 - 41.80
	≥41.80 - 121.00
	≥121.00 - 275.00
	≥275.00 - 409.00
	≥409.00 - 733.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



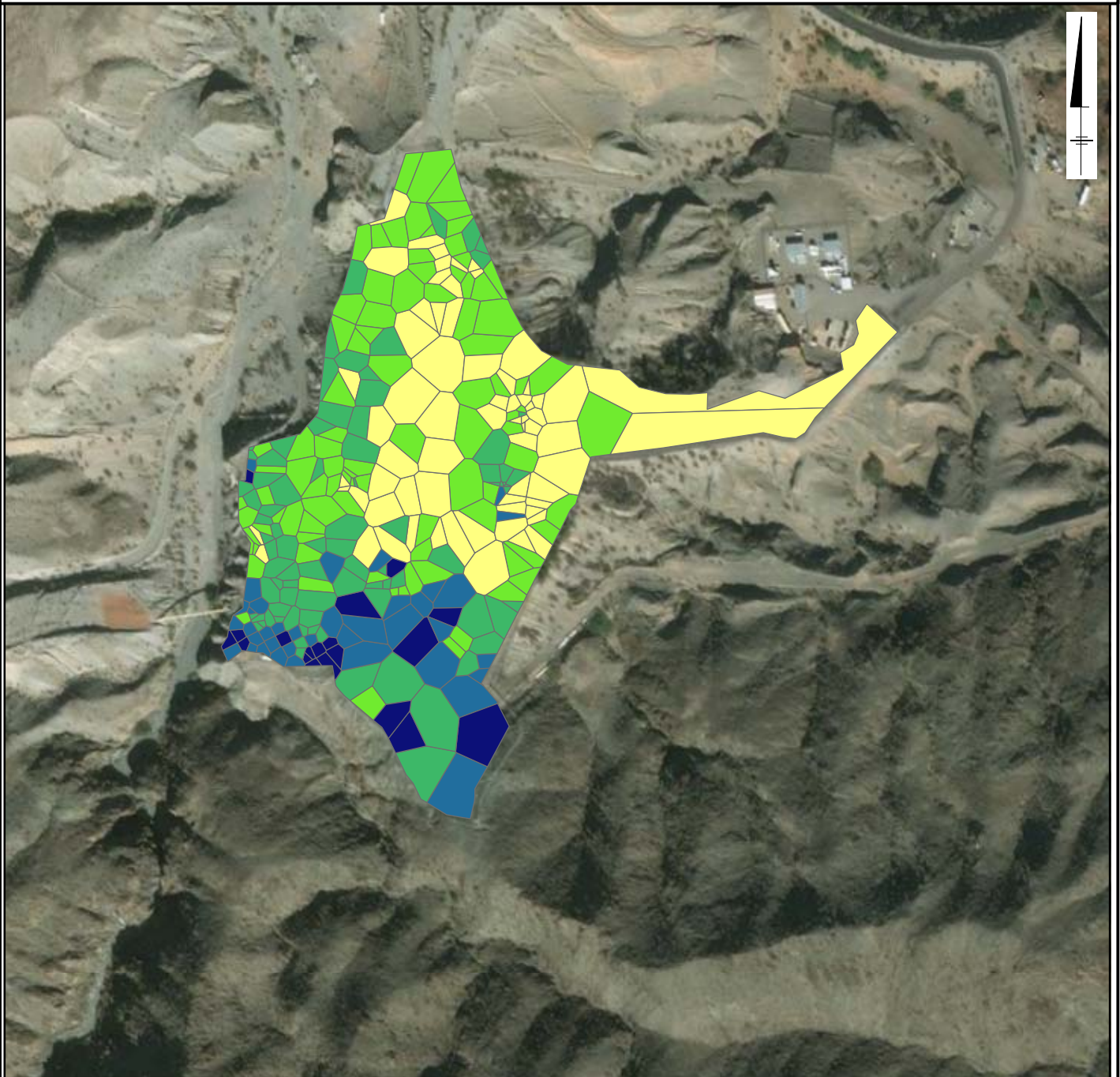
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FIGURE
ICS-A3.108

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE NICKEL

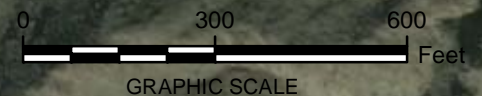


BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

	NOT DETECTED
	3.23 - 8.42
	≥8.42 - 12.70
	≥12.70 - 19.50
	≥19.50 - 30.00
	≥30.00 - 66.80

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



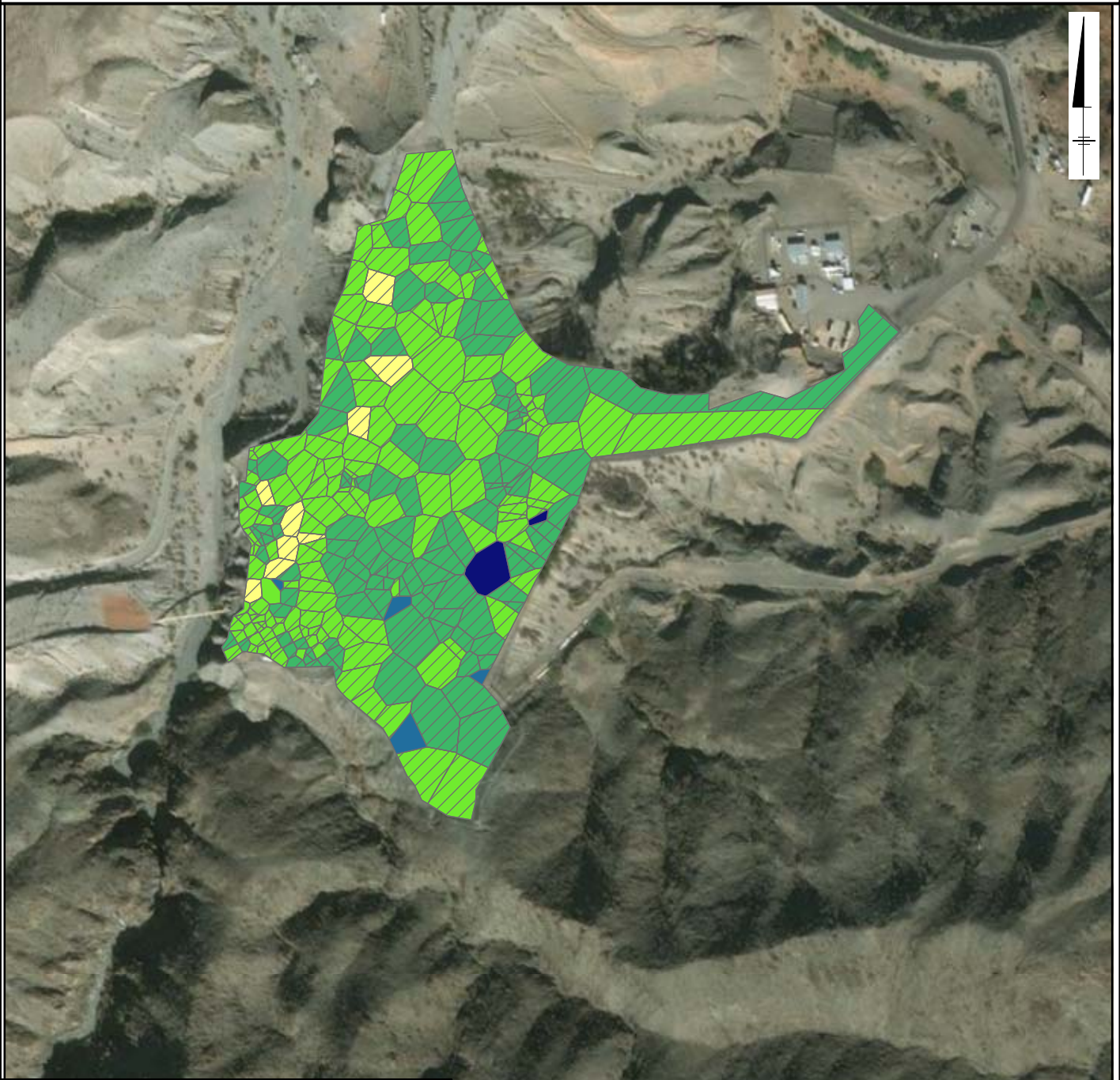
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.109

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE SELENIUM



BACKGROUND THRESHOLD VALUE: 1.47 MG/KG

LEGEND: SELENIUM (MG/KG)

	NOT DETECTED
	0.13 - 0.26
	≥0.26 - 0.52
	≥0.52 - 0.61
	≥0.61 - 1.12
	≥1.12 - 1.74

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



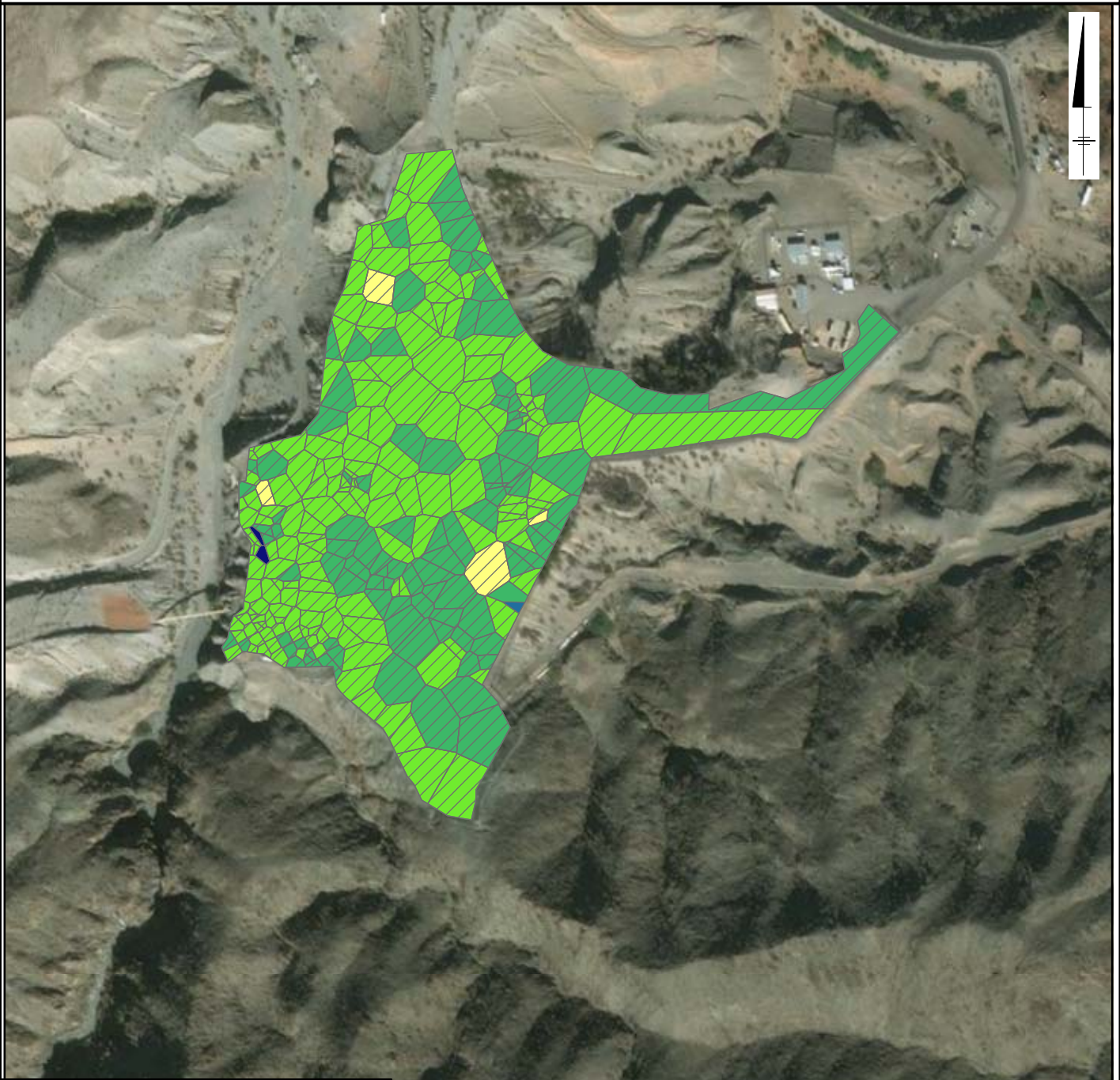
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FIGURE
ICS-A3.110

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE SILVER

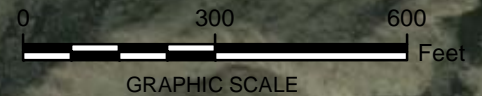


BACKGROUND THRESHOLD VALUE: None

LEGEND: SILVER (MG/KG)

	NOT DETECTED
	0.13 - 0.14
	≥0.14 - 0.53
	≥0.53 - 0.86
	≥0.86 - 1.50
	≥1.50 - 2.37

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



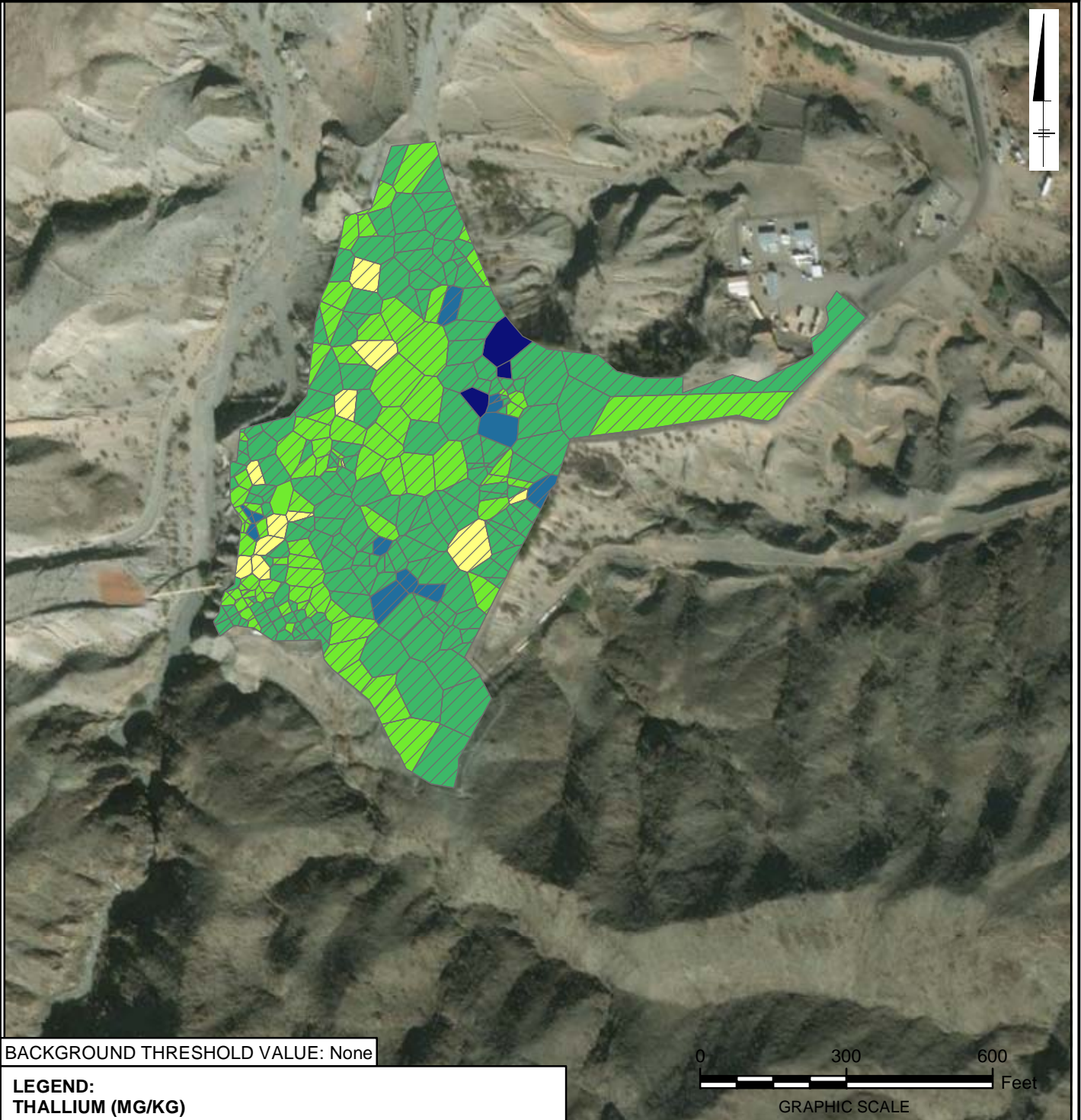
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FIGURE
ICS-A3.111

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE THALLIUM



BACKGROUND THRESHOLD VALUE: None

LEGEND: THALLIUM (MG/KG)

- NOT DETECTED
- 0.13 - 0.53
- $\geq 0.53 - 1.03$
- $\geq 1.03 - 1.10$
- $\geq 1.10 - 1.27$
- $\geq 1.27 - 2.33$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

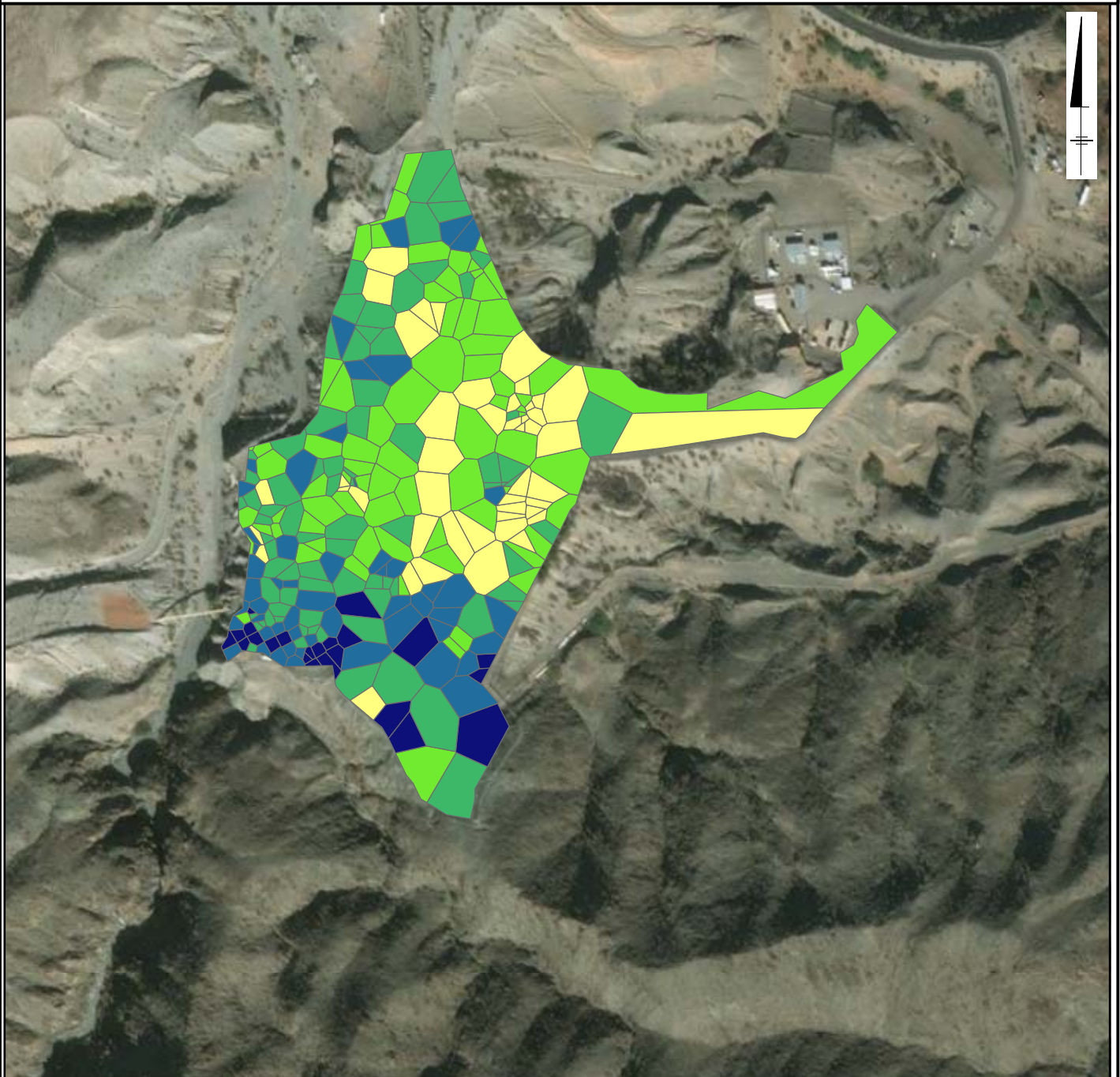
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FIGURE
ICS-A3.112

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE VANADIUM



BACKGROUND THRESHOLD VALUE: 52.2 MG/KG

LEGEND: VANADIUM (MG/KG)

	NOT DETECTED
	6.68 - 17.30
	≥17.30 - 24.30
	≥24.30 - 31.80
	≥31.80 - 44.00
	≥44.00 - 78.60

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

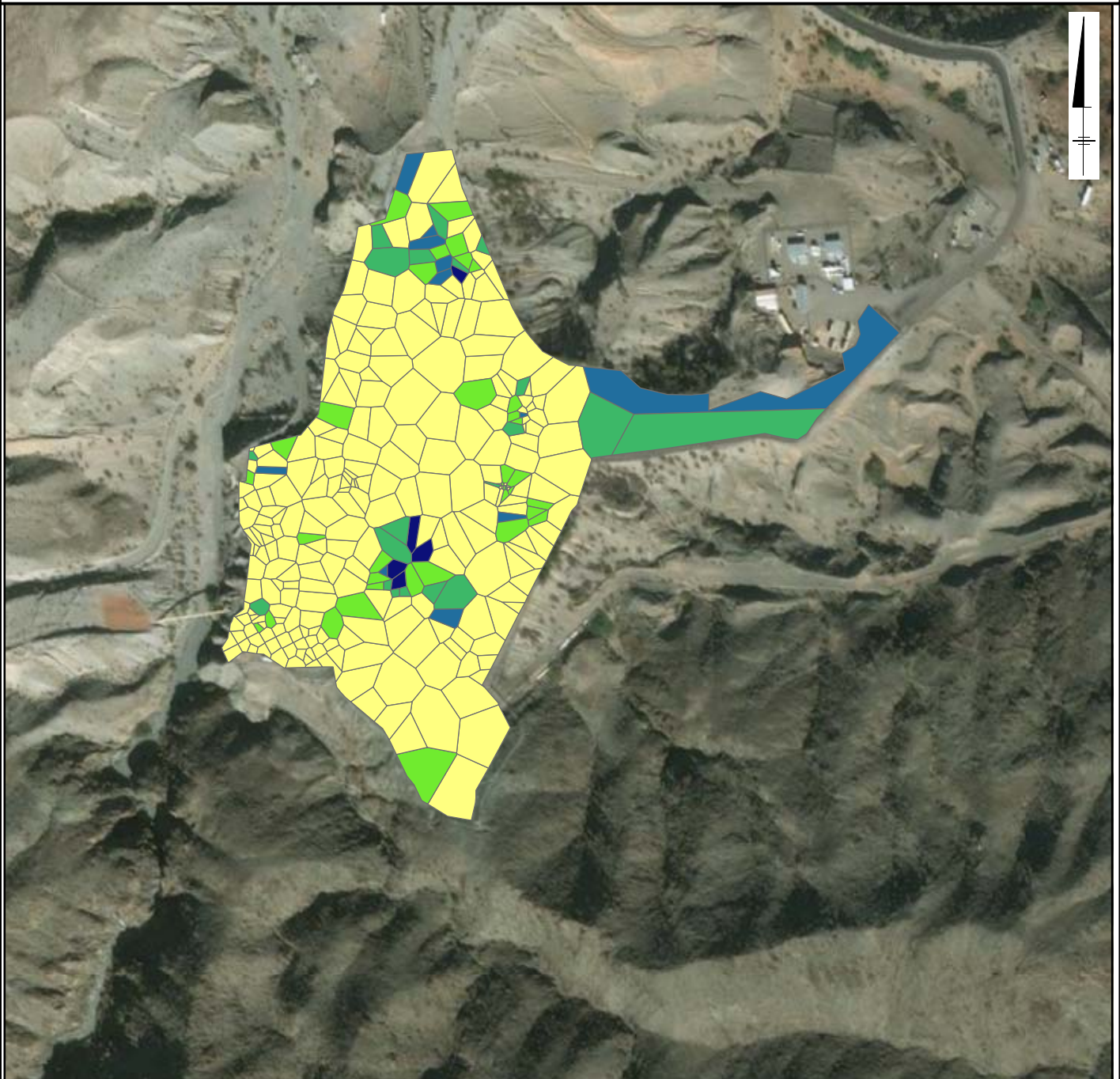
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FIGURE
ICS-A3.113

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ZINC

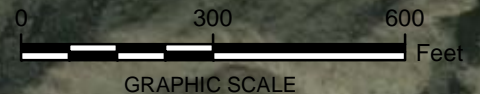


BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 9.67 - 59.30
- ≥59.30 - 126.00
- ≥126.00 - 233.00
- ≥233.00 - 513.00
- ≥513.00 - 1130.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



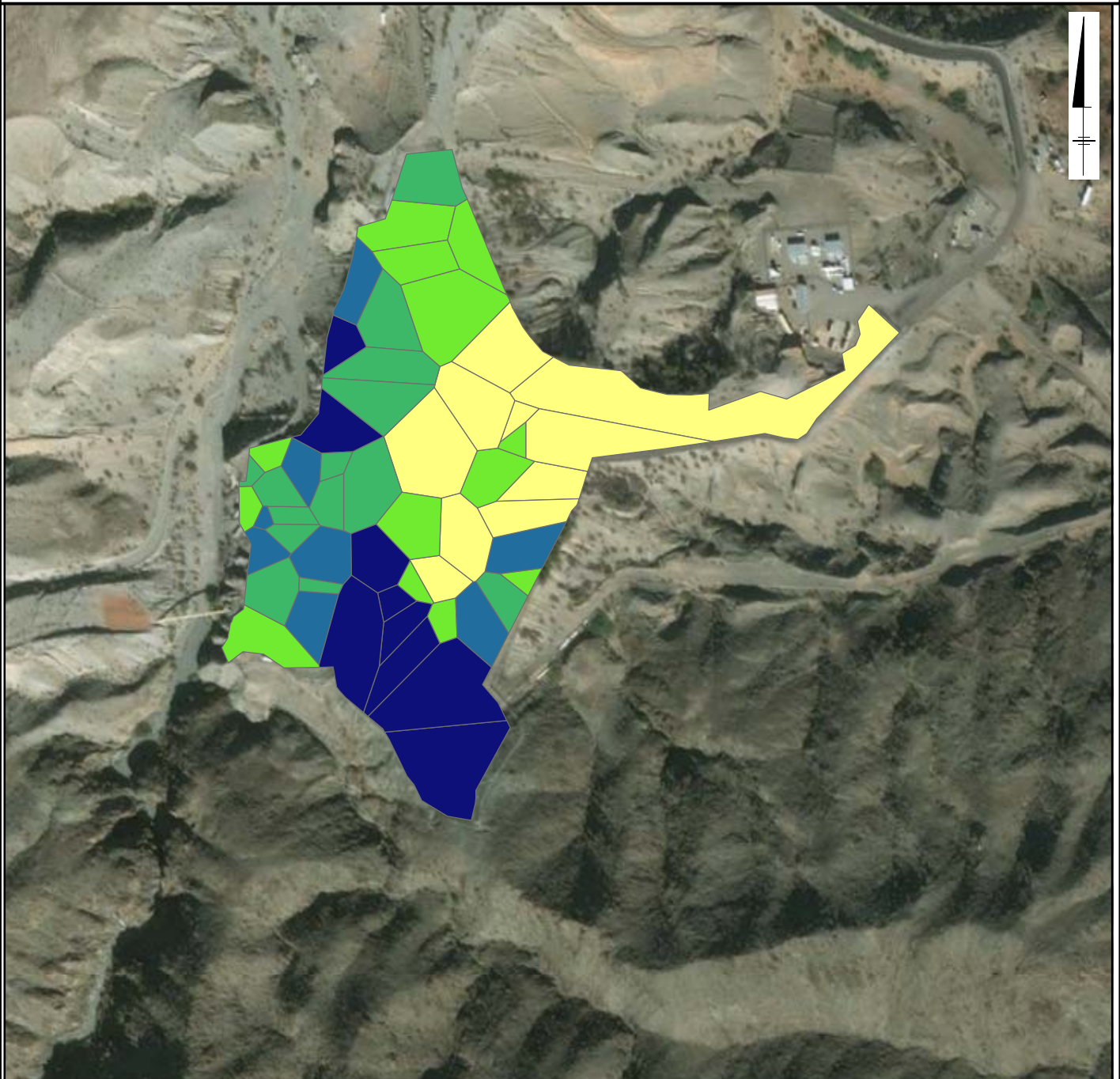
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FIGURE
ICS-A3.114

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ALUMINUM

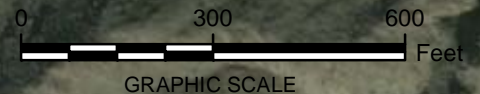


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

- NOT DETECTED
- 670.00 - 4030.00
- ≥4030.00 - 6730.00
- ≥6730.00 - 8300.00
- ≥8300.00 - 11000.00
- ≥11000.00 - 17500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



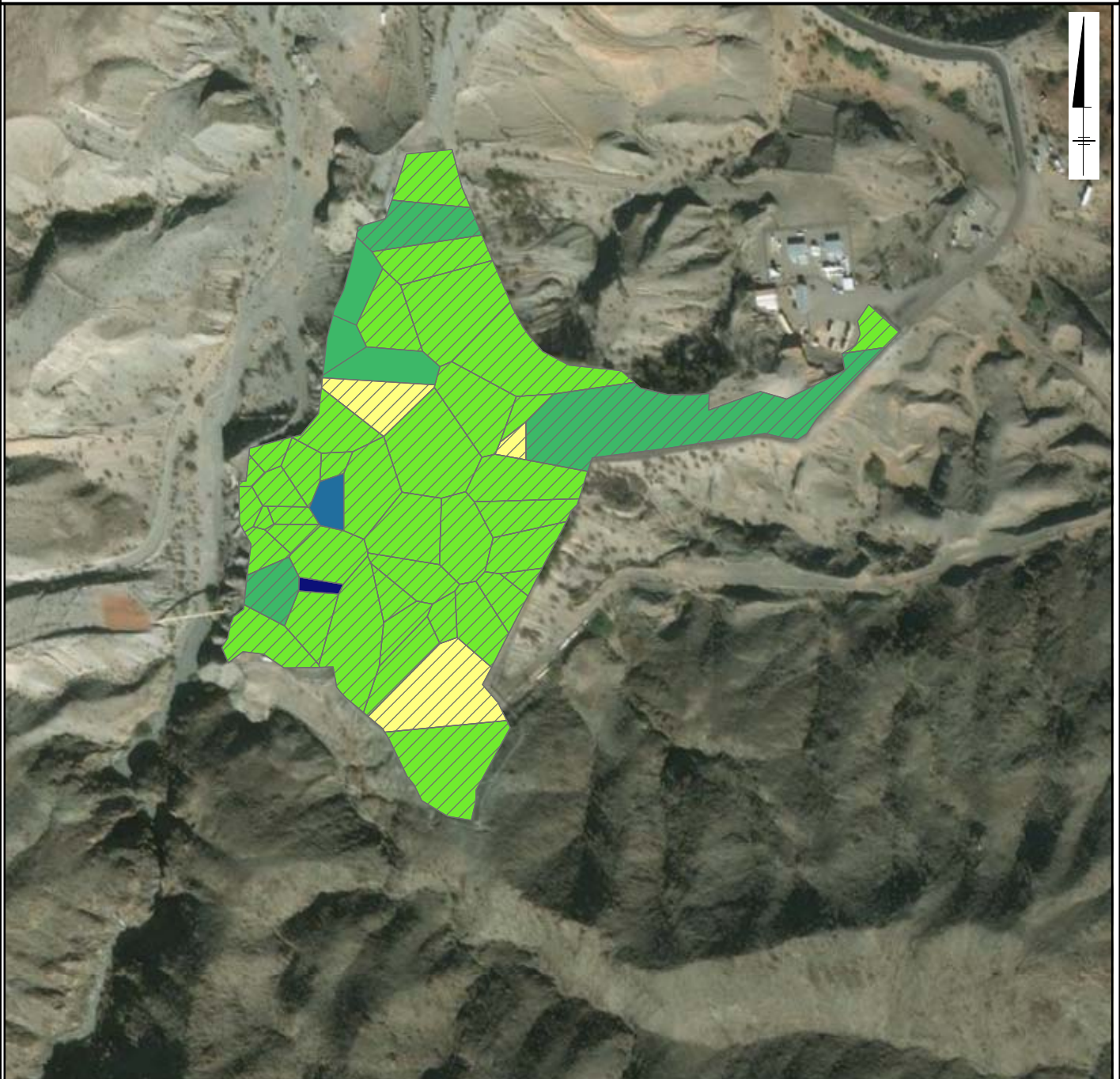
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FIGURE
ICS-A3.115

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE CYANIDE

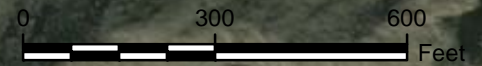


BACKGROUND THRESHOLD VALUE: None

LEGEND: CYANIDE (MG/KG)

	NOT DETECTED
	0.02 - 0.02
	≥0.02 - 0.13
	≥0.13 - 1.00
	≥1.00 - 1.90
	≥1.90 - 5.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

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NEEDLES, CALIFORNIA

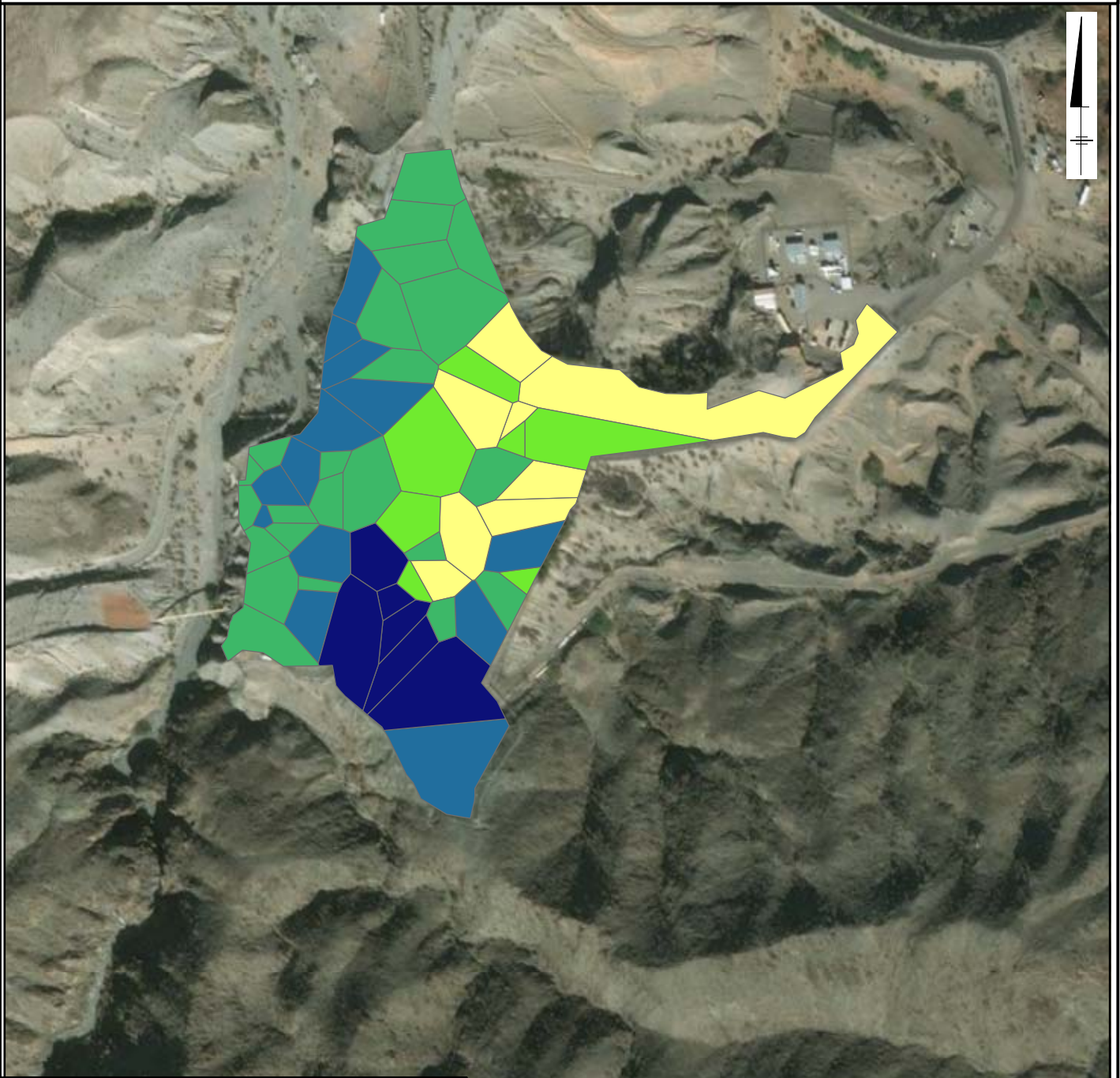
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FIGURE
ICS-A3.116

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE IRON

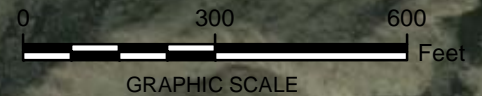


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

- NOT DETECTED
- 2400.00 - 6770.00
- ≥6770.00 - 9730.00
- ≥9730.00 - 15200.00
- ≥15200.00 - 21000.00
- ≥21000.00 - 35700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



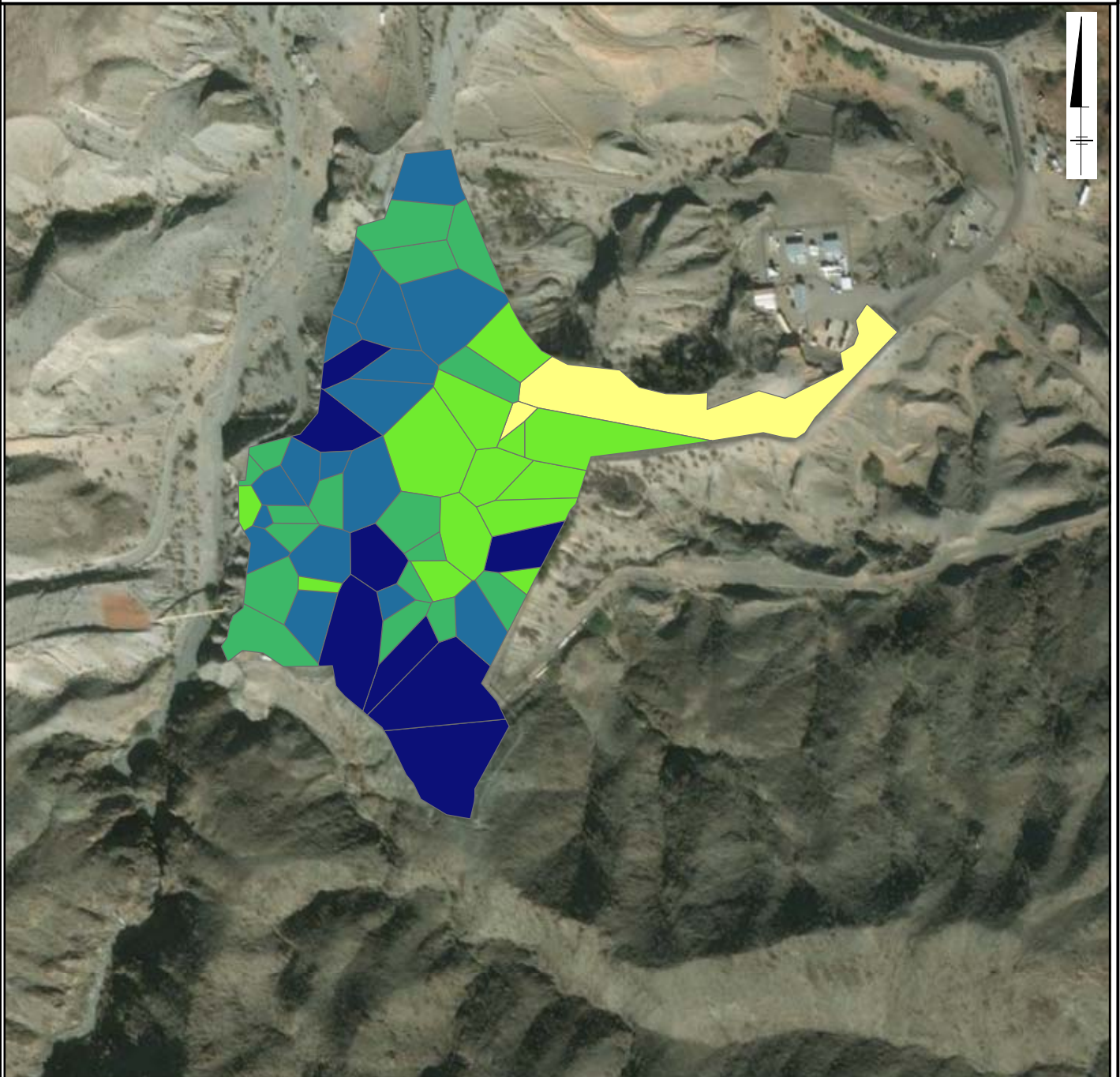
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FIGURE
ICS-A3.117

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE MANGANESE

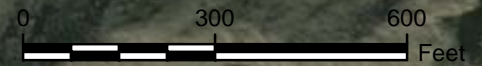


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

-  NOT DETECTED
-  64.00 - 80.00
-  ≥80.00 - 160.00
-  ≥160.00 - 220.00
-  ≥220.00 - 280.00
-  ≥280.00 - 387.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

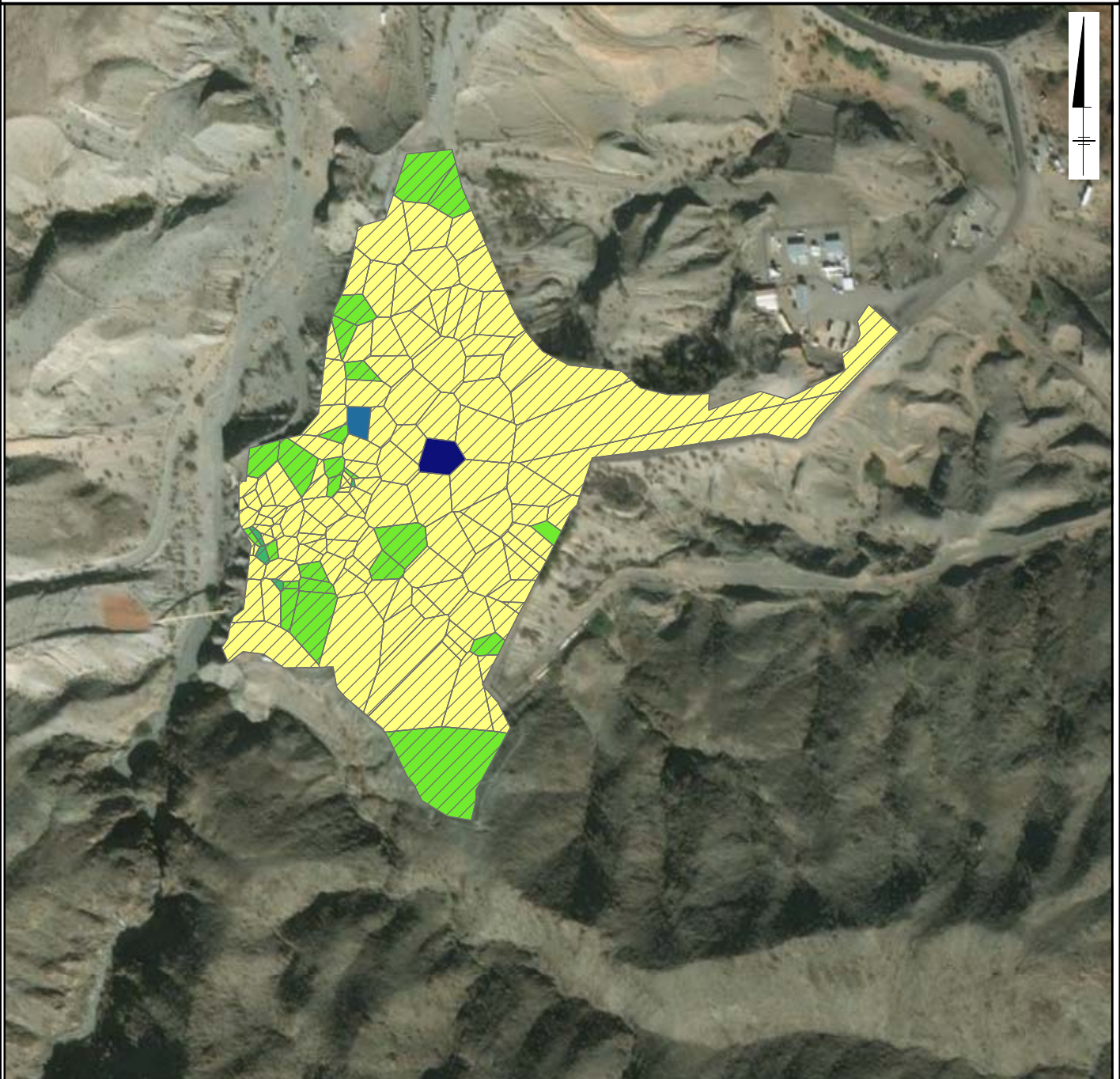
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**THIESSEN POLYGONS FOR
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FIGURE
ICS-A3.118

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ACETONE

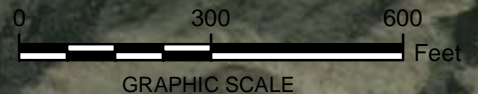


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACETONE (UG/KG)

	NOT DETECTED
	22.30 - 37.80
	≥37.80 - 62.50
	≥62.50 - 124.00
	≥124.00 - 339.00
	≥339.00 - 2200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



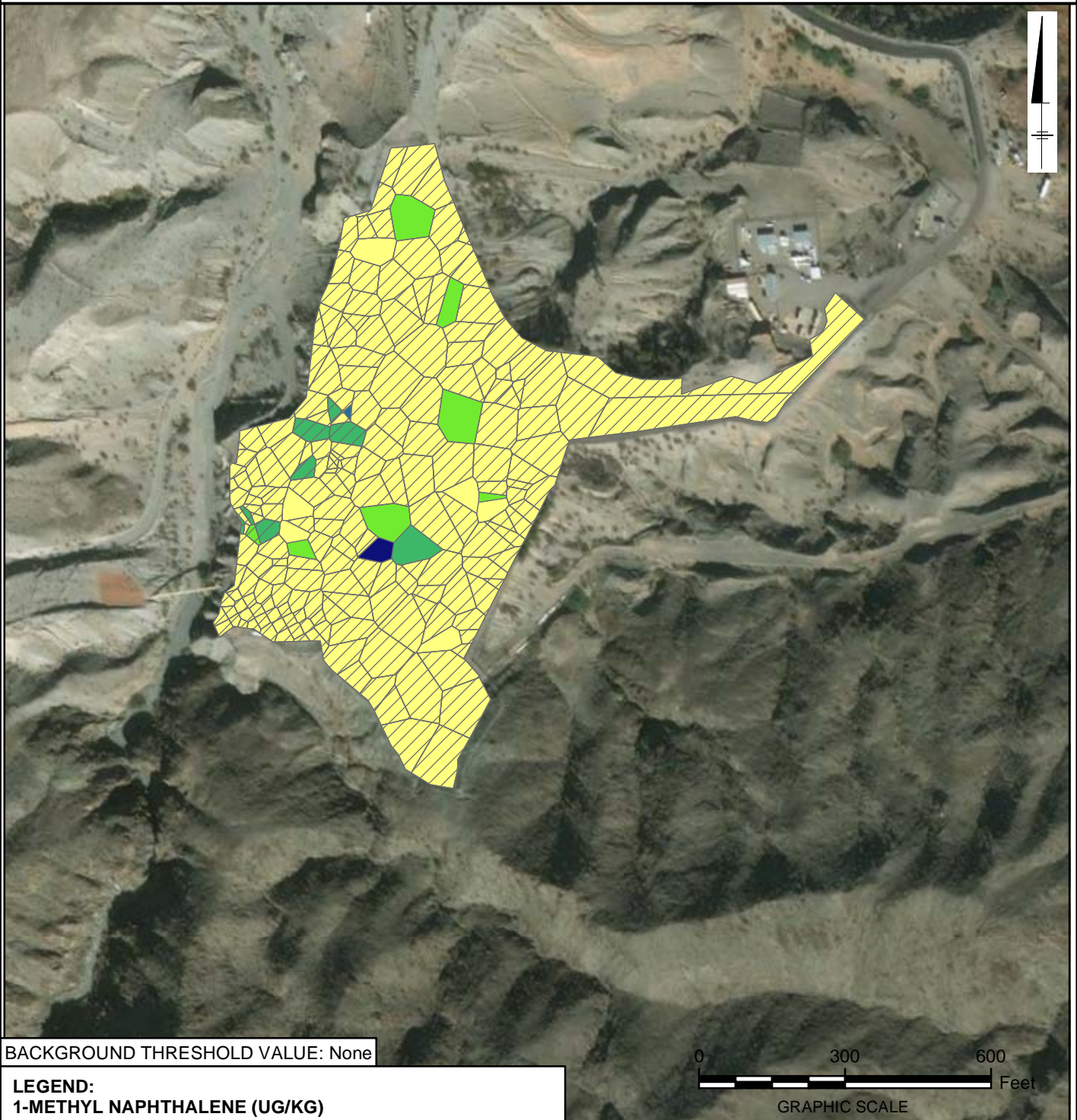
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FIGURE
ICS-A3.119

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE 1-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 1-METHYL NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.10
- ≥6.10 - 14.70
- ≥14.70 - 82.00
- ≥82.00 - 1000.00
- ≥1000.00 - 2400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

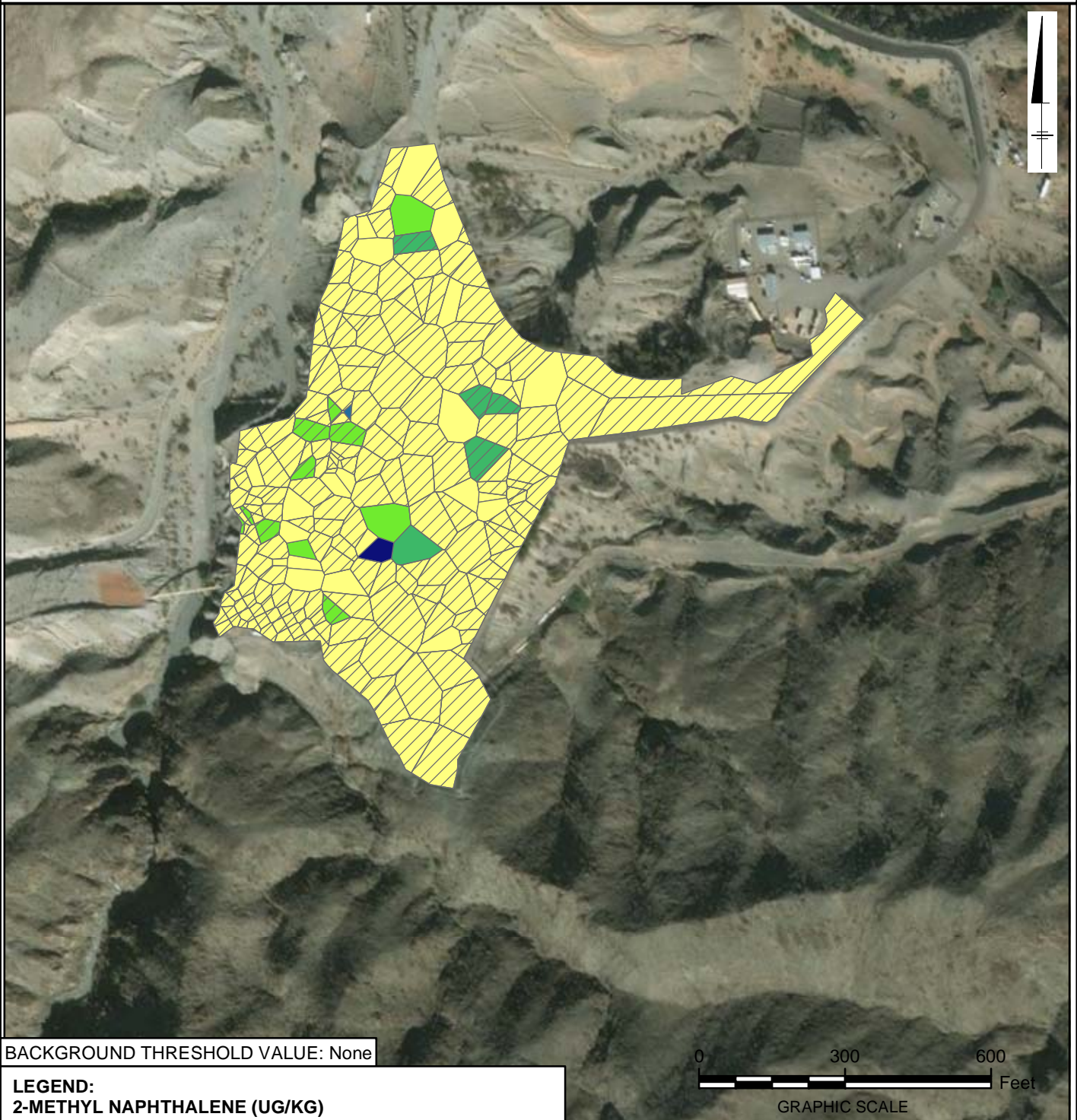
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FIGURE
ICS-A3.120

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.50 - 13.70
- ≥13.70 - 65.00
- ≥65.00 - 180.00
- ≥180.00 - 1000.00
- ≥1000.00 - 2980.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

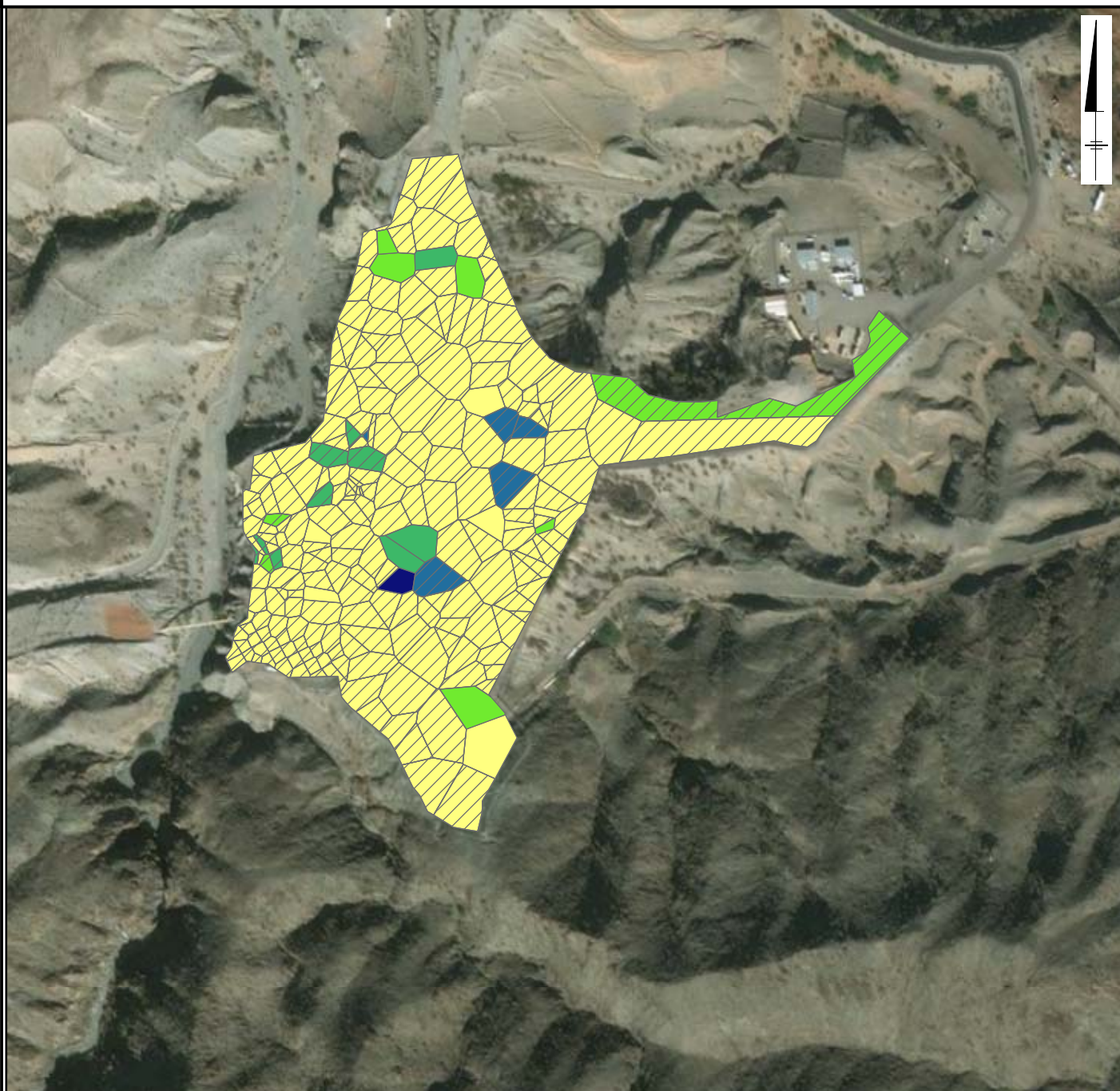
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FIGURE
ICS-A3.121

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ACENAPHTHENE

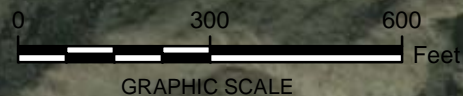


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHENE (UG/KG)

	NOT DETECTED
	2.50 - 5.40
	≥5.40 - 13.10
	≥13.10 - 75.90
	≥75.90 - 260.00
	≥260.00 - 471.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



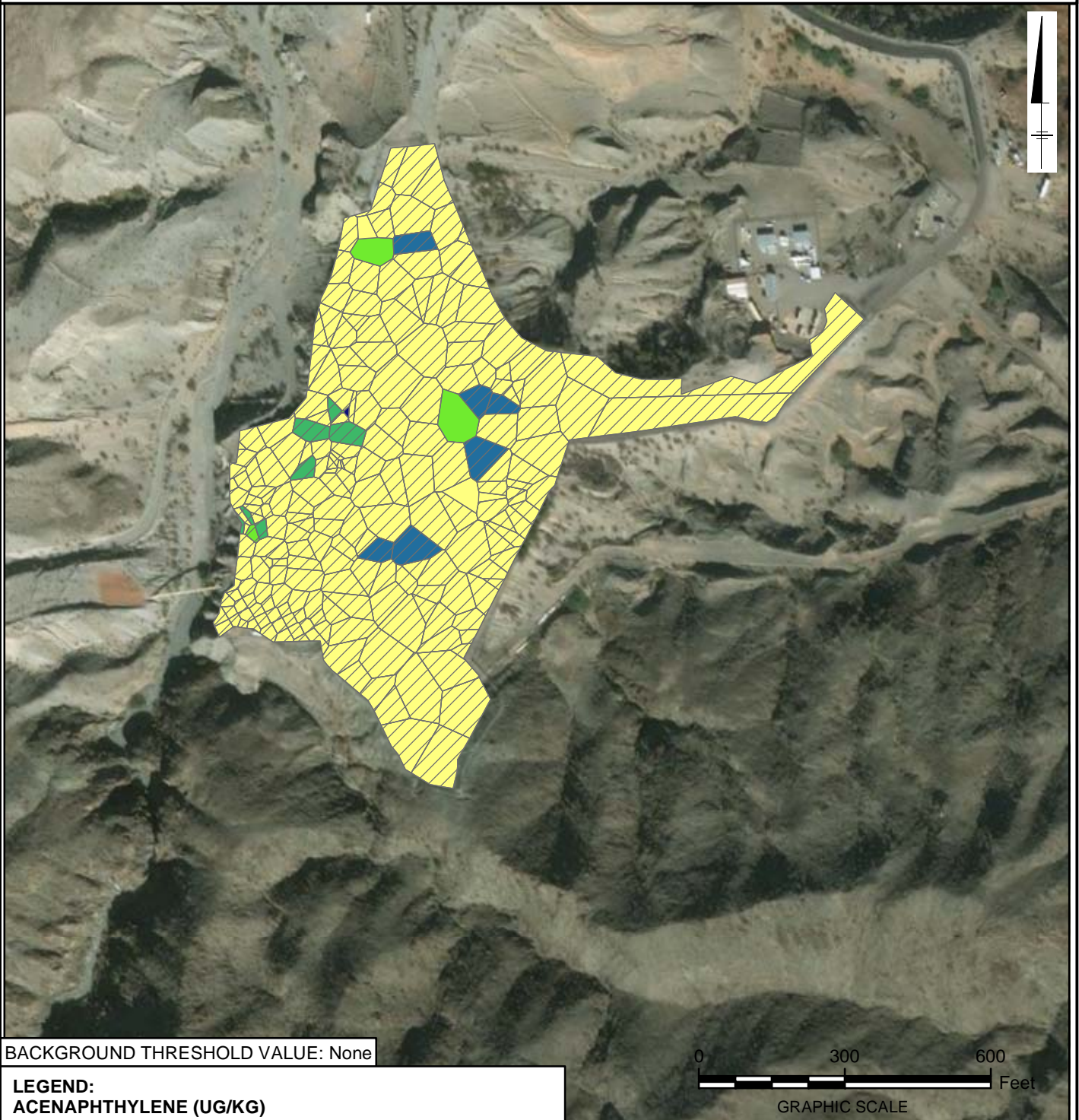
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FIGURE
ICS-A3.122

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ACENAPHTHYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHYLENE (UG/KG)

	NOT DETECTED
	2.50 - 6.10
	≥6.10 - 14.80
	≥14.80 - 65.00
	≥65.00 - 185.00
	≥185.00 - 2000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

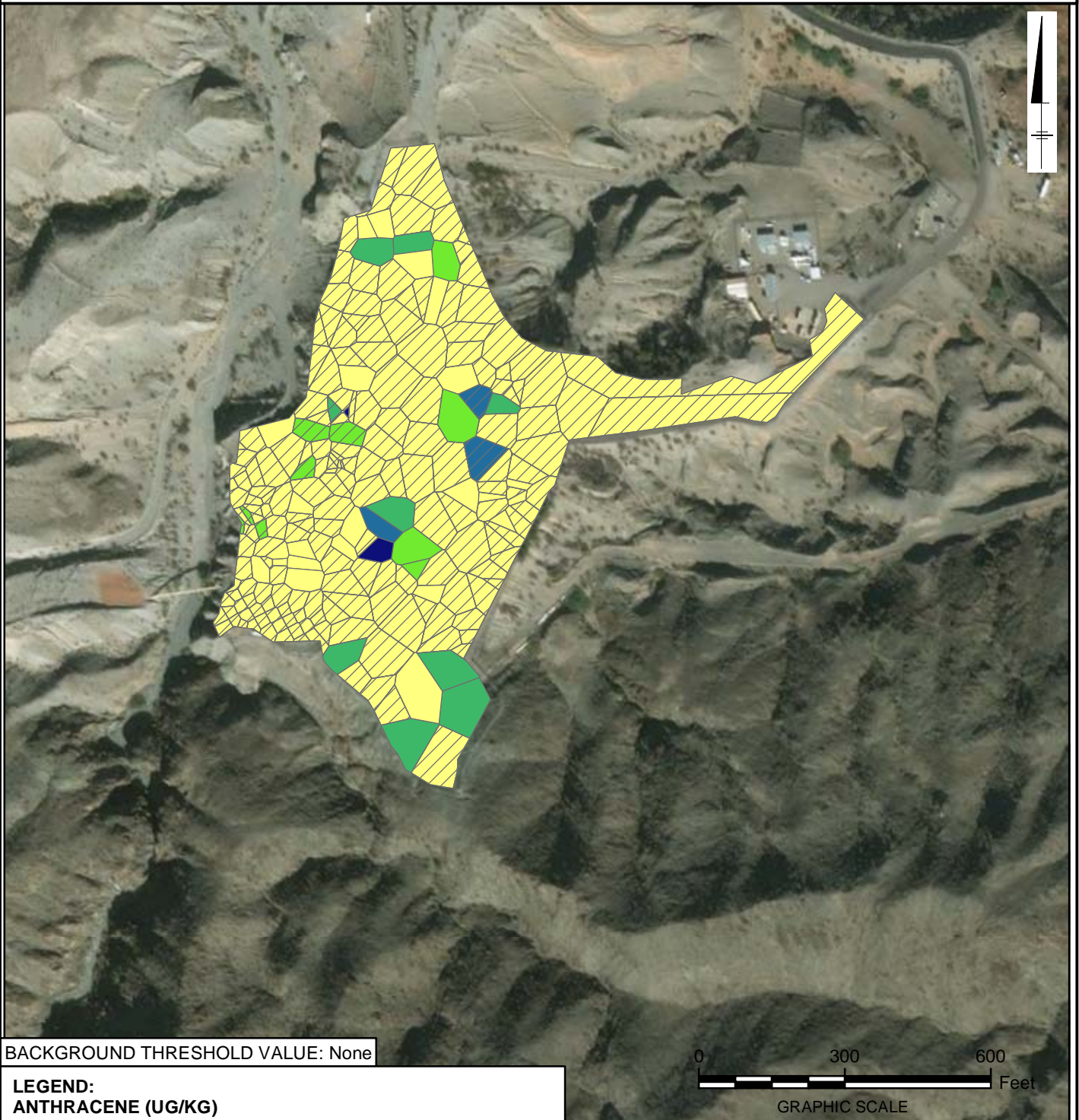
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FIGURE
ICS-A3.123

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 13.50
- ≥ 13.50 - 34.20
- ≥ 34.20 - 79.30
- ≥ 79.30 - 175.00
- ≥ 175.00 - 301.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

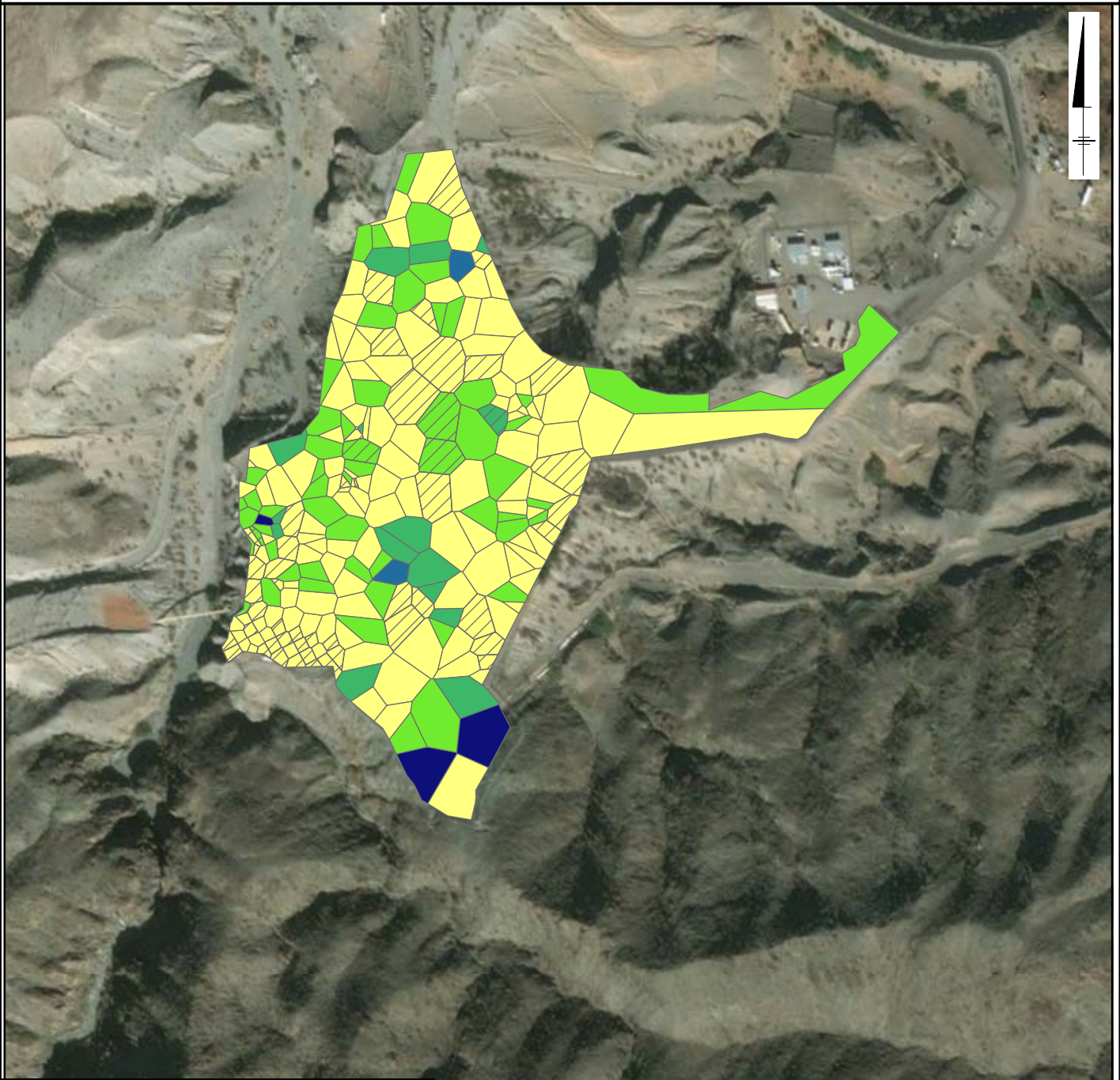
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FIGURE
ICS-A3.124

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT

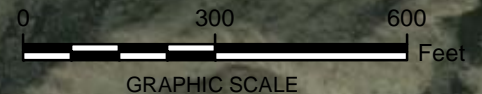


BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.87 - 55.40
- ≥55.40 - 231.00
- ≥231.00 - 790.00
- ≥790.00 - 1280.00
- ≥1280.00 - 3100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



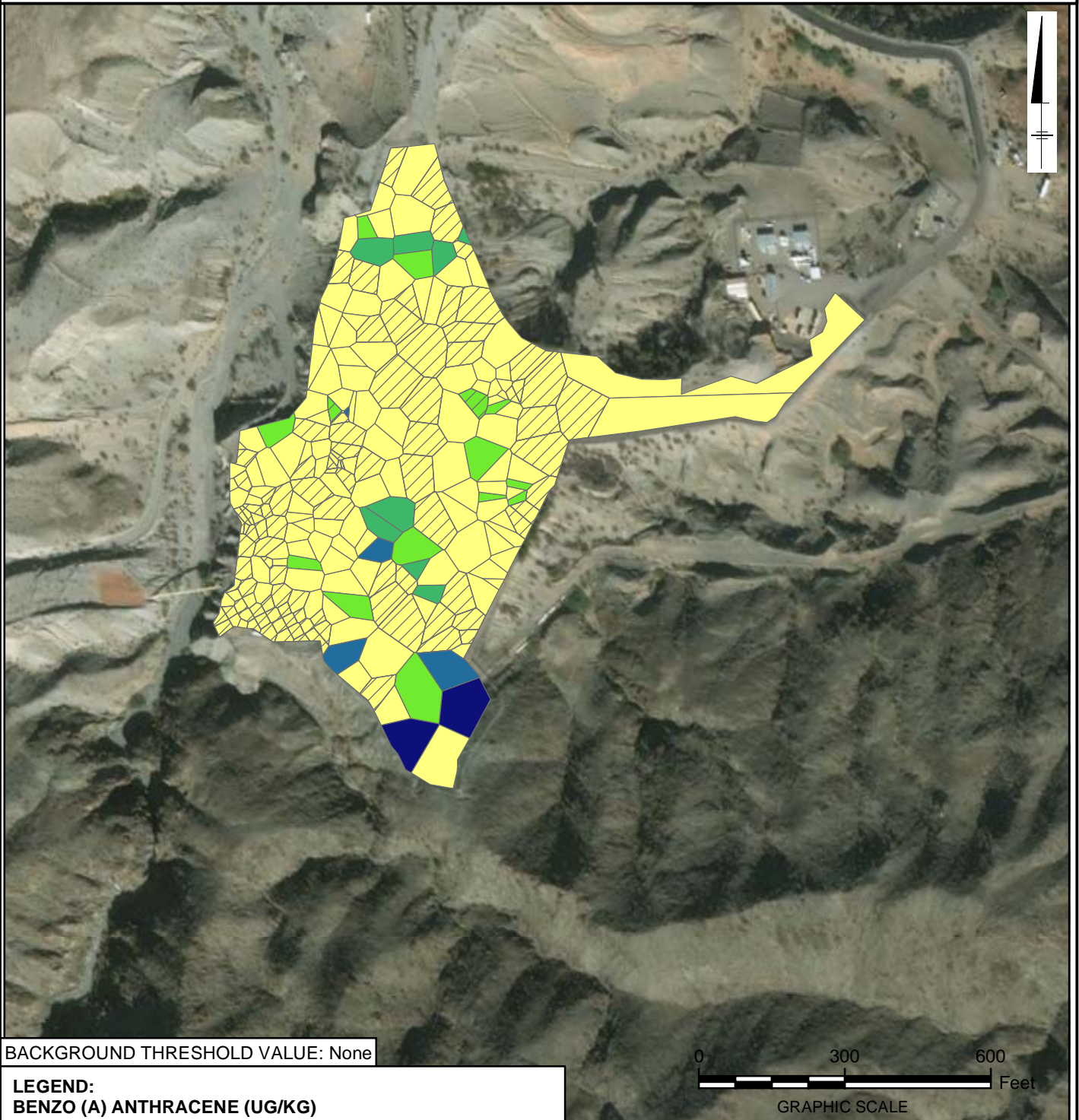
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FIGURE
ICS-A3.125

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 57.10
- ≥ 57.10 - 210.00
- ≥ 210.00 - 528.00
- ≥ 528.00 - 1320.00
- ≥ 1320.00 - 3040.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

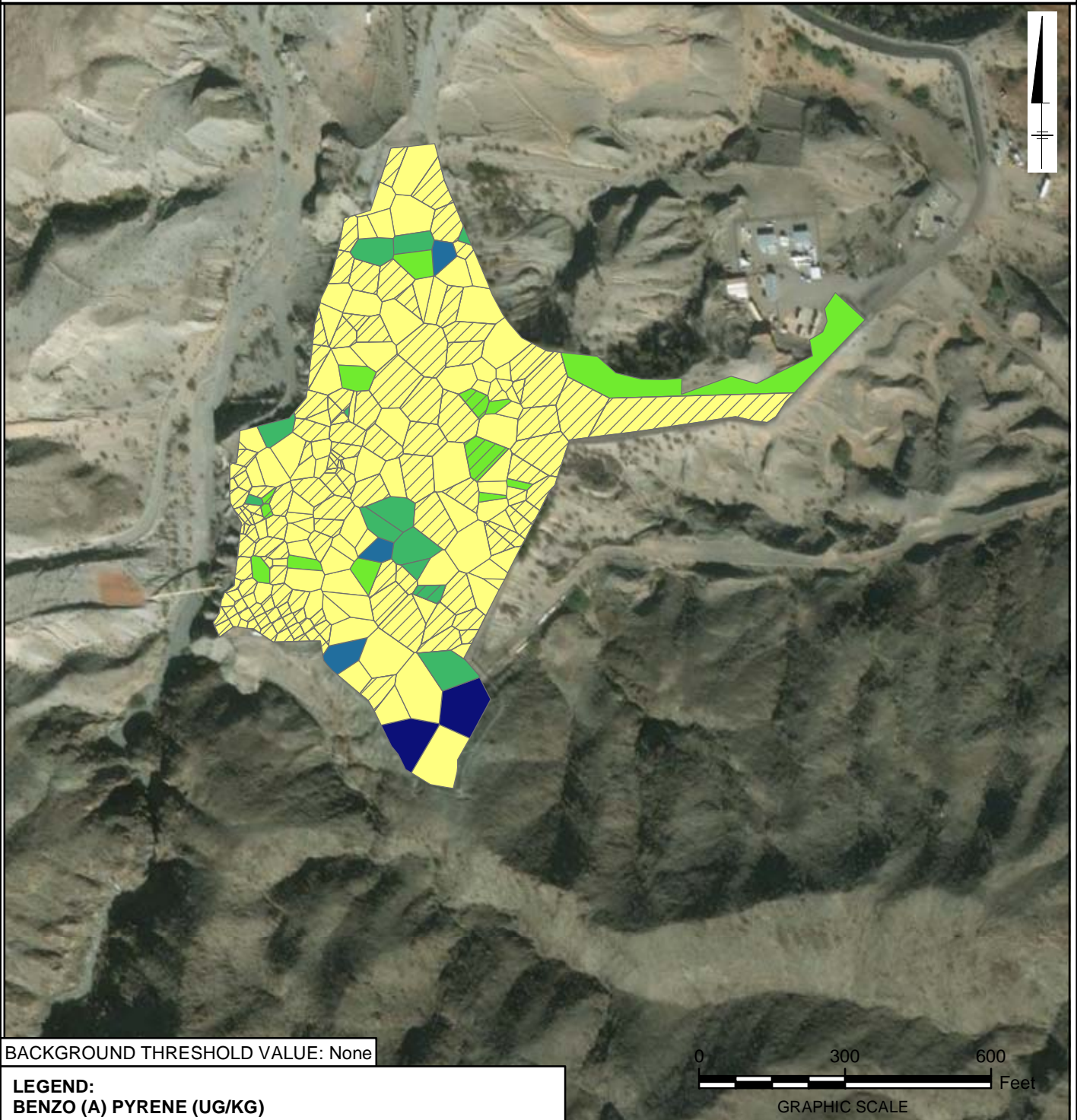
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FIGURE
ICS-A3.126







INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 69.30
-  ≥69.30 - 203.00
-  ≥203.00 - 392.00
-  ≥392.00 - 873.00
-  ≥873.00 - 1700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

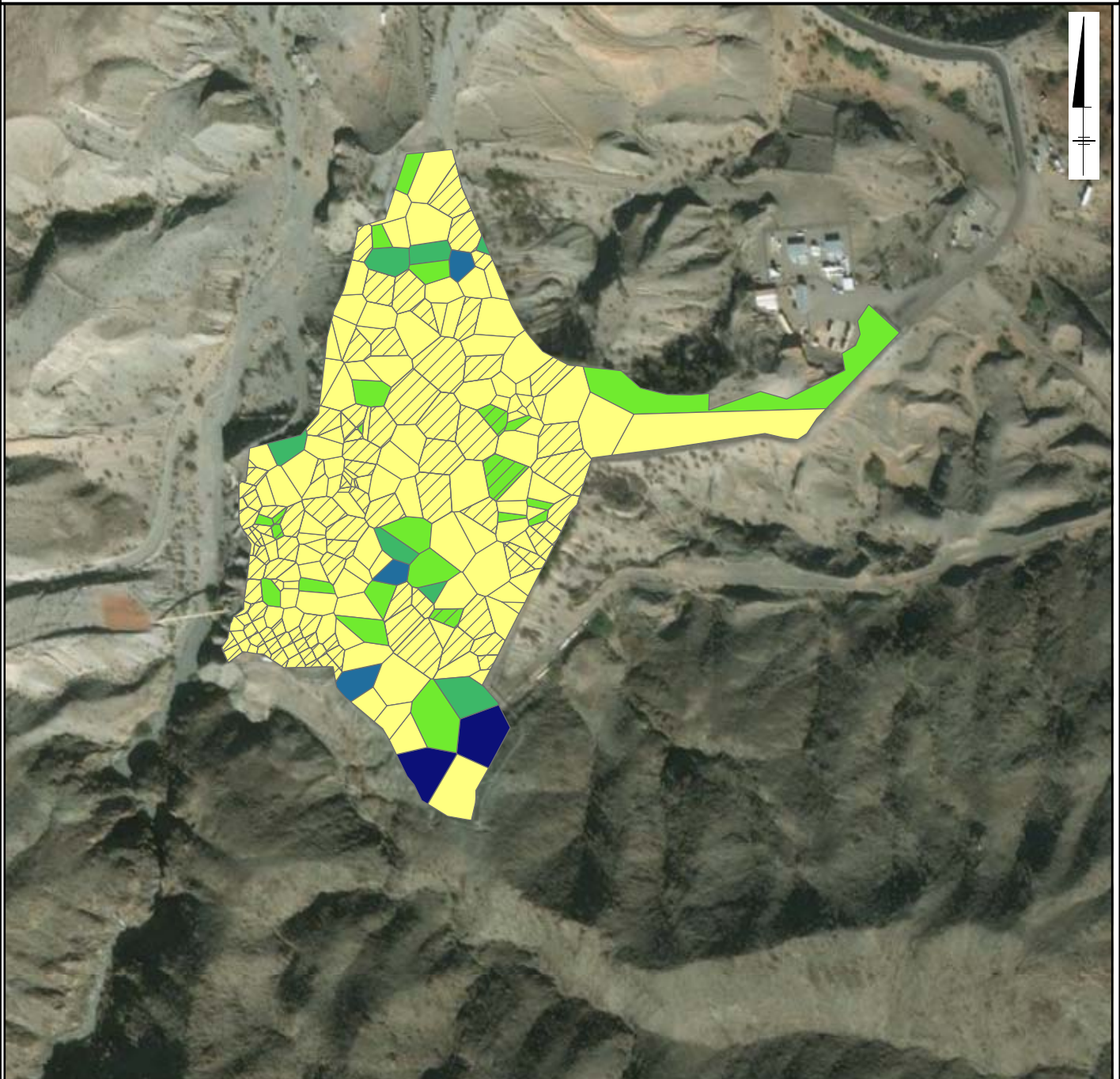
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FIGURE
ICS-A3.127

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.53 - 121.00
- ≥121.00 - 383.00
- ≥383.00 - 877.00
- ≥877.00 - 1350.00
- ≥1350.00 - 3580.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

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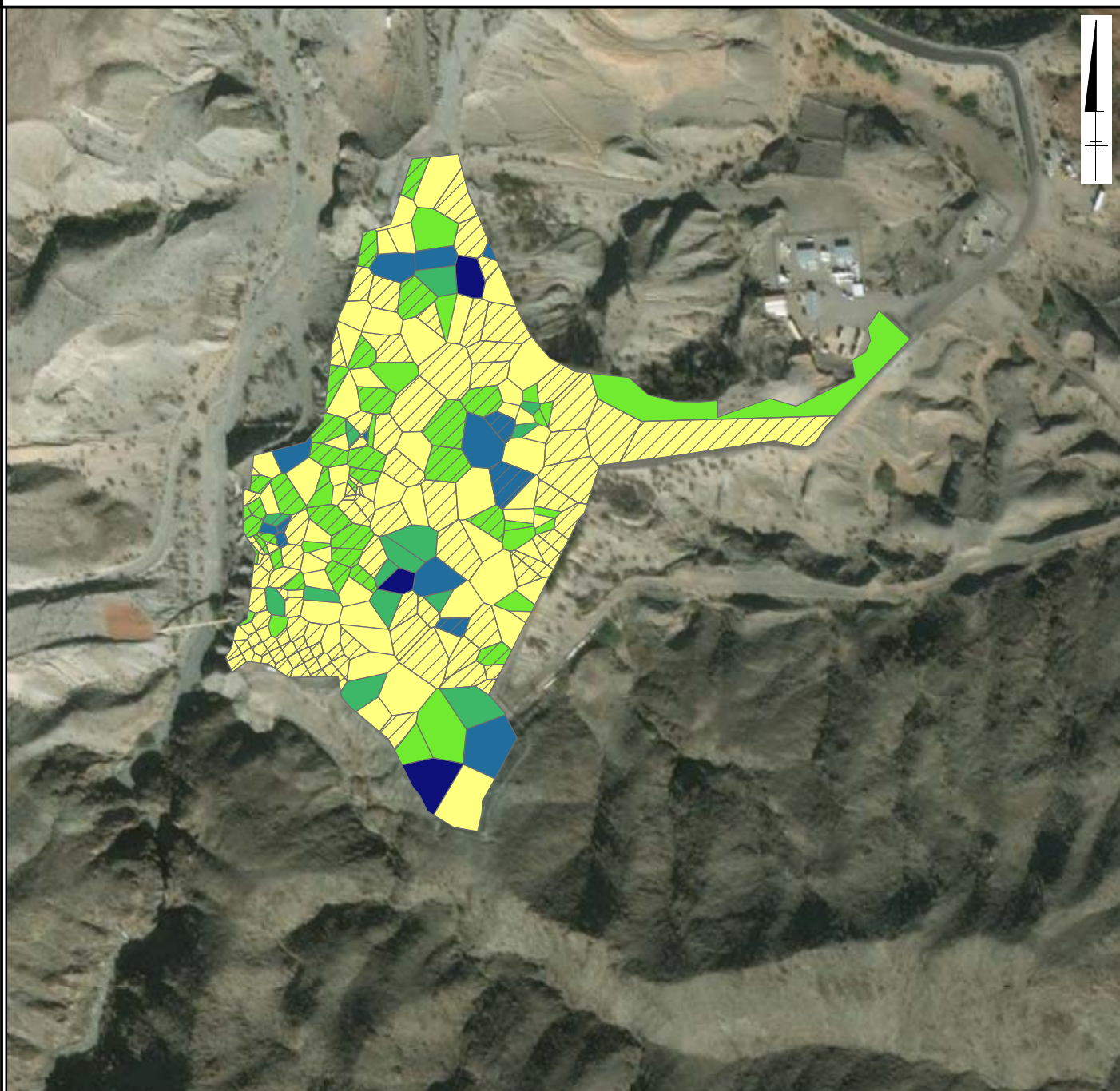
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FIGURE
ICS-A3.128

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

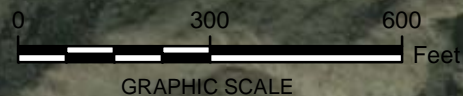


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

	NOT DETECTED
	2.50 - 16.30
	≥16.30 - 44.80
	≥44.80 - 154.00
	≥154.00 - 446.00
	≥446.00 - 1000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



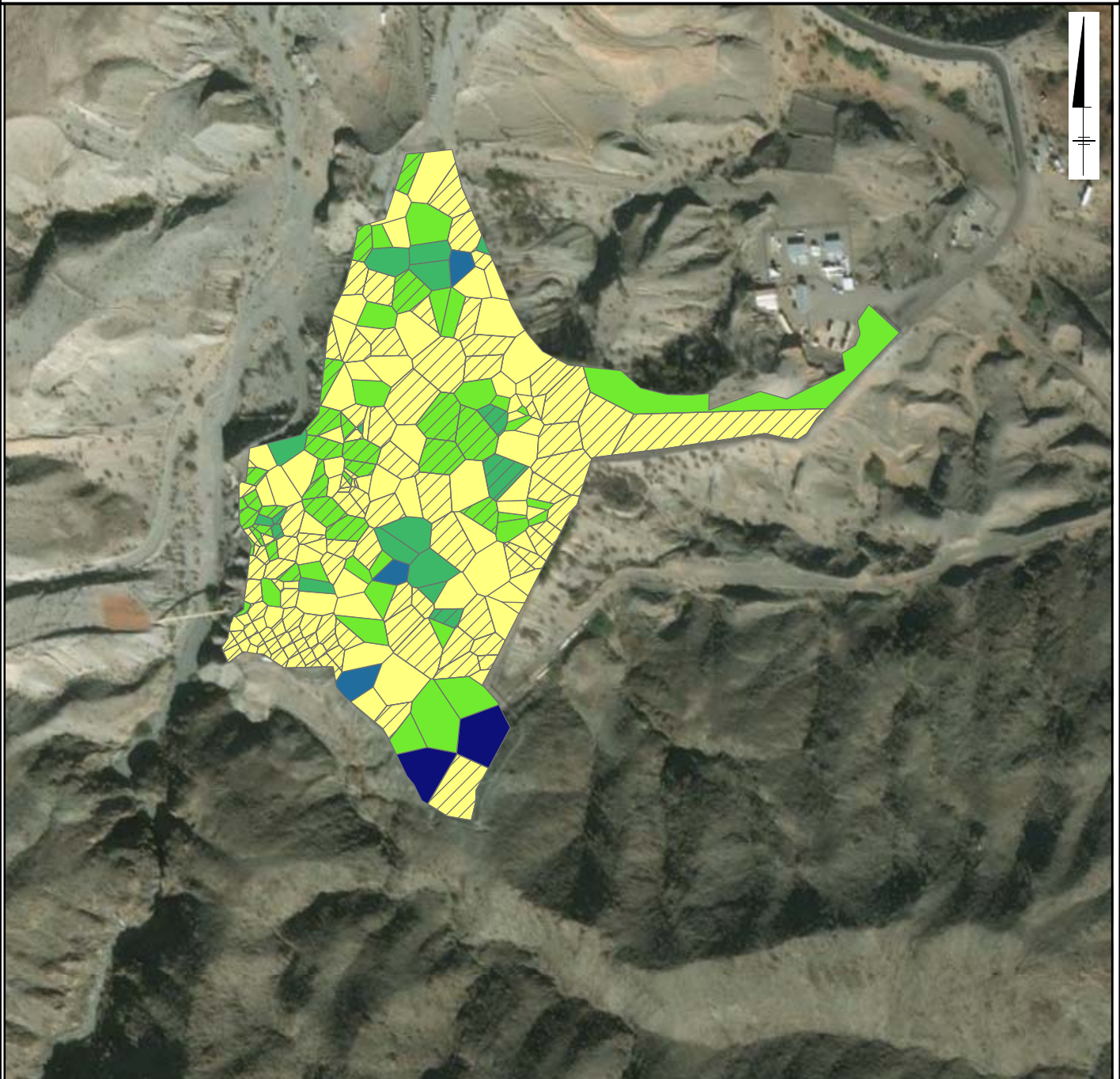
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FIGURE
ICS-A3.129

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (K) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 22.90
- ≥22.90 - 115.00
- ≥115.00 - 280.00
- ≥280.00 - 499.00
- ≥499.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

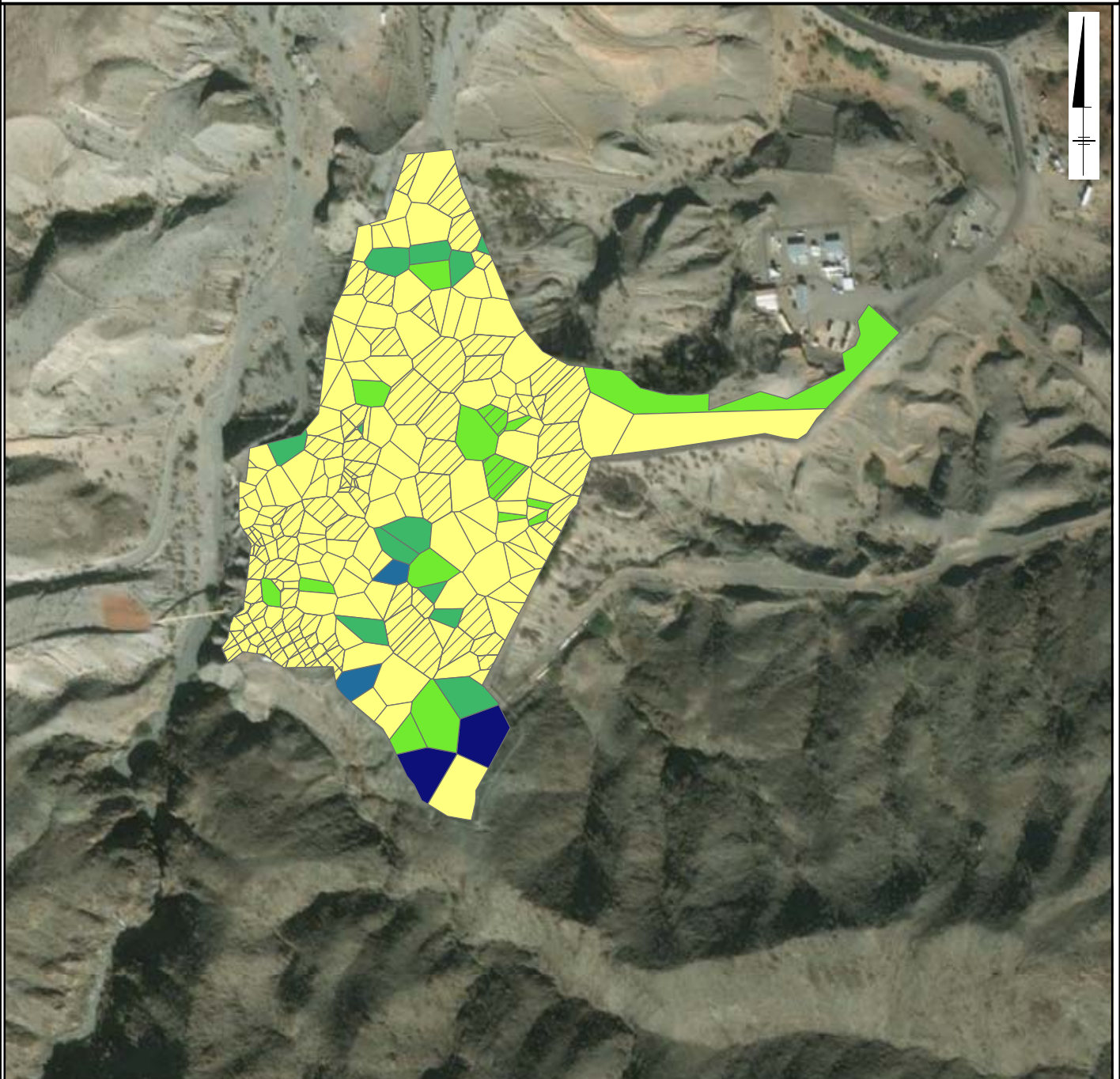
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FIGURE
ICS-A3.130

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE CHRYSENE

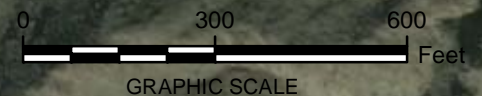


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.53 - 70.00
- ≥70.00 - 184.00
- ≥184.00 - 634.00
- ≥634.00 - 1200.00
- ≥1200.00 - 2270.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



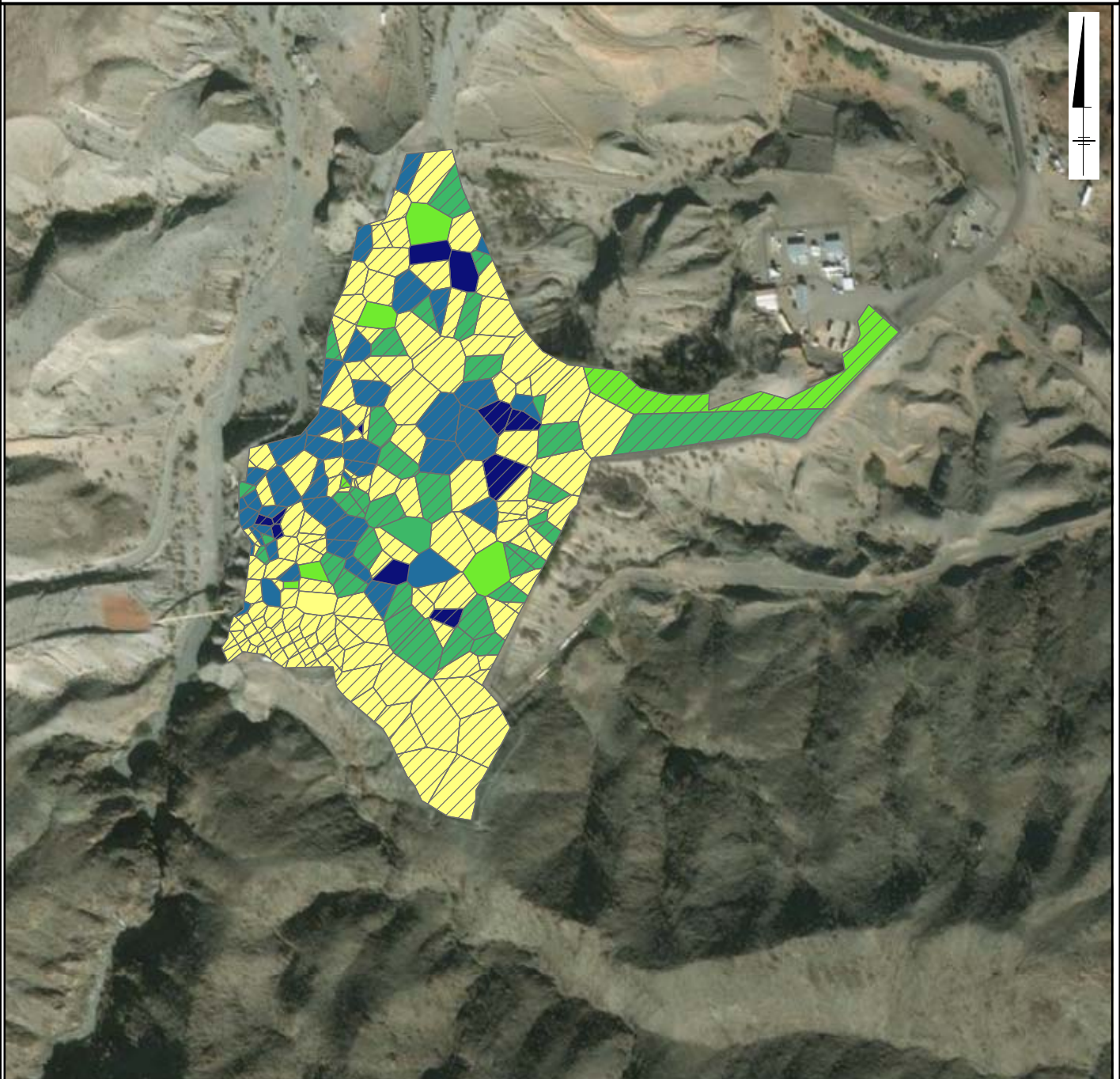
PG&E TOPOCK COMPRESSOR STATION
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**SOIL HUMAN HEALTH AND
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.131

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE DIBENZO (A,H) ANTHRACENE

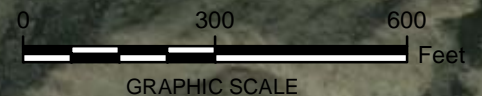


BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

	NOT DETECTED
	2.50 - 3.50
	≥3.50 - 6.90
	≥6.90 - 18.90
	≥18.90 - 91.80
	≥91.80 - 310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



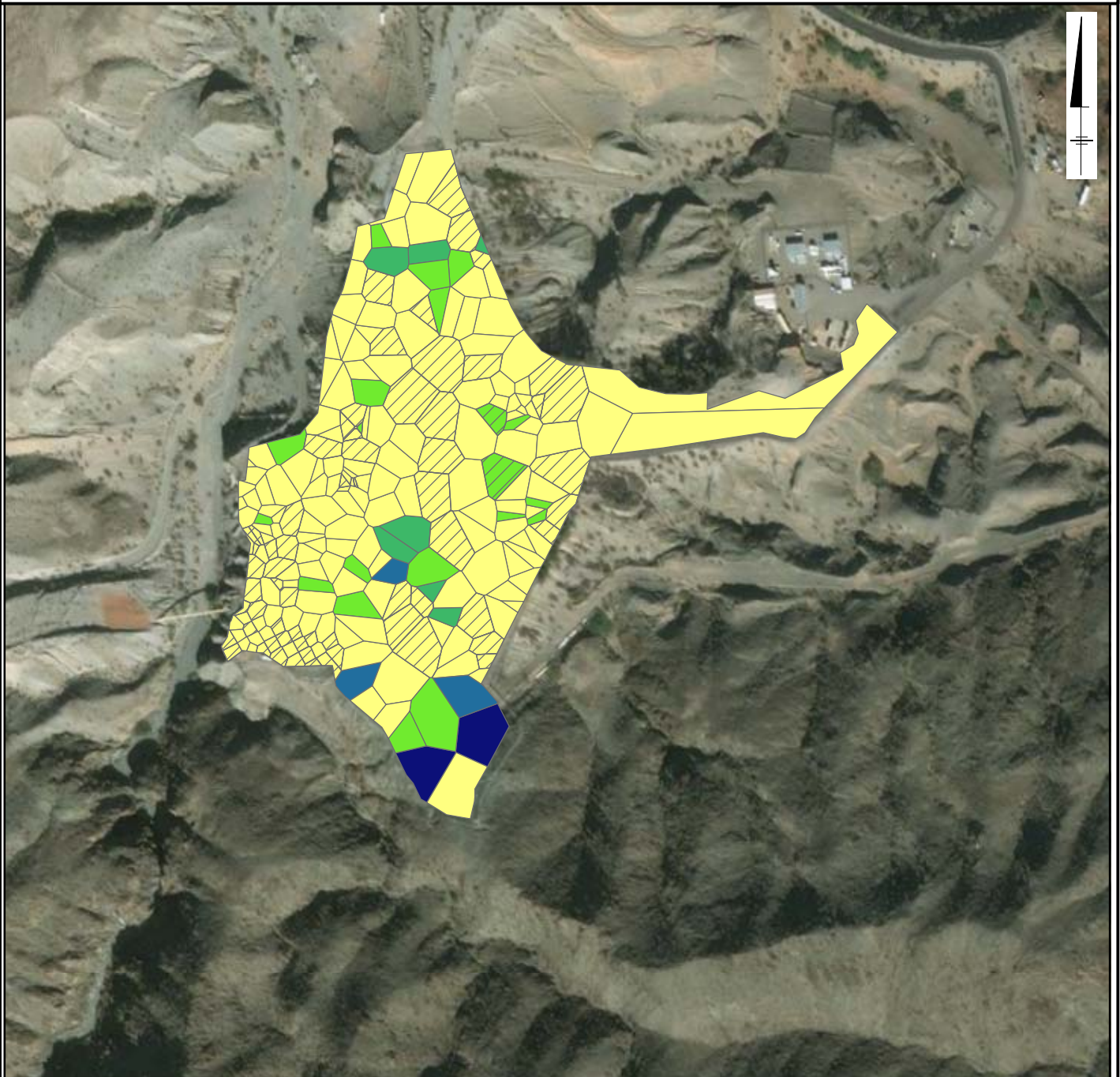
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.132

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE FLUORANTHENE

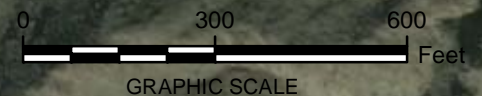


BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 98.40
- ≥98.40 - 386.00
- ≥386.00 - 1180.00
- ≥1180.00 - 2540.00
- ≥2540.00 - 5200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



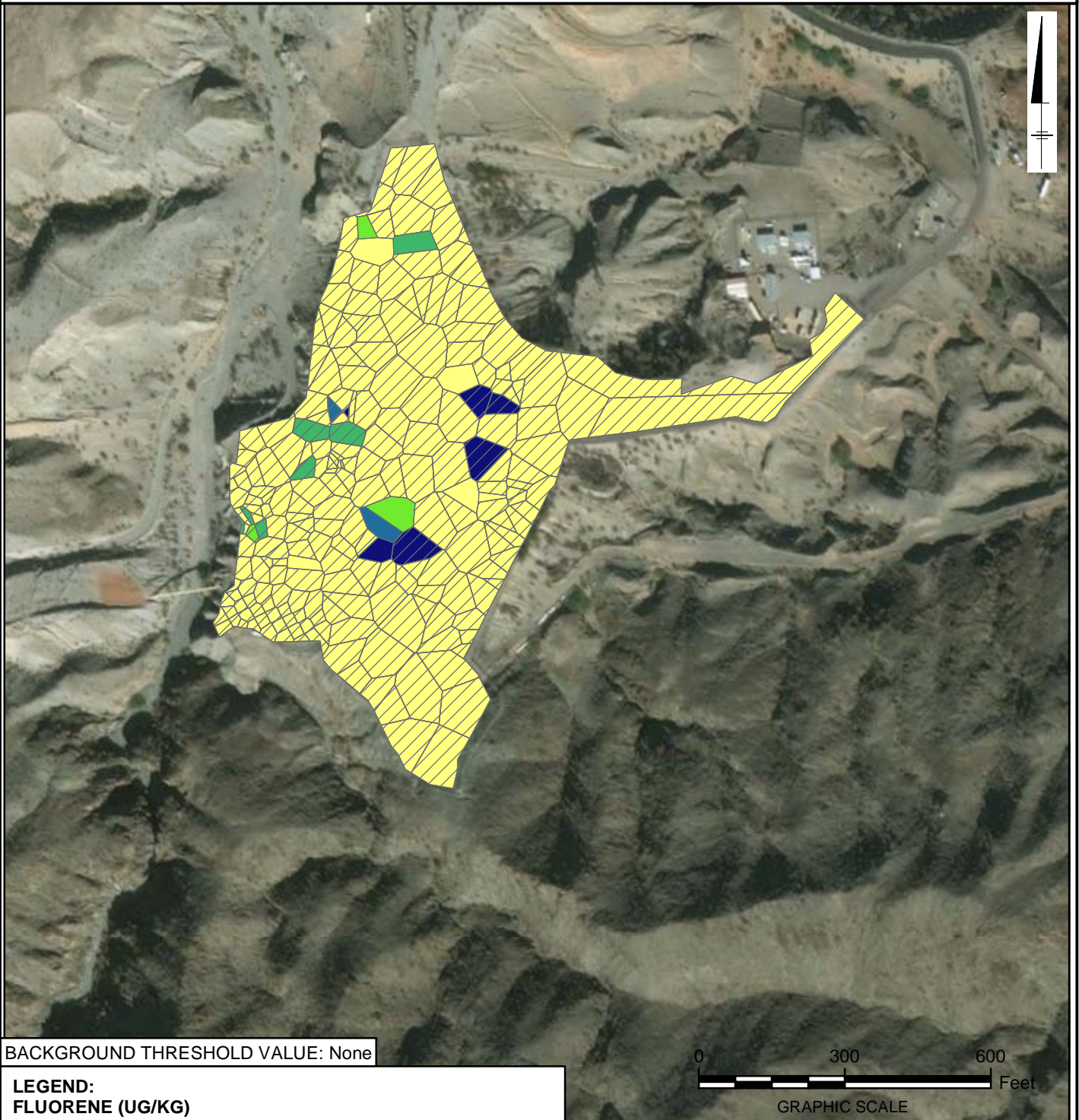
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FIGURE
ICS-A3.133

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE FLUORENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.67
- ≥6.67 - 17.00
- ≥17.00 - 35.30
- ≥35.30 - 65.00
- ≥65.00 - 291.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

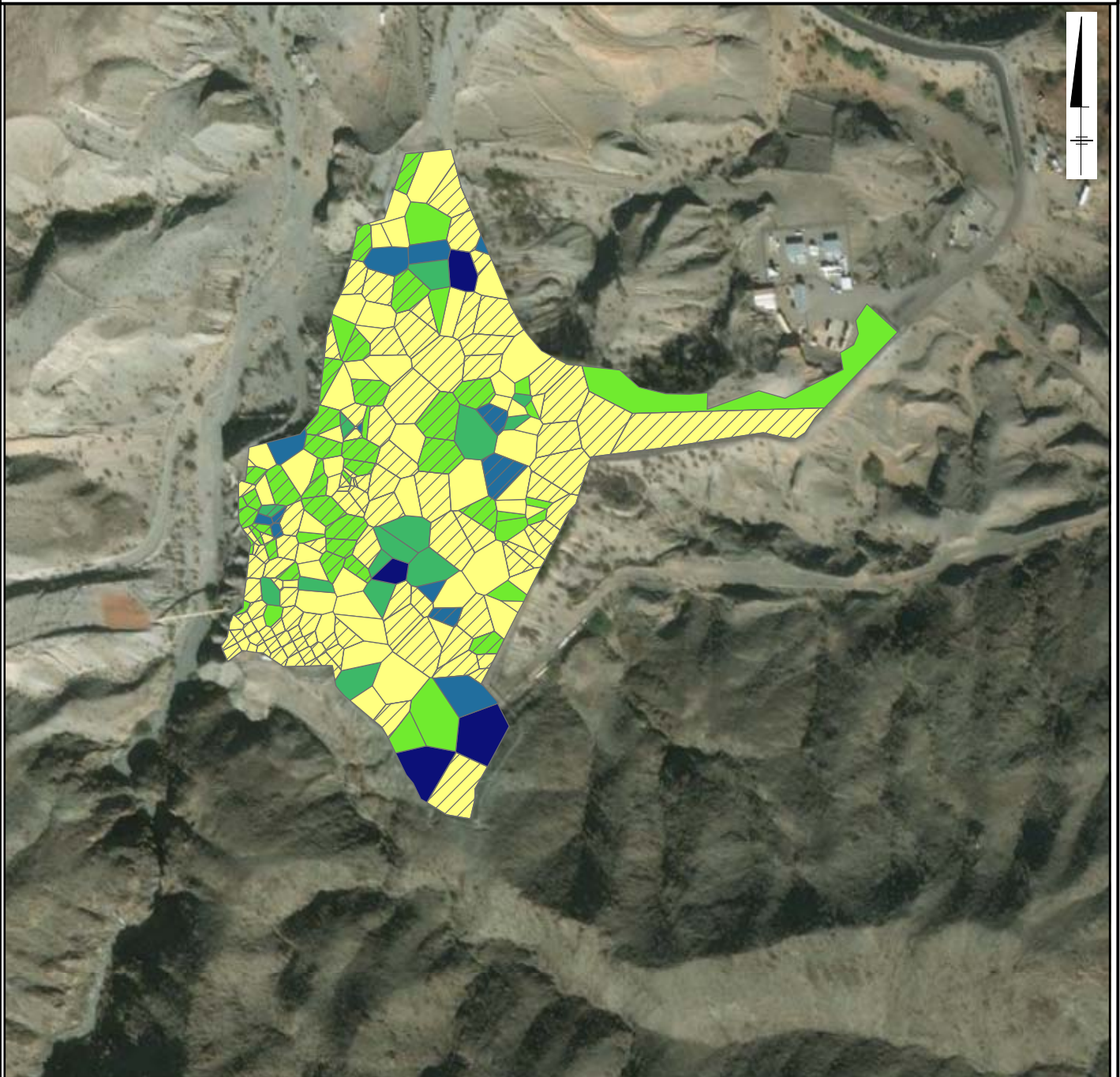
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FIGURE
ICS-A3.134

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 16.30
- ≥16.30 - 44.90
- ≥44.90 - 117.00
- ≥117.00 - 280.00
- ≥280.00 - 801.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

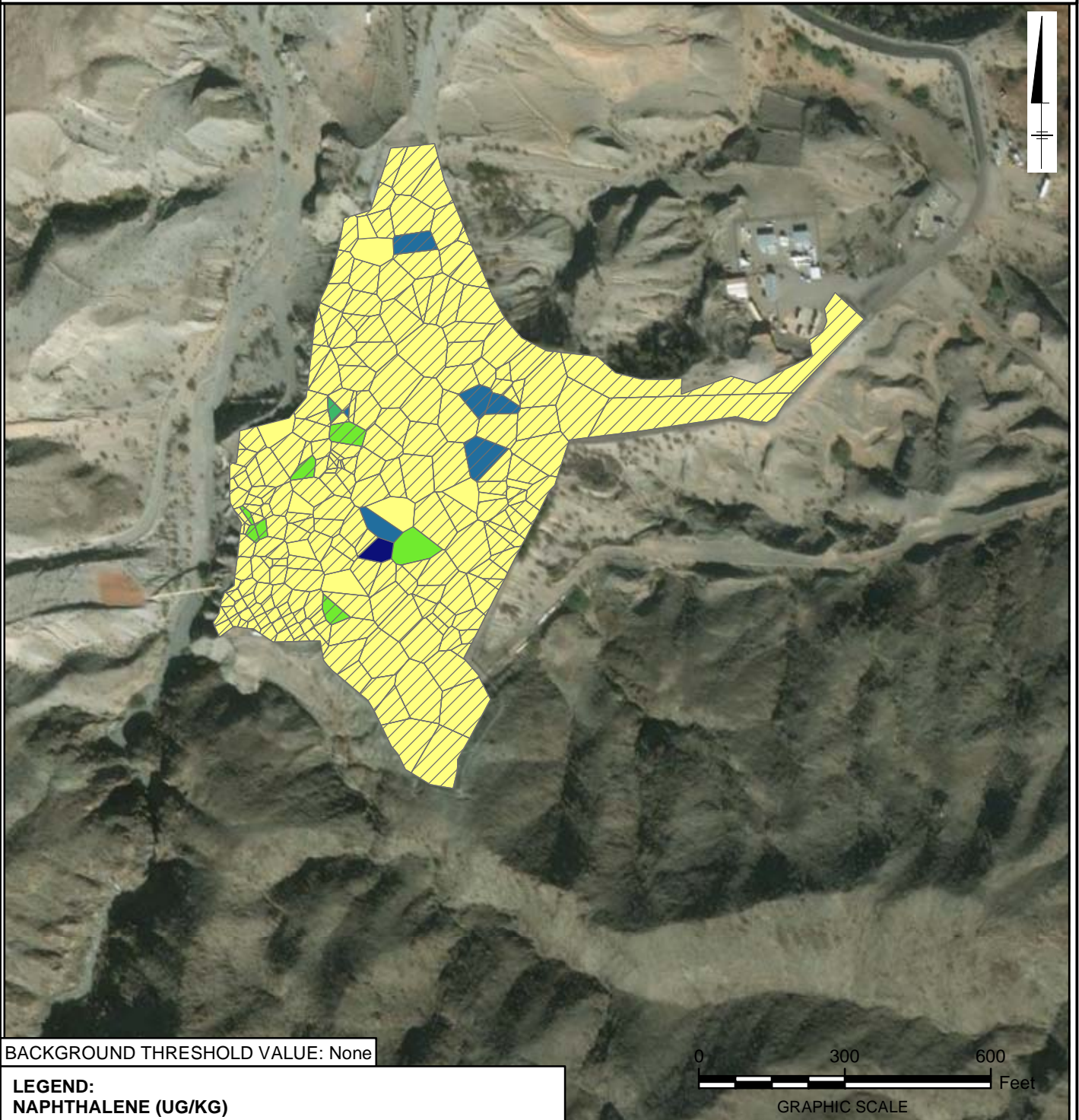
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AREA WEIGHTING

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FIGURE
ICS-A3.135

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.25 - 7.21
- ≥7.21 - 25.50
- ≥25.50 - 65.00
- ≥65.00 - 260.00
- ≥260.00 - 1020.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

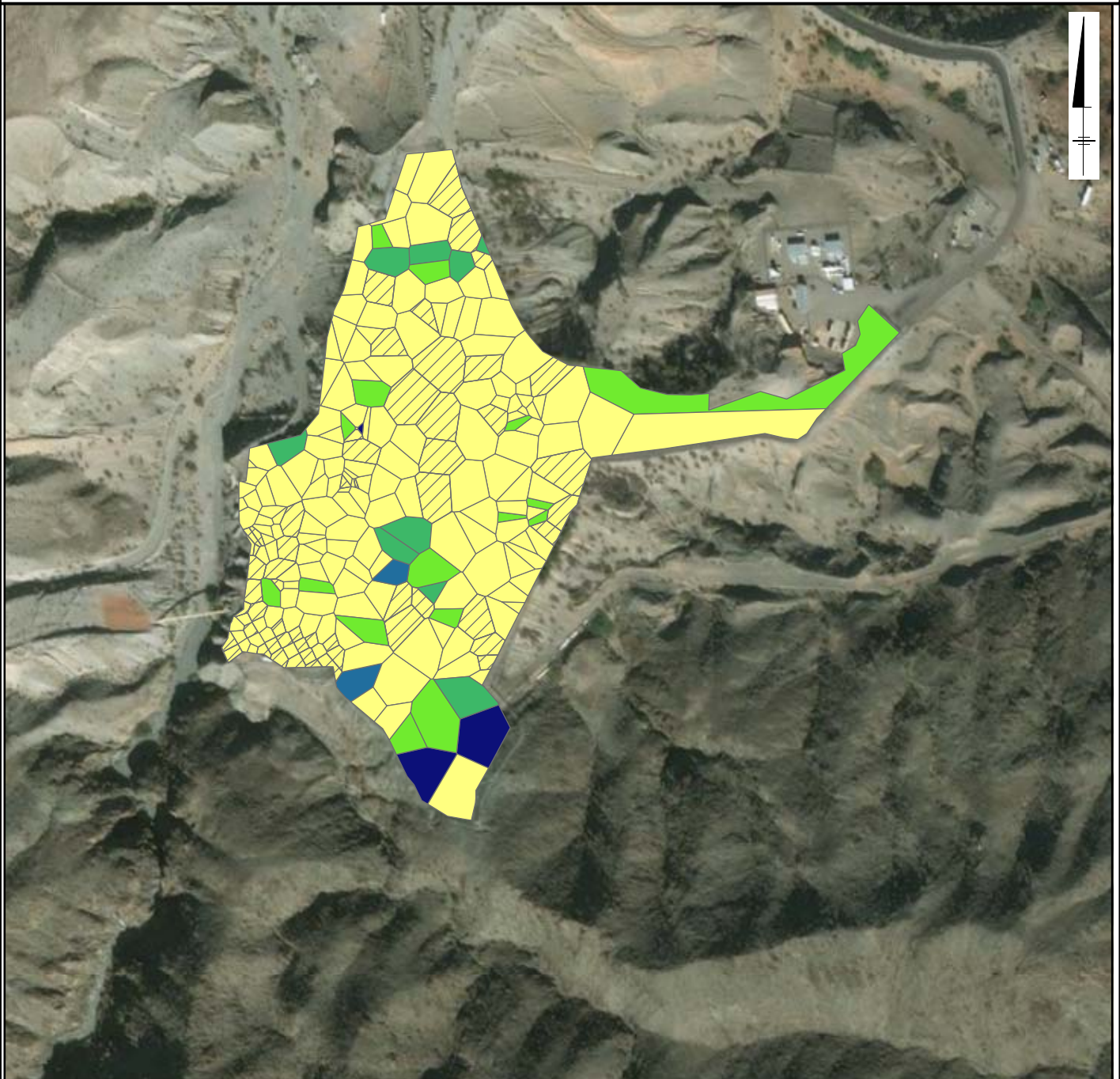
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.136

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT

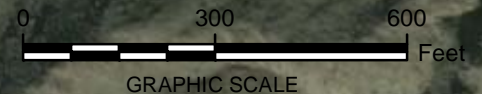


BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 650.00
- ≥650.00 - 2230.00
- ≥2230.00 - 6150.00
- ≥6150.00 - 9860.00
- ≥9860.00 - 28700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



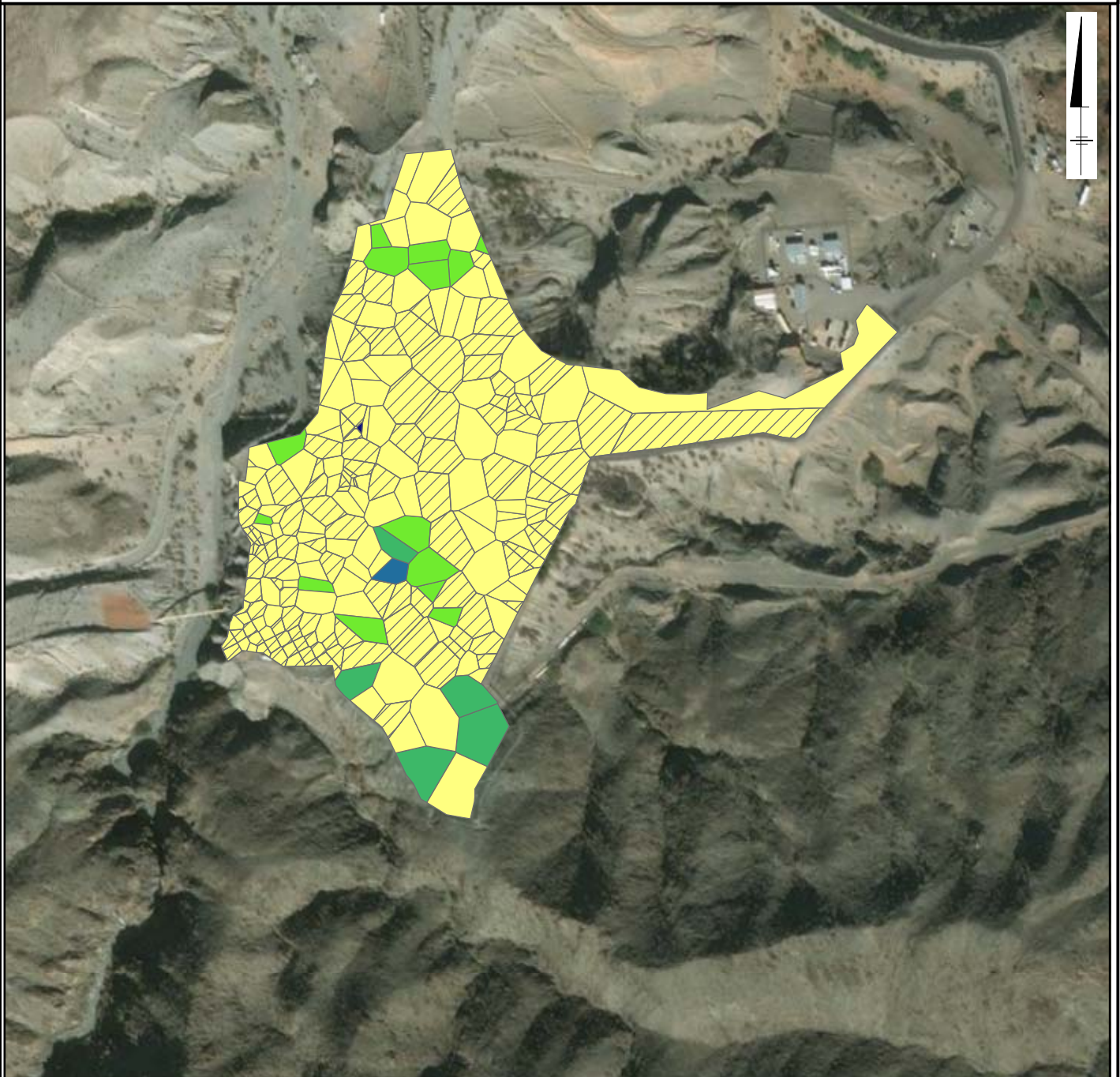
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.137

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

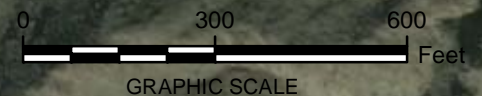


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 95.50
- ≥95.50 - 430.00
- ≥430.00 - 1350.00
- ≥1350.00 - 4420.00
- ≥4420.00 - 33000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



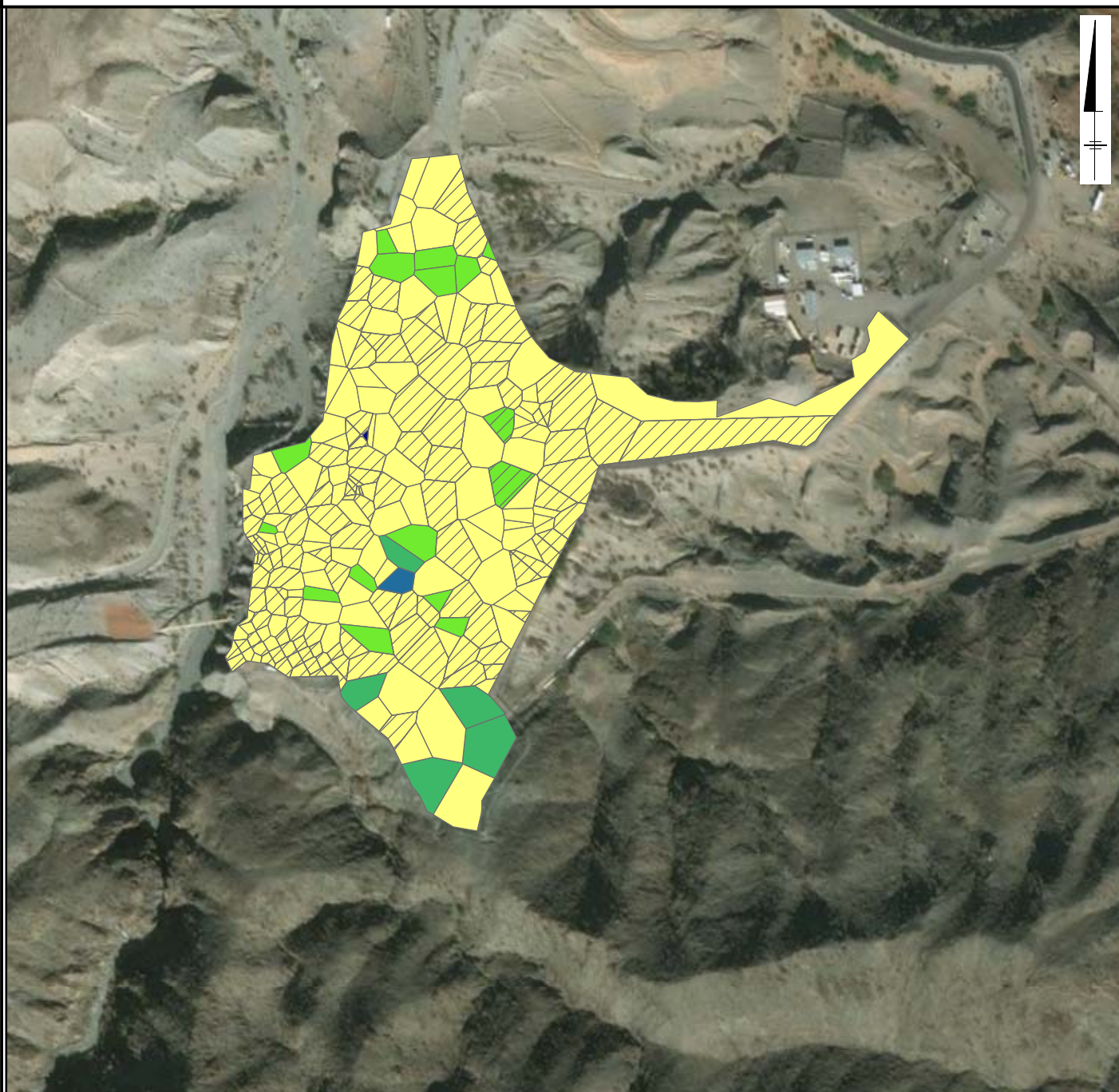
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FIGURE
ICS-A3.138

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE PHENANTHRENE

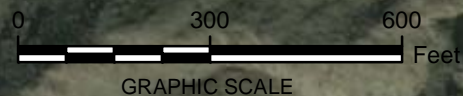


BACKGROUND THRESHOLD VALUE: None

LEGEND: PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.50 - 79.20
- ≥ 79.20 - 376.00
- ≥ 376.00 - 891.00
- ≥ 891.00 - 1910.00
- ≥ 1910.00 - 29000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



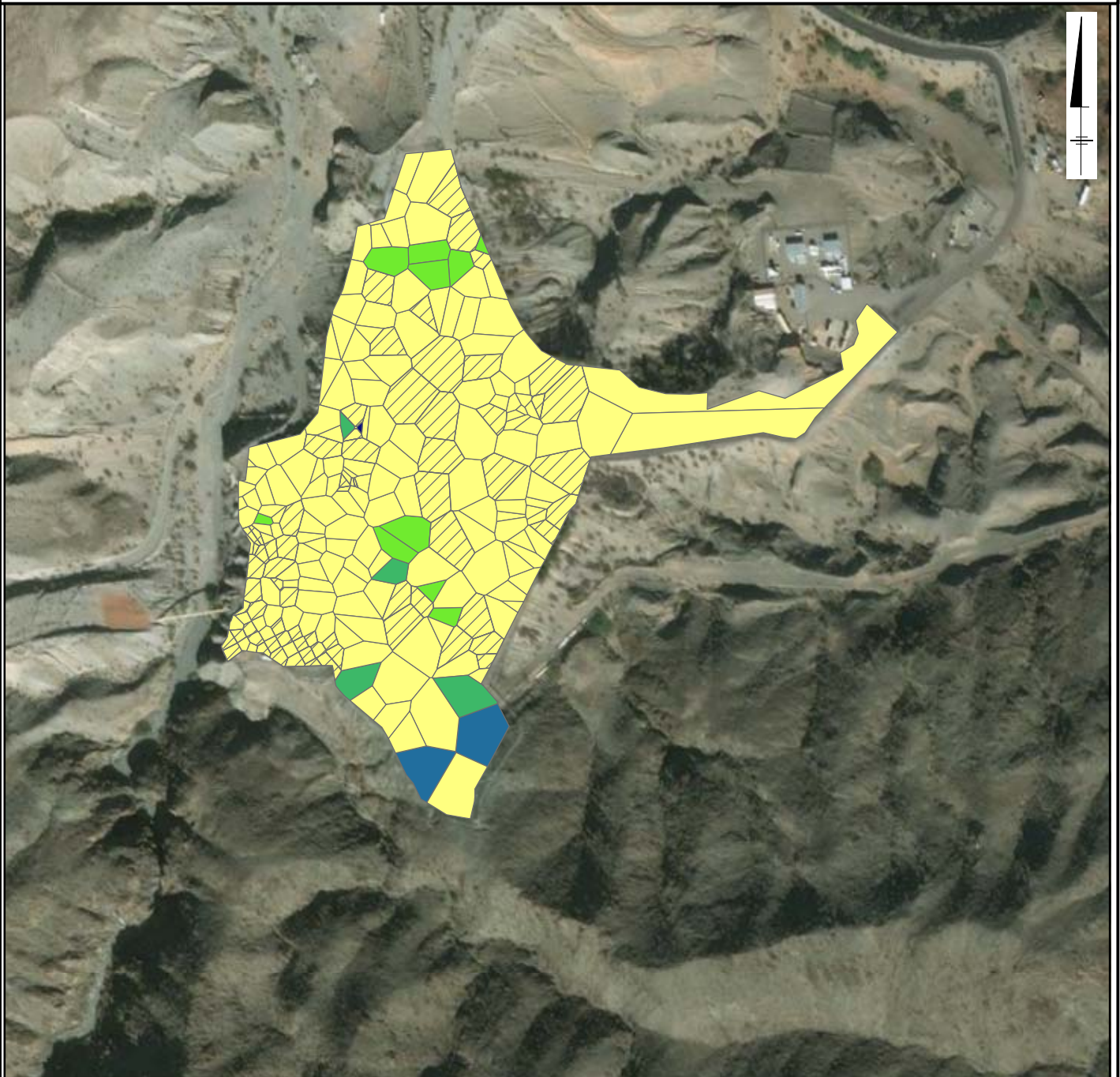
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FIGURE
ICS-A3.139

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.50 - 254.00
- ≥254.00 - 897.00
- ≥897.00 - 2400.00
- ≥2400.00 - 5040.00
- ≥5040.00 - 28000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



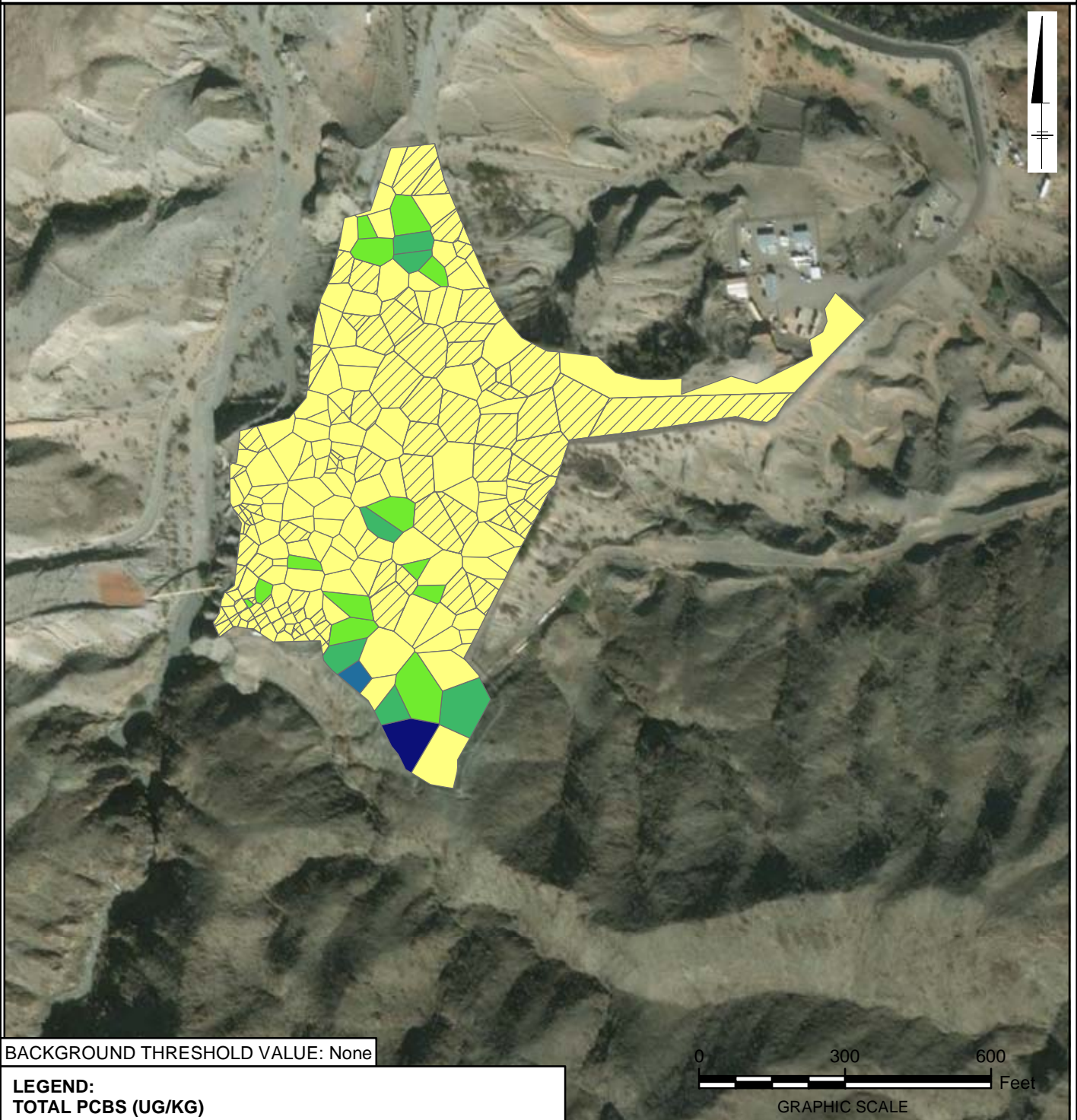
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FIGURE
ICS-A3.140

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TOTAL PCBS



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PG&E Topock (RC000753.0040.00003)
Z:\GIS\Projects\ENV\PG&E_Topock\MapBooks\Appendix\Thiessen_MXD\ThiessenAreaWeighting_InsideCompStn.mxd 6/18/2018 12:58:08 PM

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

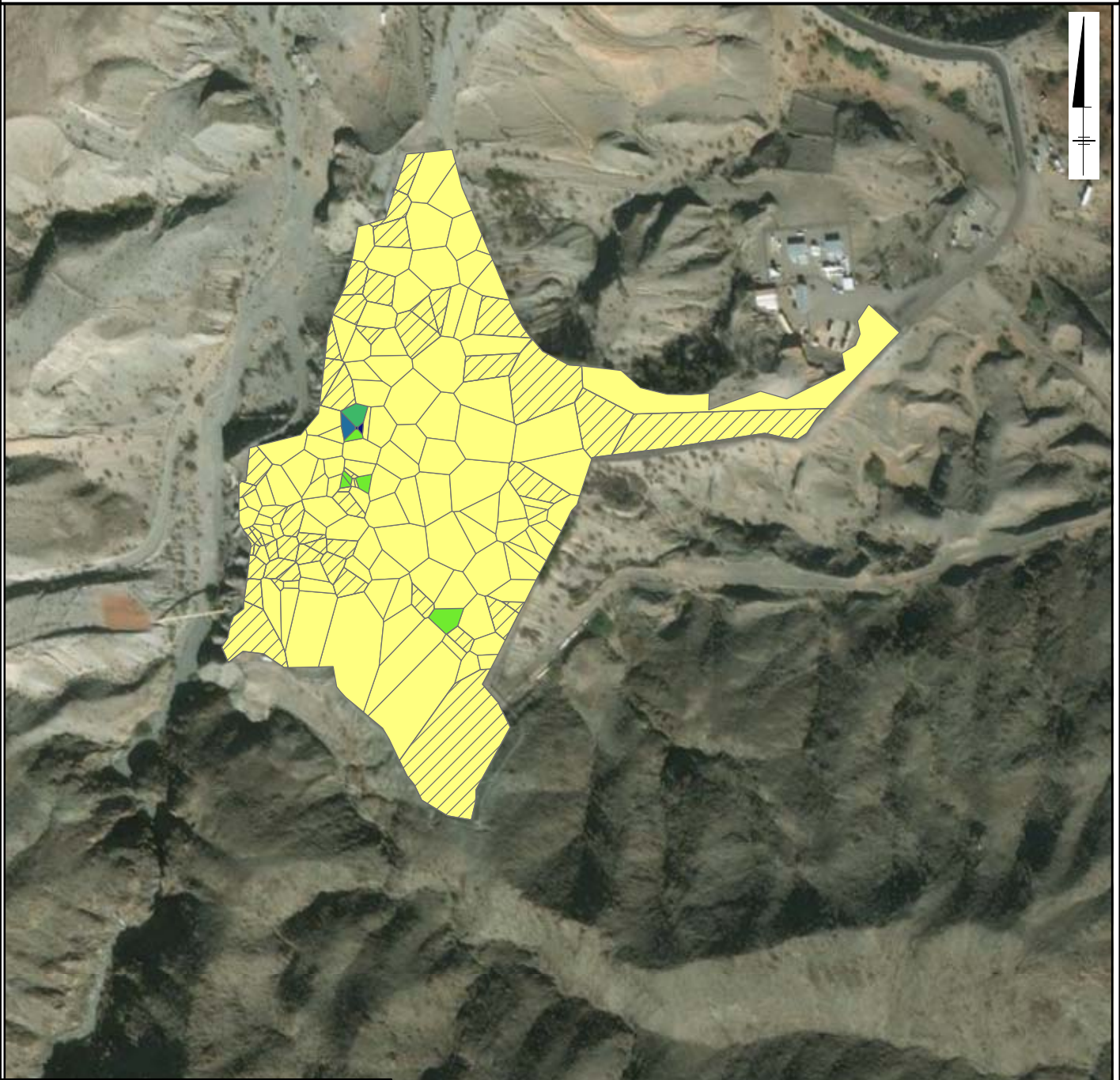
PG&E TOPOCK COMPRESSOR STATION
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**FIGURE
ICS-A3.141**

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 93.70
- ≥93.70 - 300.00
- ≥300.00 - 900.00
- ≥900.00 - 3500.00
- ≥3500.00 - 7100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



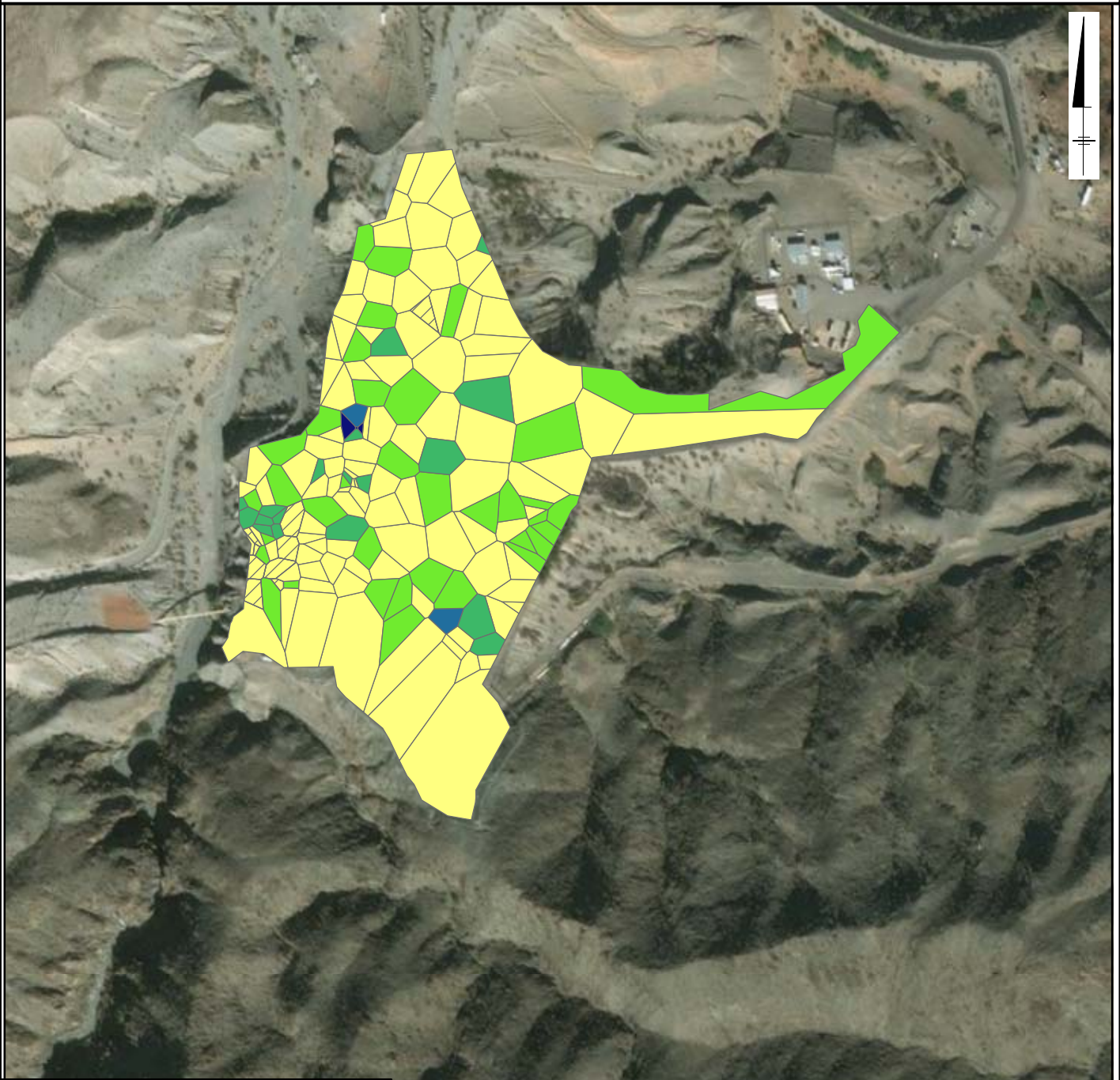
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.142

INSIDE TOPOCK COMPRESSOR STATION 0 - 6 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



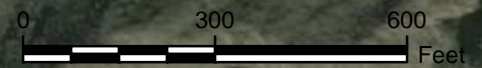
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

- NOT DETECTED
- 5.00 - 93.70
- ≥93.70 - 239.00
- ≥239.00 - 533.00
- ≥533.00 - 1100.00
- ≥1100.00 - 21000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

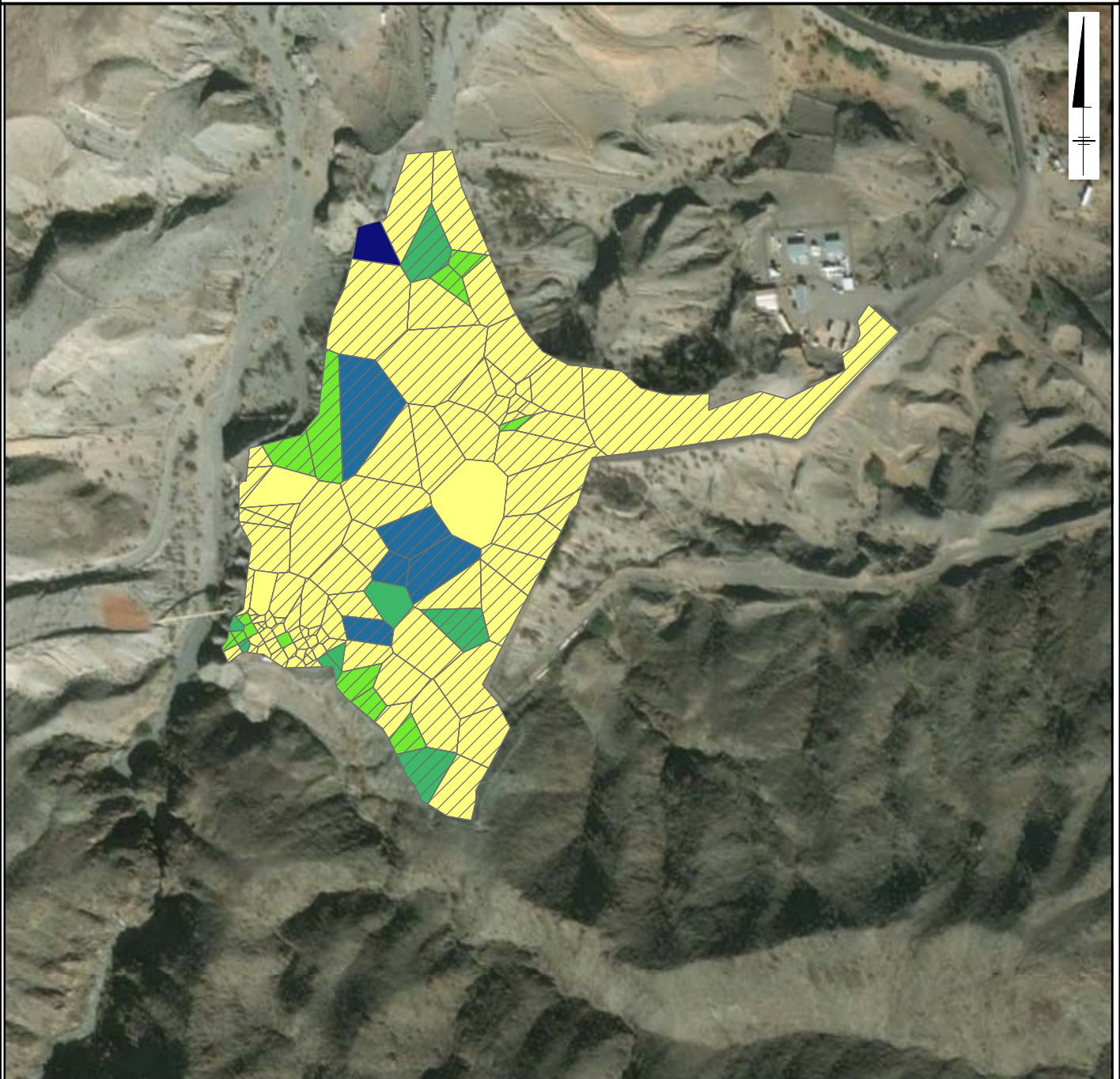
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THIESSEN POLYGONS FOR
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FIGURE
ICS-A3.143

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE 2,3,7,8-TCDD



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2,3,7,8-TCDD (NG/KG)

	NOT DETECTED
	0.02 - 0.33
	≥0.33 - 0.77
	≥0.77 - 1.95
	≥1.95 - 4.37
	≥4.37 - 13.90

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1. DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION. REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

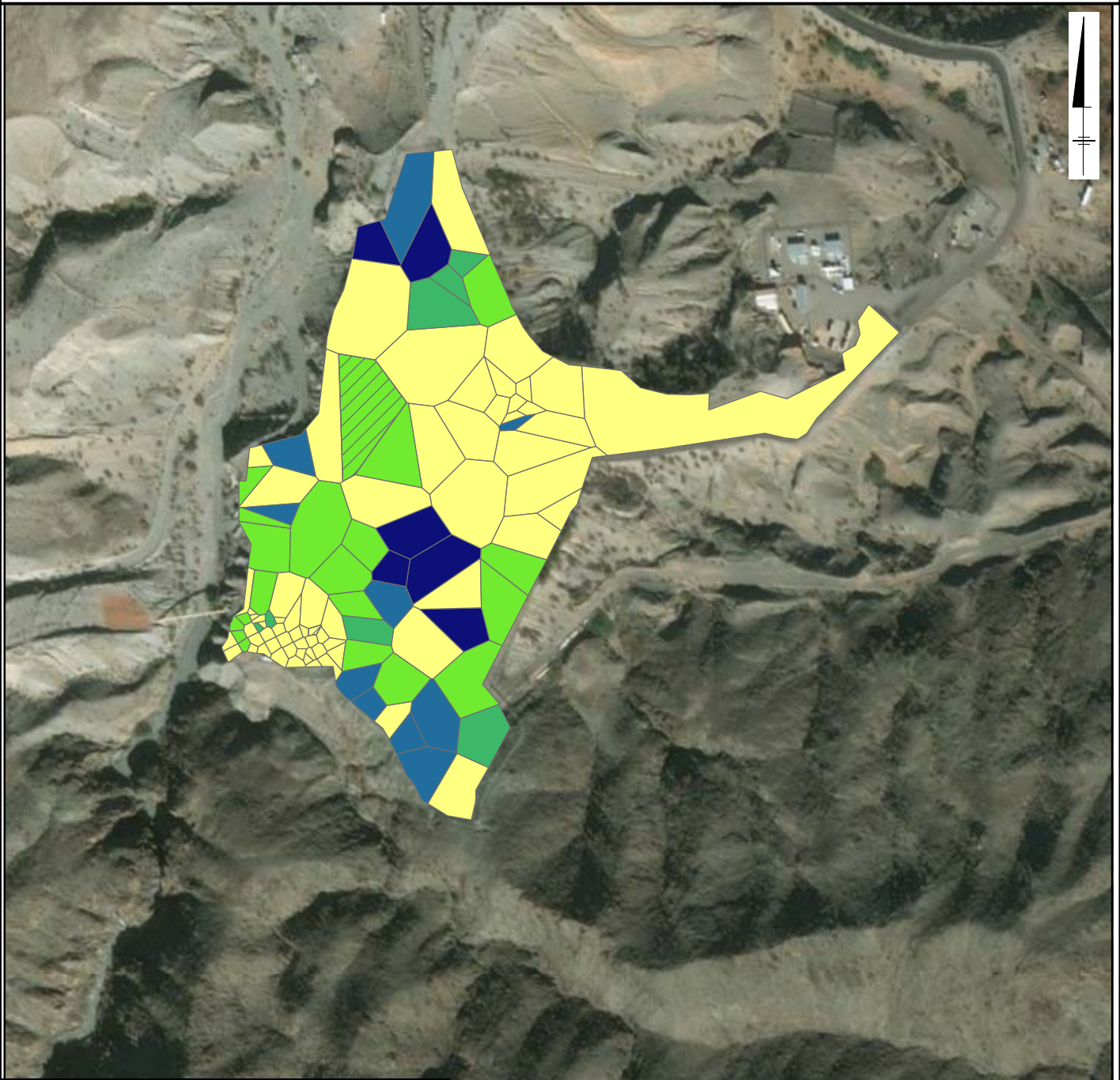
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FIGURE
ICS-A3.144

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TEQ AVIAN



BACKGROUND THRESHOLD VALUE: 5.98 NG/KG

LEGEND: TEQ AVIAN (NG/KG)

- NOT DETECTED
- 0.23 - 7.80
- ≥7.80 - 23.00
- ≥23.00 - 50.00
- ≥50.00 - 89.00
- ≥89.00 - 608.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

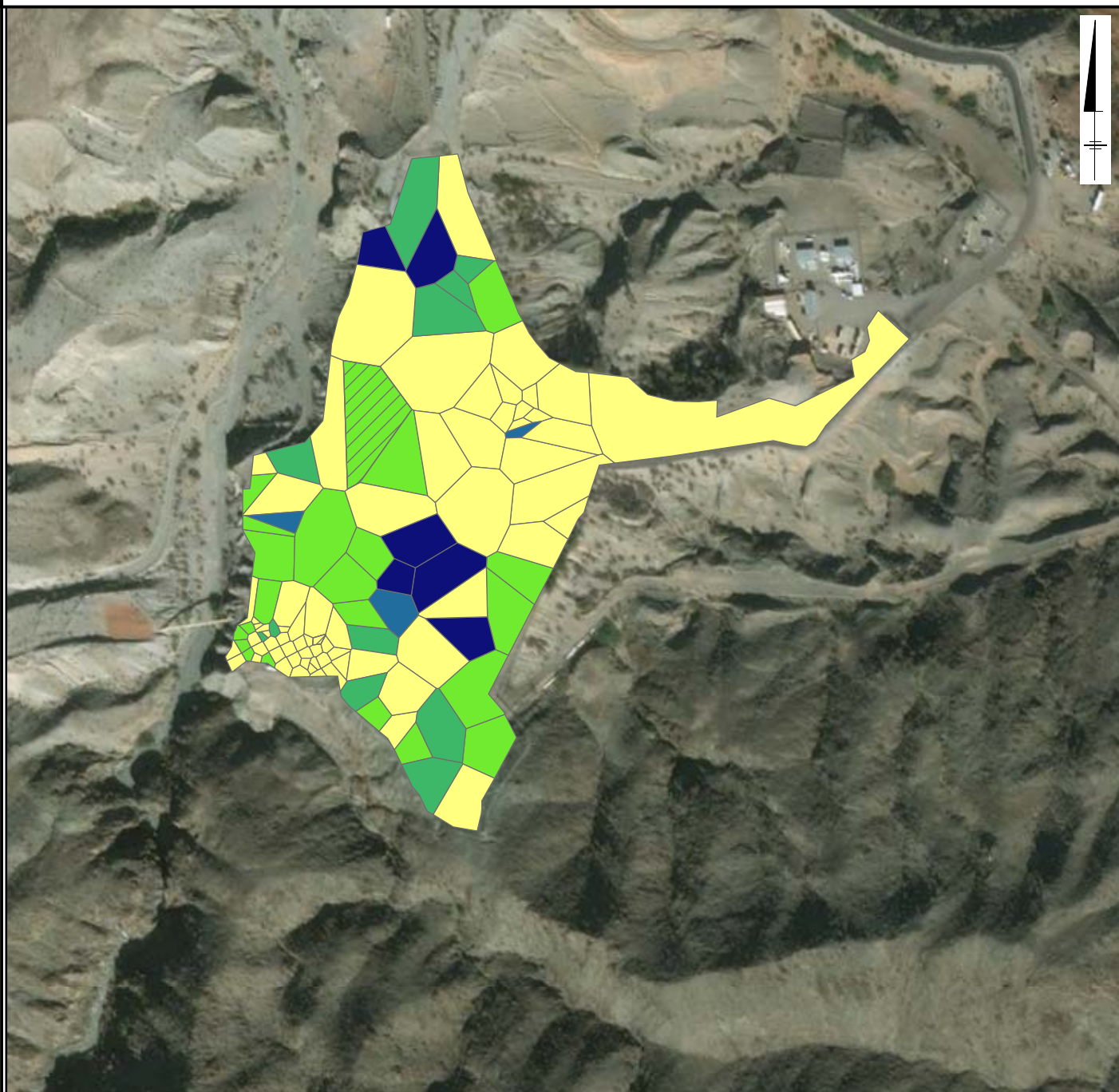
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FIGURE
ICS-A3.145

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TEQ HUMAN

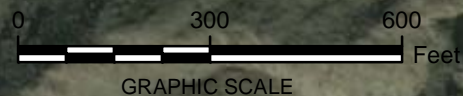


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ HUMAN (NG/KG)

- NOT DETECTED
- 0.18 - 14.20
- ≥14.20 - 44.40
- ≥44.40 - 94.40
- ≥94.40 - 192.00
- ≥192.00 - 868.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



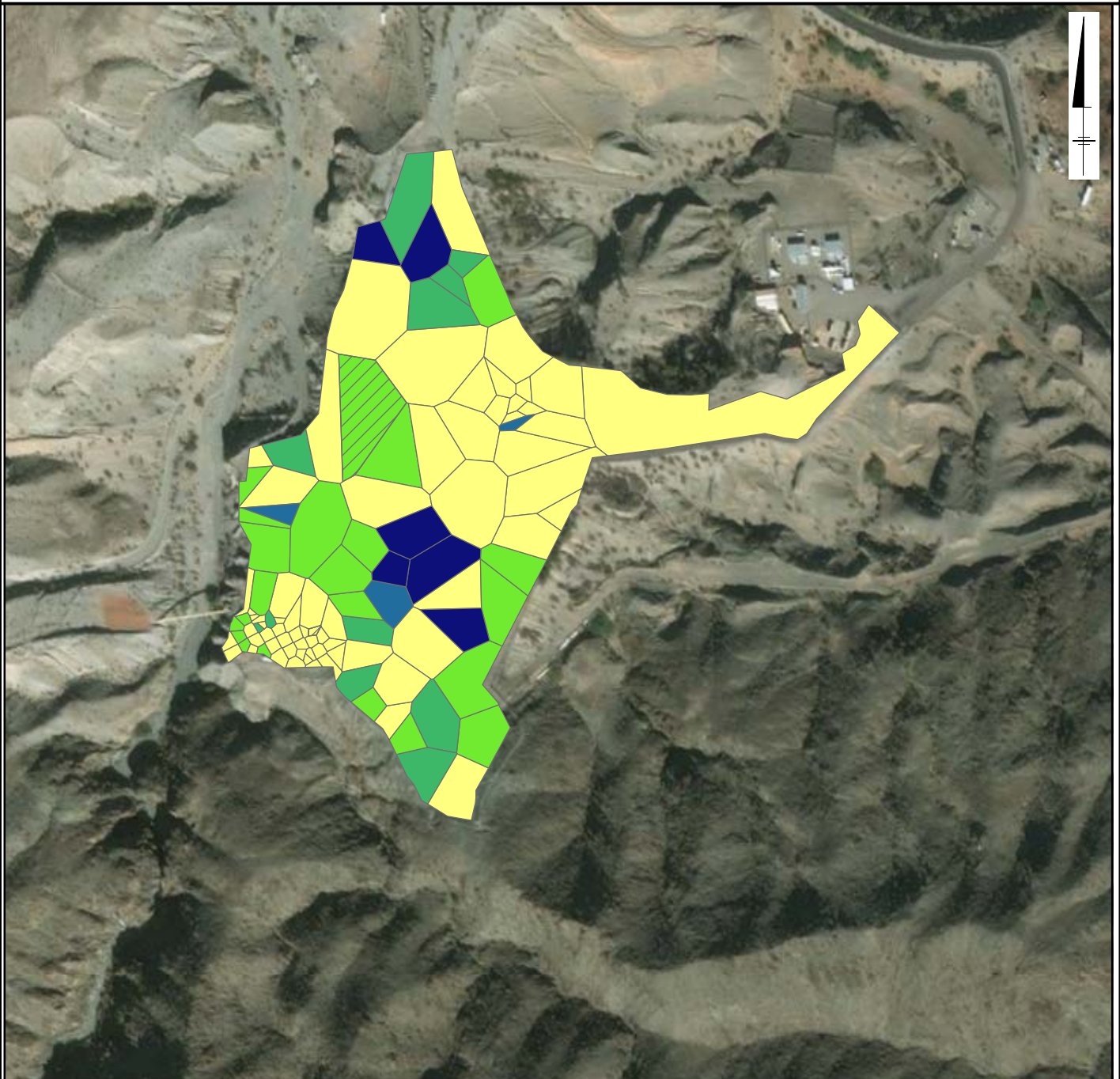
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.146

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TEQ MAMMALS

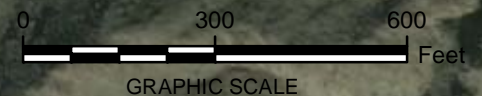


BACKGROUND THRESHOLD VALUE: 5.58 NG/KG

LEGEND: TEQ MAMMALS (NG/KG)

- NOT DETECTED
- 0.18 - 14.20
- ≥ 14.20 - 44.40
- ≥ 44.40 - 94.40
- ≥ 94.40 - 192.00
- ≥ 192.00 - 868.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



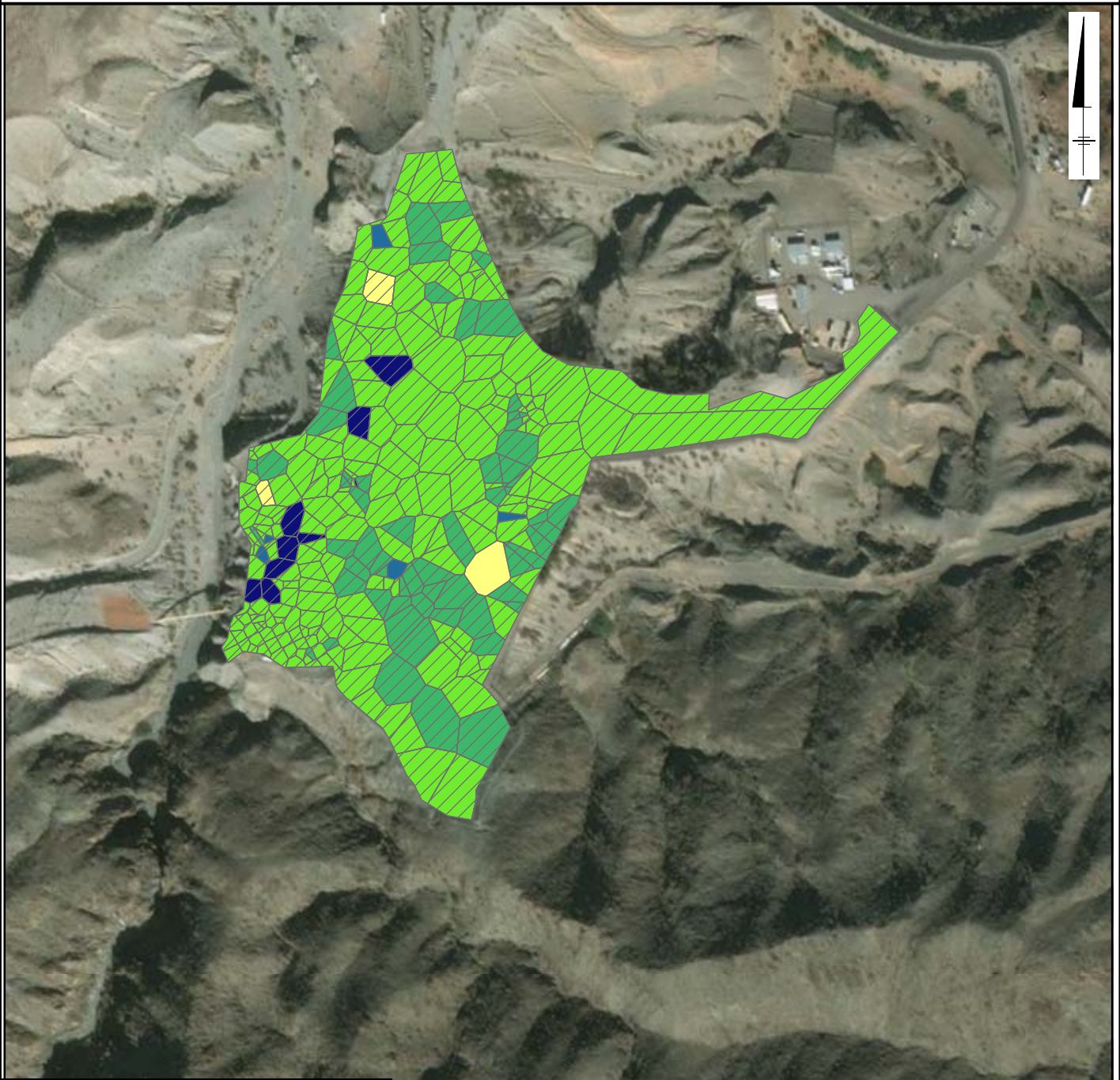
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FIGURE
ICS-A3.147

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ANTIMONY



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTIMONY (MG/KG)

-  NOT DETECTED
-  0.14 - 0.50
-  $\geq 0.50 - 1.06$
-  $\geq 1.06 - 1.20$
-  $\geq 1.20 - 1.52$
-  $\geq 1.52 - 3.19$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

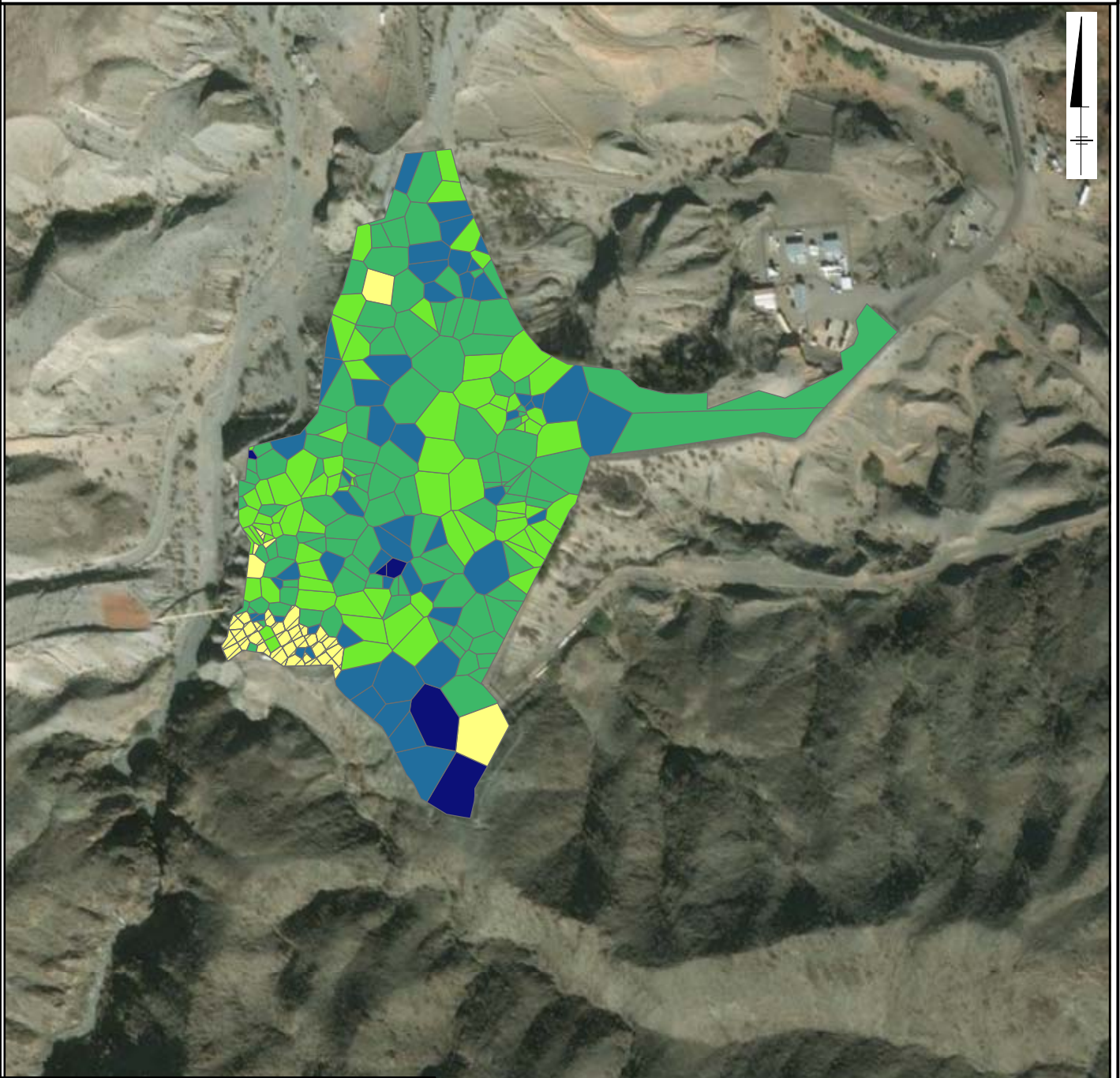
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FIGURE
ICS-A3.148

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ARSENIC



BACKGROUND THRESHOLD VALUE: 11 MG/KG

LEGEND: ARSENIC (MG/KG)

- NOT DETECTED
- 0.50 - 1.57
- $\geq 1.57 - 3.20$
- $\geq 3.20 - 4.24$
- $\geq 4.24 - 6.60$
- $\geq 6.60 - 12.00$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



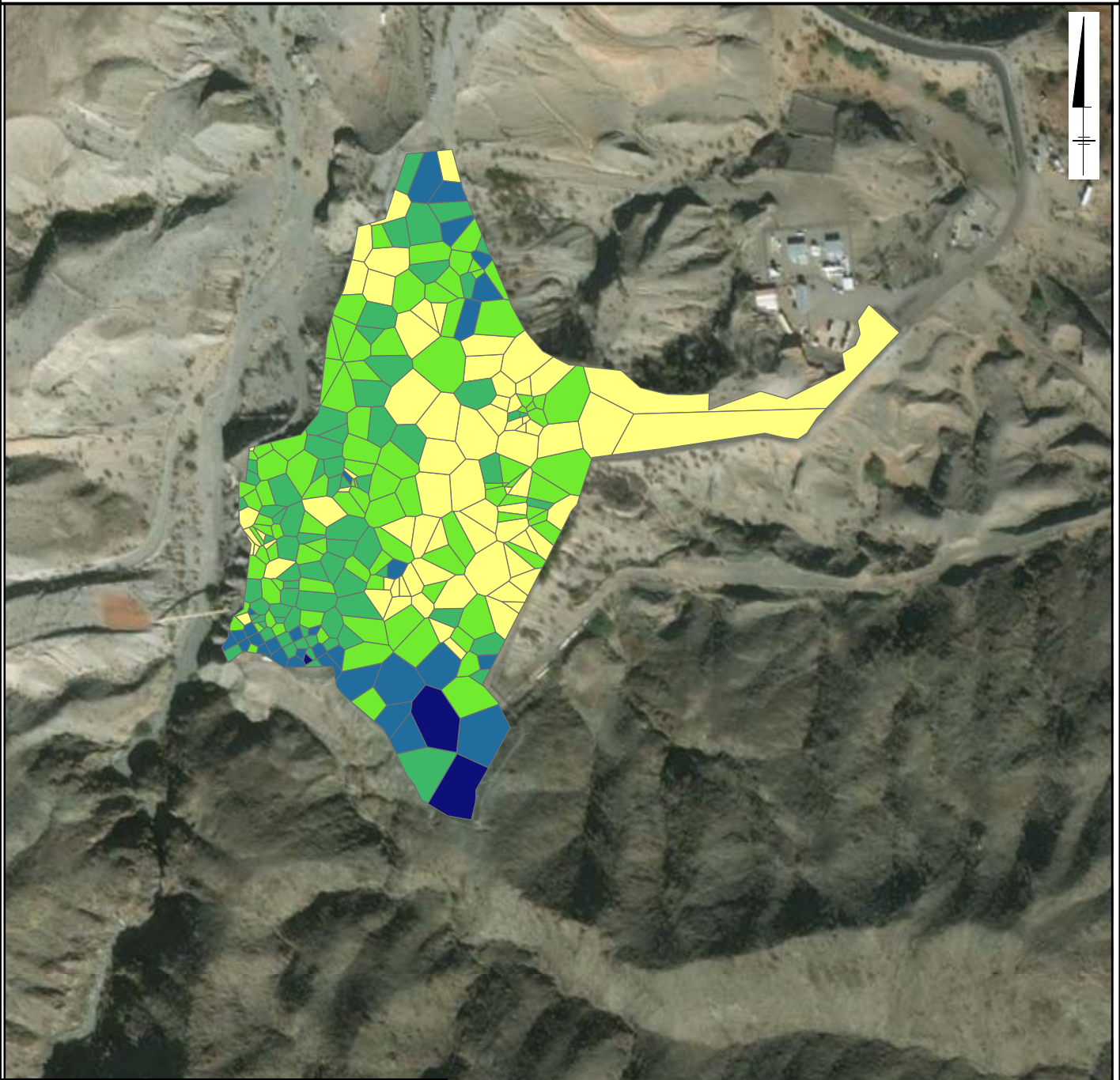
PG&E TOPOCK COMPRESSOR STATION
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FIGURE
ICS-A3.149

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BARIUM



BACKGROUND THRESHOLD VALUE: 410 MG/KG

LEGEND: BARIUM (MG/KG)

- NOT DETECTED
- 38.90 - 98.50
- ≥98.50 - 141.00
- ≥141.00 - 211.00
- ≥211.00 - 386.00
- ≥386.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



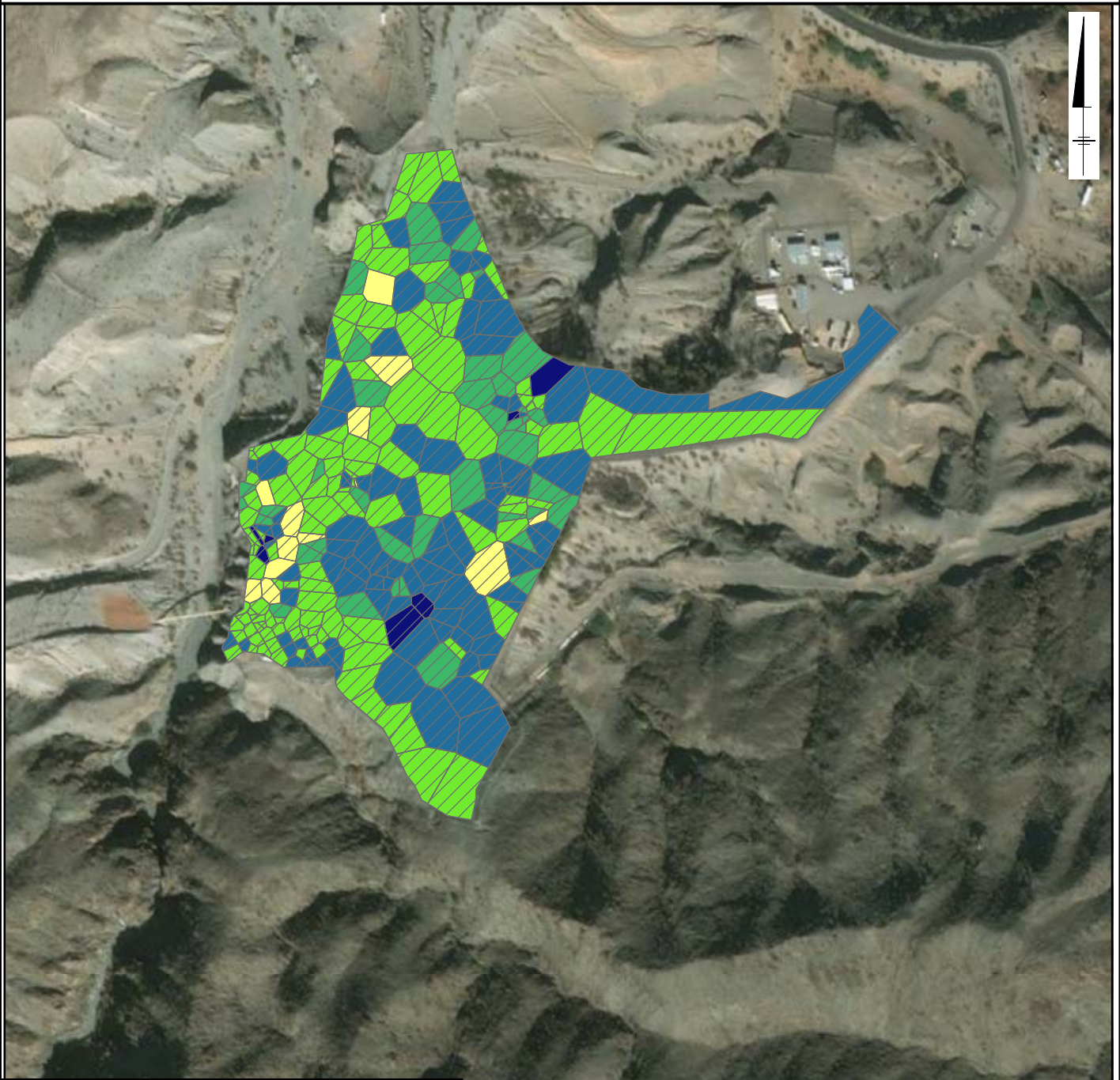
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
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FIGURE
ICS-A3.150

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BERYLLIUM



BACKGROUND THRESHOLD VALUE: 0.672 MG/KG

LEGEND: BERYLLIUM (MG/KG)

	NOT DETECTED
	0.05 - 0.34
	≥0.34 - 0.51
	≥0.51 - 0.53
	≥0.53 - 0.56
	≥0.56 - 0.65

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

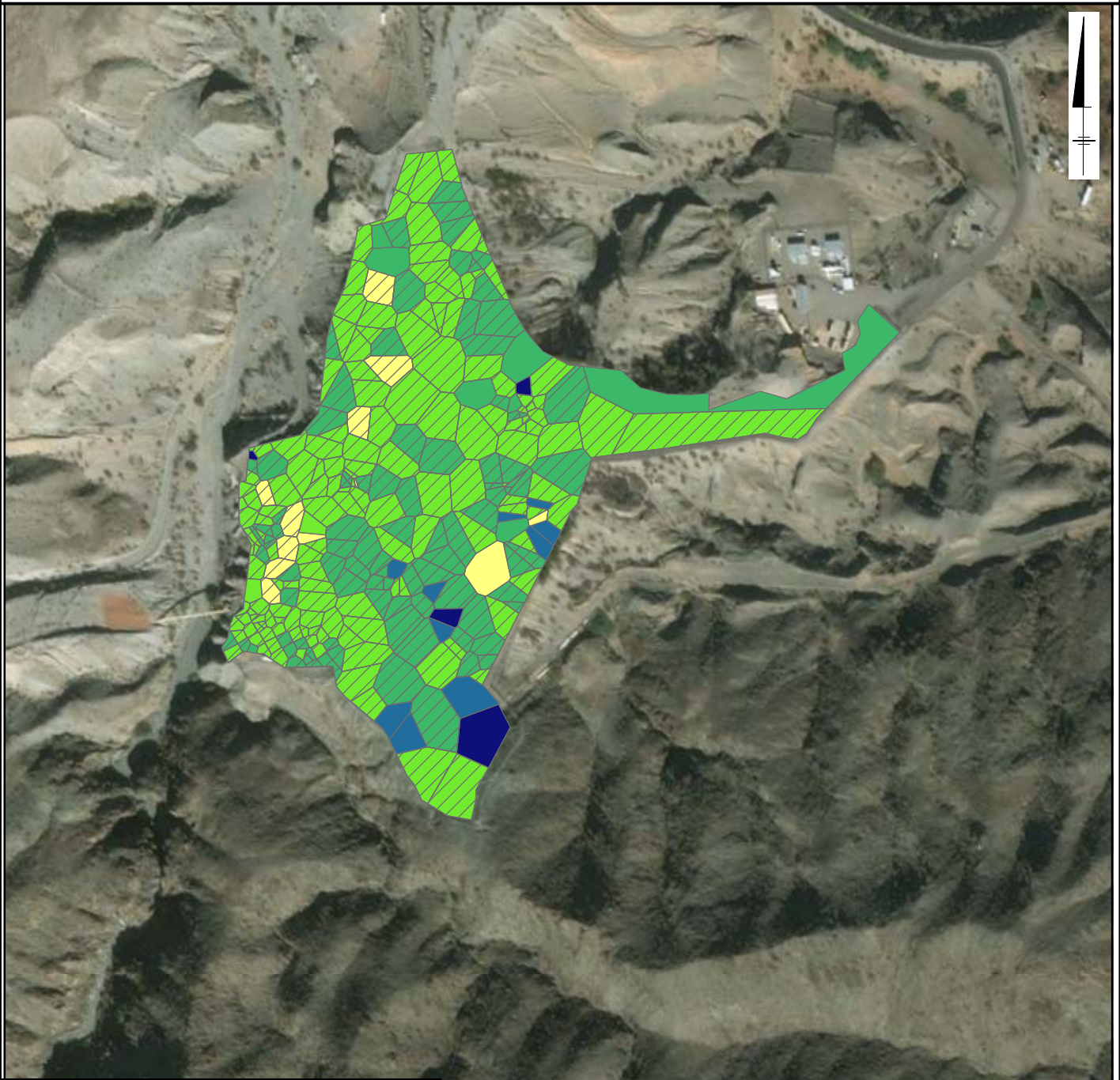
PG&E TOPOCK COMPRESSOR STATION
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THIESSEN POLYGONS FOR
AREA WEIGHTING

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FIGURE
ICS-A3.151

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE CADMIUM

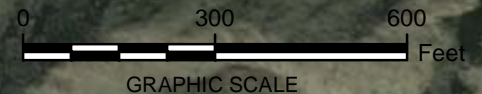


BACKGROUND THRESHOLD VALUE: 1.1 MG/KG

LEGEND: CADMIUM (MG/KG)

	NOT DETECTED
	0.10 - 0.34
	≥0.34 - 0.53
	≥0.53 - 0.78
	≥0.78 - 1.51
	≥1.51 - 2.50

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



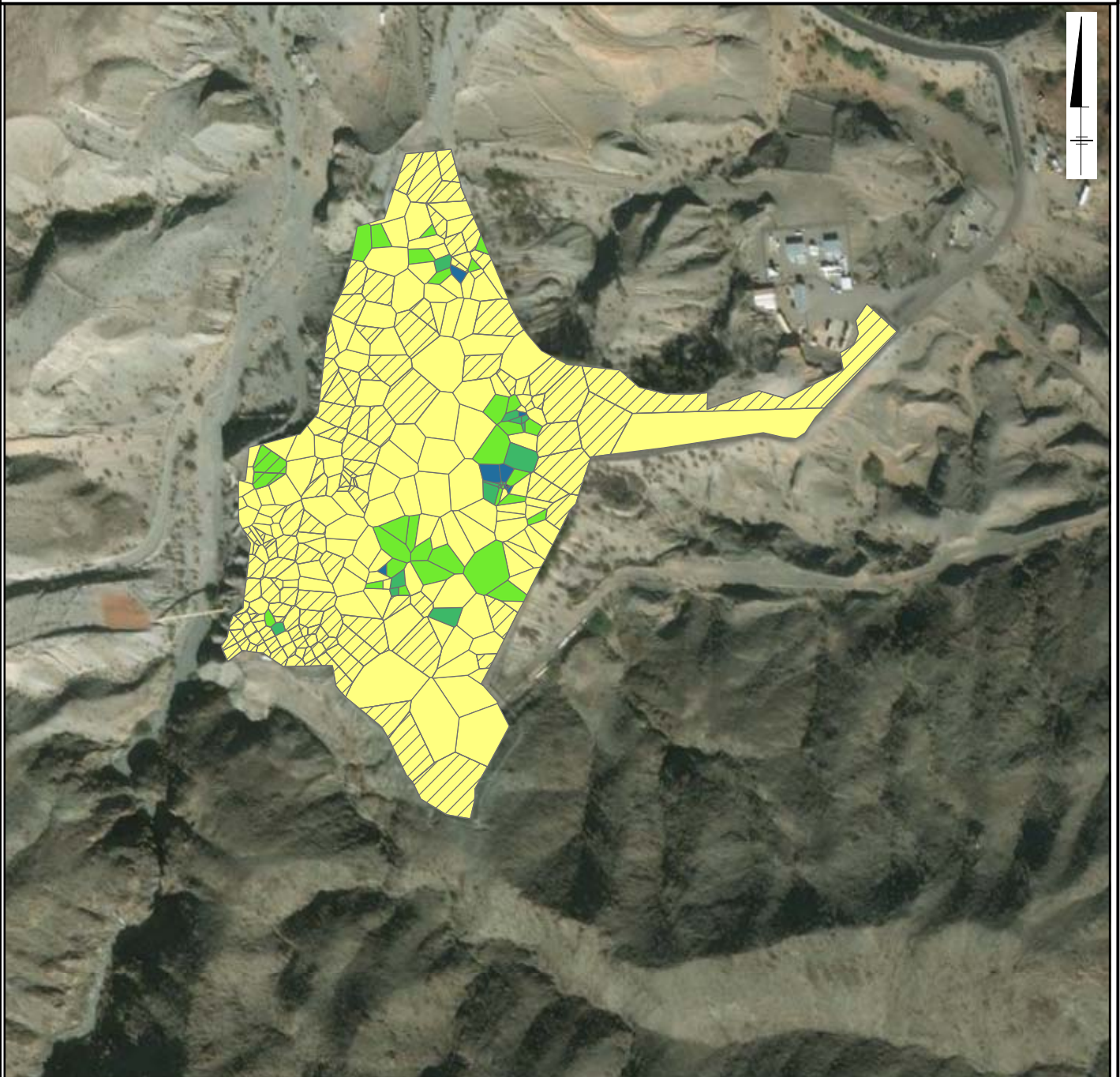
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THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.152

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, HEXAVALENT



BACKGROUND THRESHOLD VALUE: 0.83 MG/KG

LEGEND: CHROMIUM, HEXAVALENT (MG/KG)

- NOT DETECTED
- 0.10 - 1.60
- ≥1.60 - 5.20
- ≥5.20 - 12.00
- ≥12.00 - 32.20
- ≥32.20 - 61.20

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

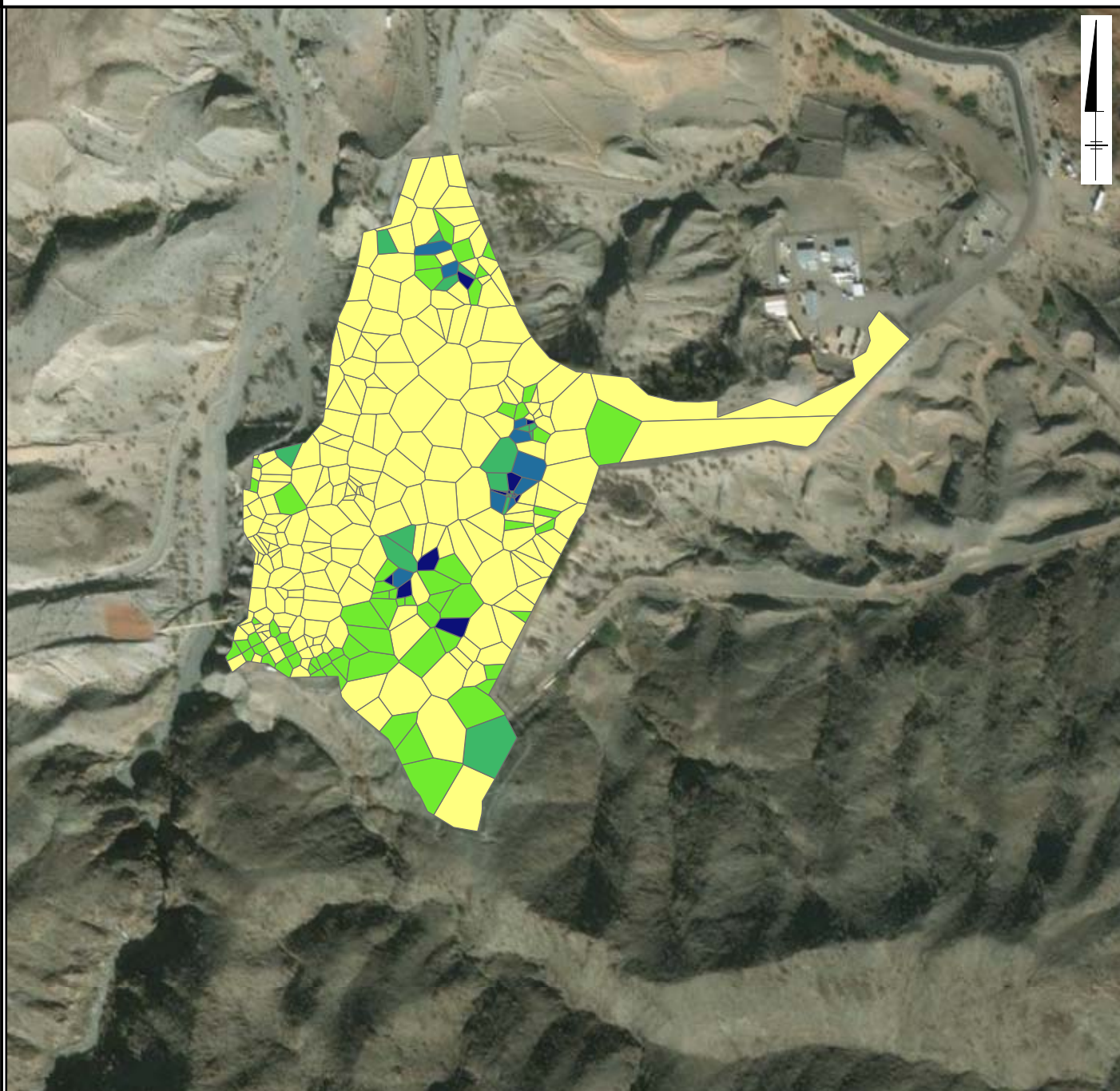
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FIGURE
ICS-A3.153

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE CHROMIUM, TOTAL

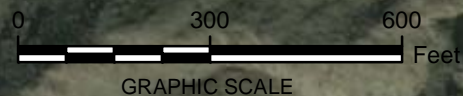


BACKGROUND THRESHOLD VALUE: 39.8 MG/KG

LEGEND: CHROMIUM, TOTAL (MG/KG)

- NOT DETECTED
- 4.20 - 33.30
- ≥33.30 - 80.50
- ≥80.50 - 170.00
- ≥170.00 - 386.00
- ≥386.00 - 982.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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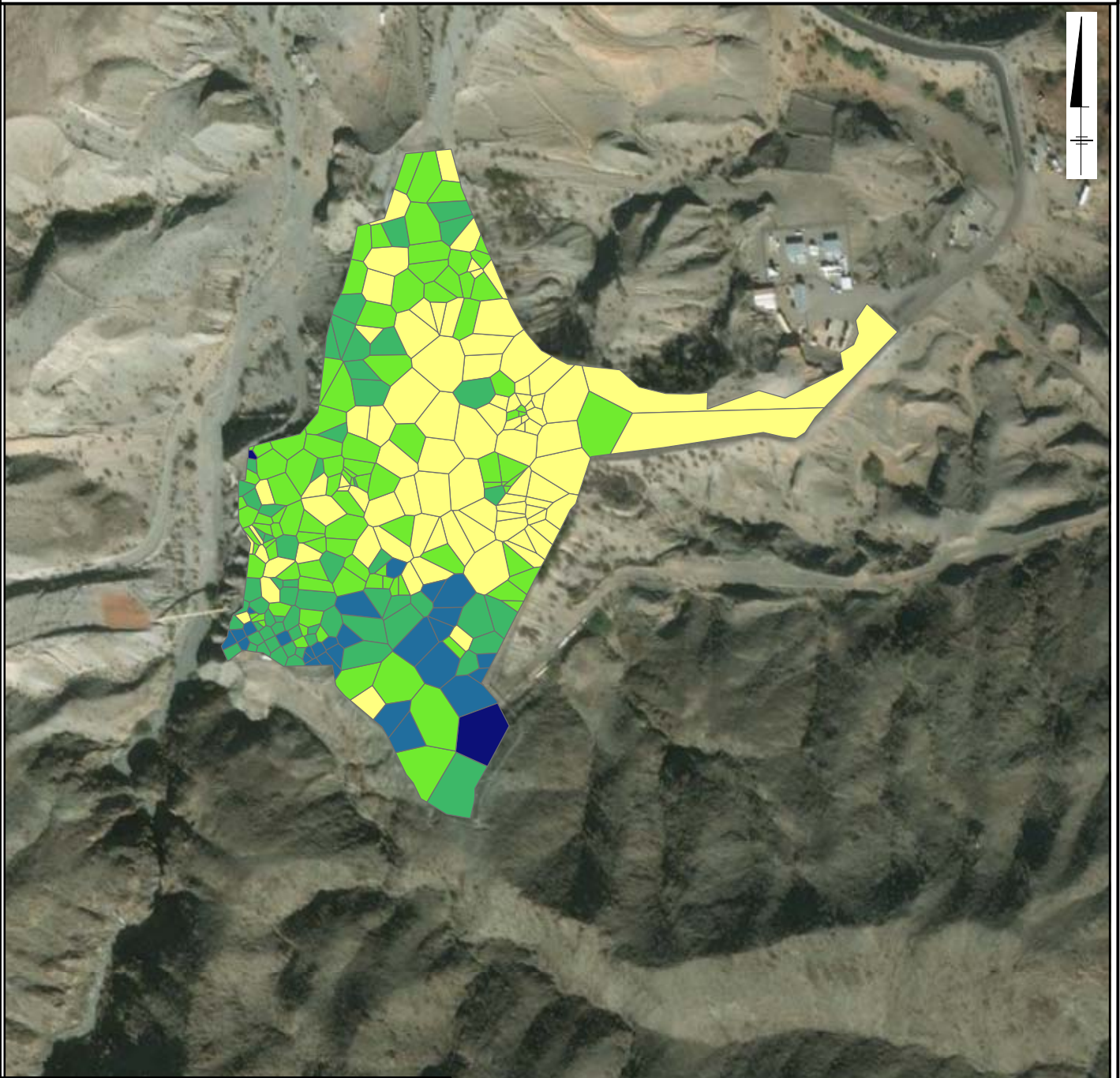
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FIGURE
ICS-A3.154

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE COBALT



BACKGROUND THRESHOLD VALUE: 12.7 MG/KG

LEGEND: COBALT (MG/KG)

- NOT DETECTED
- 1.36 - 4.46
- ≥ 4.46 - 6.72
- ≥ 6.72 - 9.50
- ≥ 9.50 - 14.10
- ≥ 14.10 - 27.30

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



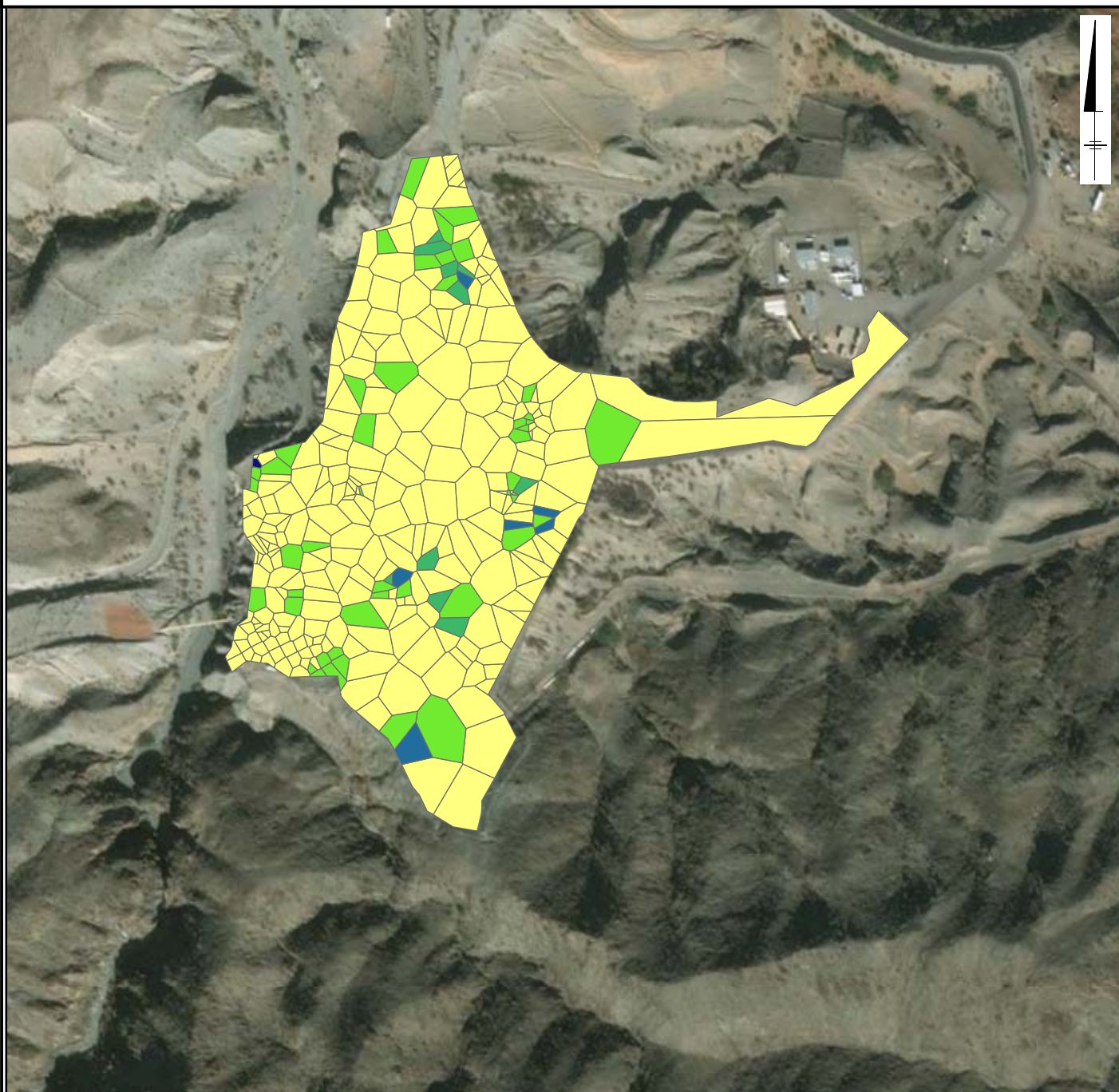
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FIGURE
ICS-A3.155

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE COPPER

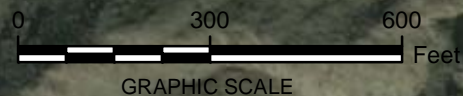


BACKGROUND THRESHOLD VALUE: 16.8 MG/KG

LEGEND: COPPER (MG/KG)

-  NOT DETECTED
-  1.00 - 20.60
-  ≥20.60 - 51.60
-  ≥51.60 - 110.00
-  ≥110.00 - 329.00
-  ≥329.00 - 1500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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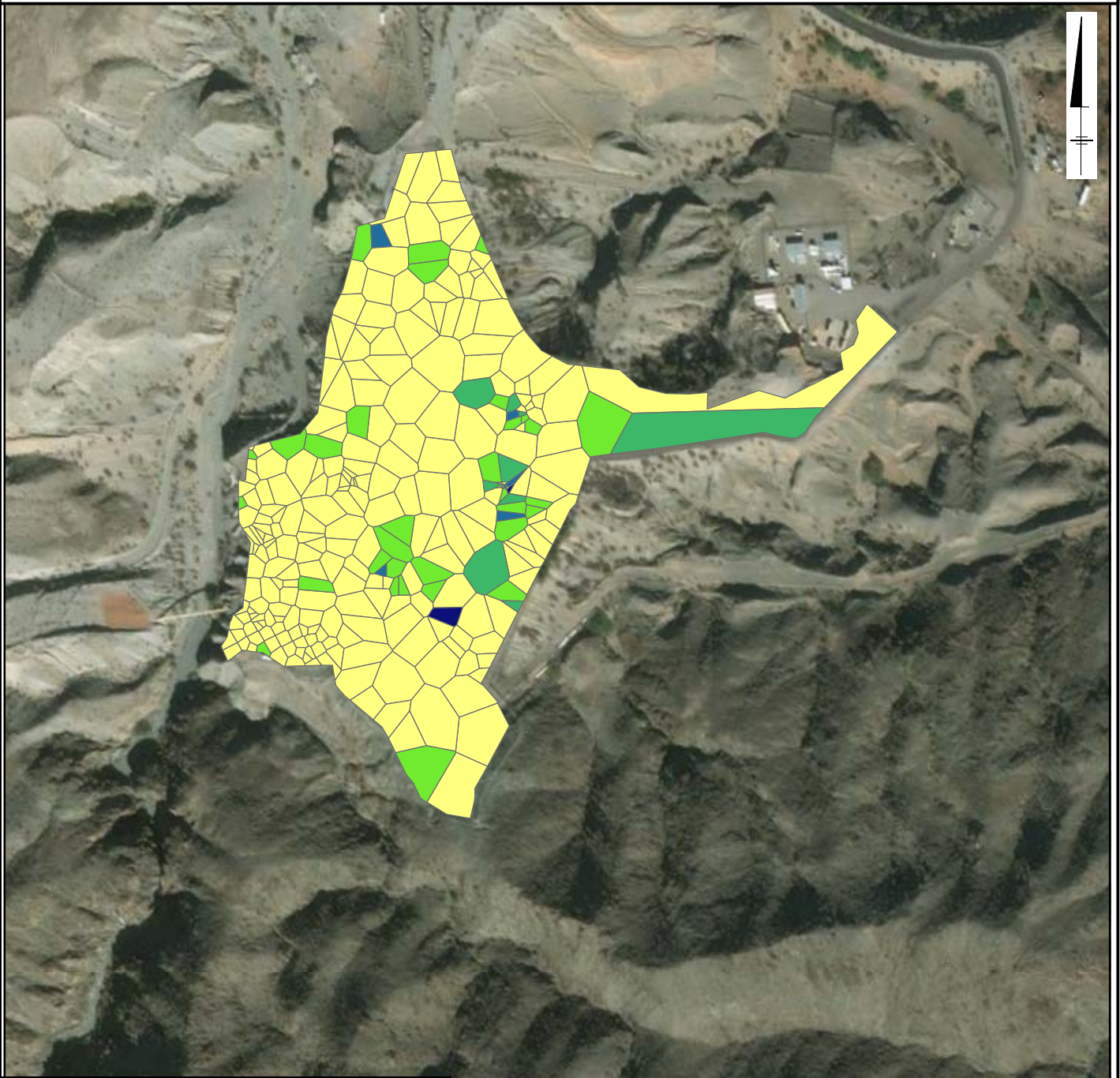
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FIGURE
ICS-A3.156

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE LEAD



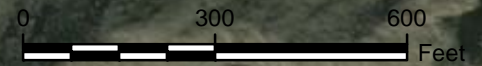
BACKGROUND THRESHOLD VALUE: 8.39 MG/KG

LEGEND:

LEAD (MG/KG)

- NOT DETECTED
- 1.18 - 15.70
- ≥15.70 - 41.70
- ≥41.70 - 103.00
- ≥103.00 - 200.00
- ≥200.00 - 330.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

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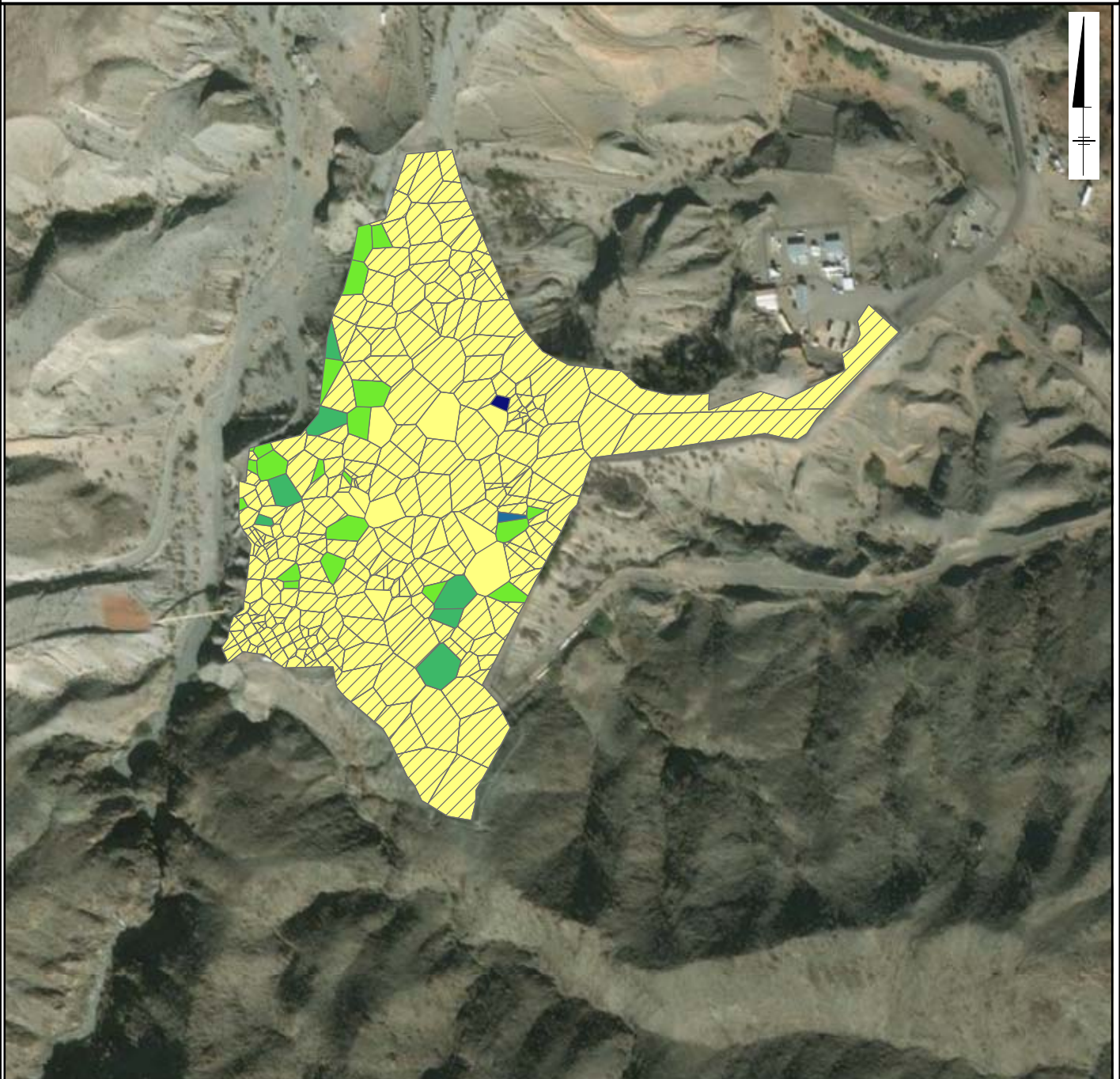
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FIGURE
ICS-A3.157

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE MERCURY

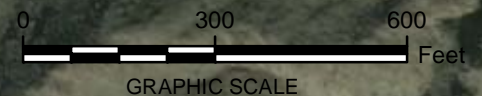


BACKGROUND THRESHOLD VALUE: None

LEGEND: MERCURY (MG/KG)

	NOT DETECTED
	0.05 - 0.10
	≥0.10 - 0.20
	≥0.20 - 0.64
	≥0.64 - 1.59
	≥1.59 - 5.72

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



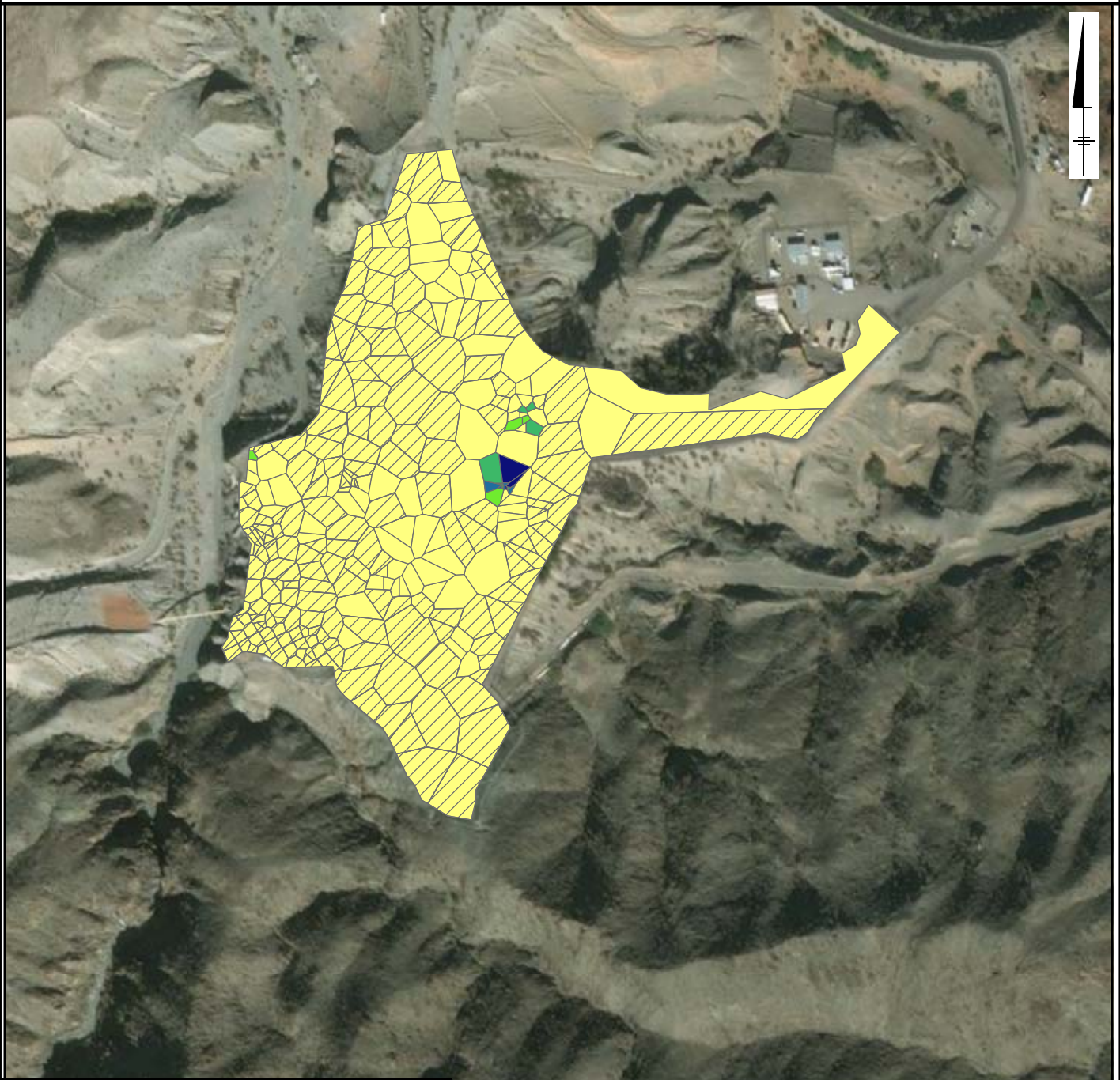
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FIGURE
ICS-A3.158

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE MOLYBDENUM



BACKGROUND THRESHOLD VALUE: 1.37 MG/KG

LEGEND: MOLYBDENUM (MG/KG)

-  NOT DETECTED
-  0.14 - 26.20
-  ≥ 26.20 - 79.00
-  ≥ 79.00 - 179.00
-  ≥ 179.00 - 330.00
-  ≥ 330.00 - 710.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



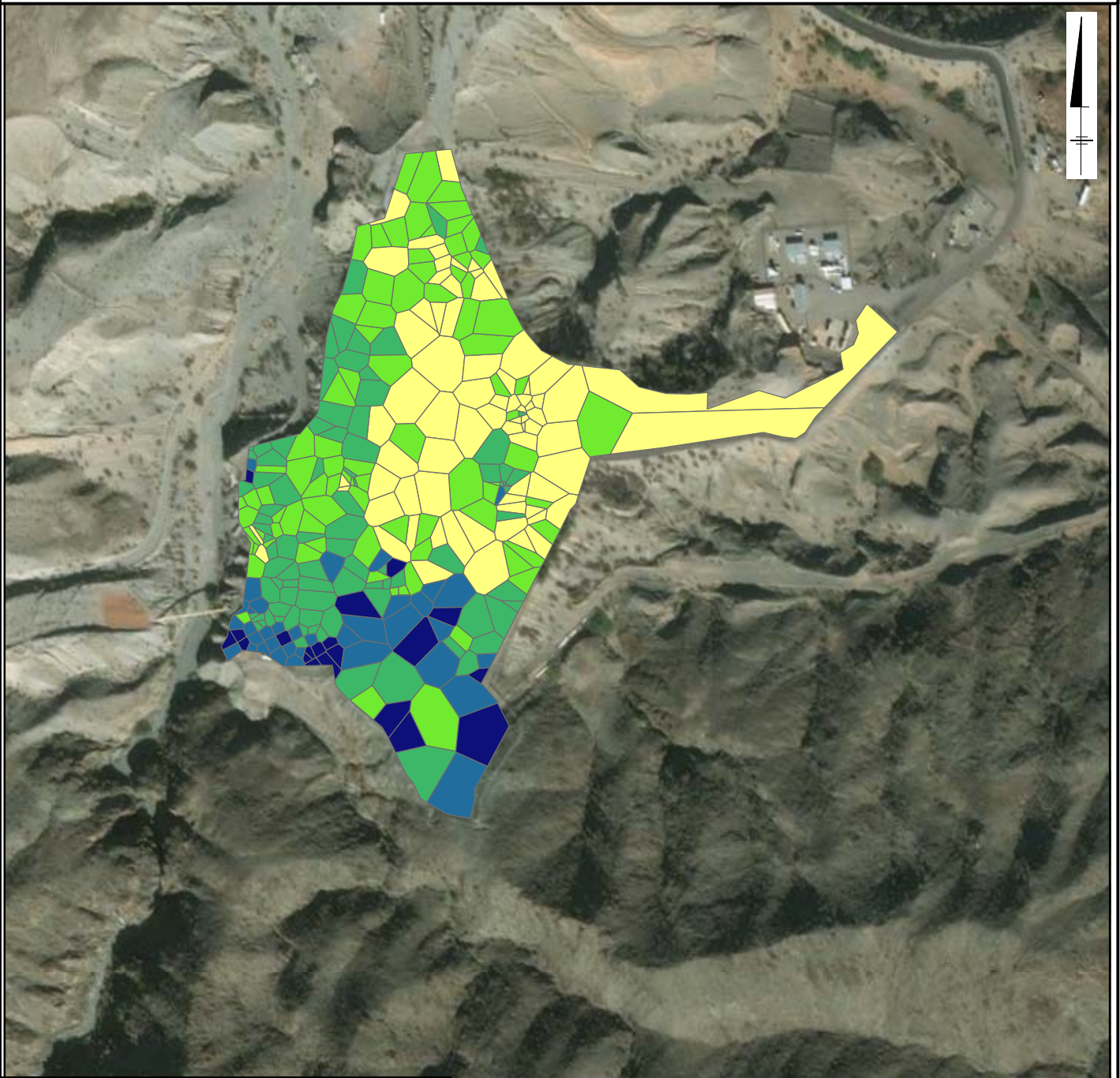
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FIGURE
ICS-A3.159

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE NICKEL



BACKGROUND THRESHOLD VALUE: 27.3 MG/KG

LEGEND: NICKEL (MG/KG)

- NOT DETECTED
- 2.93 - 8.12
- ≥8.12 - 12.50
- ≥12.50 - 19.90
- ≥19.90 - 30.20
- ≥30.20 - 67.70

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



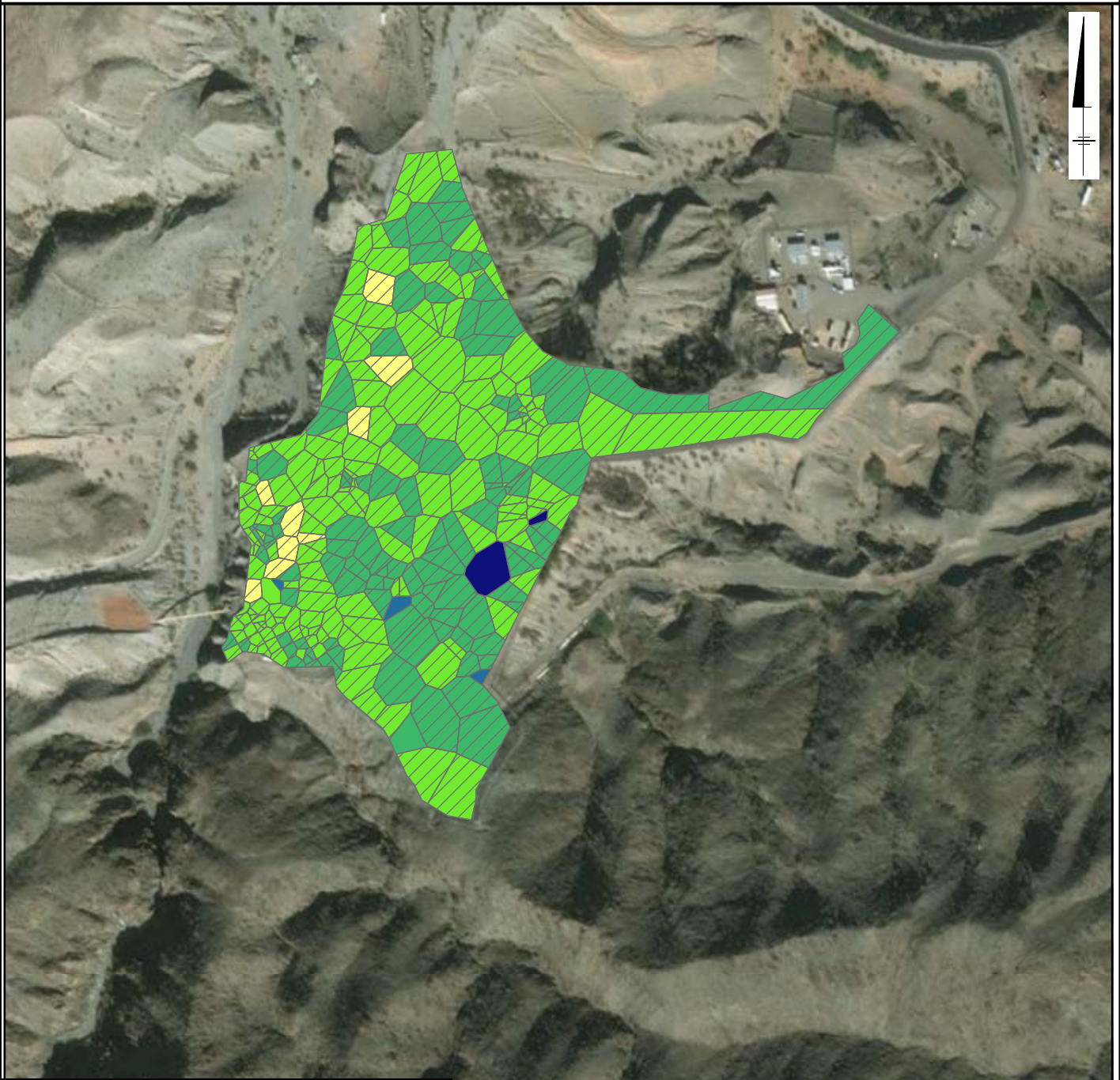
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FIGURE
ICS-A3.160

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE SELENIUM



BACKGROUND THRESHOLD VALUE: 1.47 MG/KG

LEGEND: SELENIUM (MG/KG)

-  NOT DETECTED
-  0.14 - 0.26
-  $\geq 0.26 - 0.53$
-  $\geq 0.53 - 0.68$
-  $\geq 0.68 - 1.23$
-  $\geq 1.23 - 2.21$

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

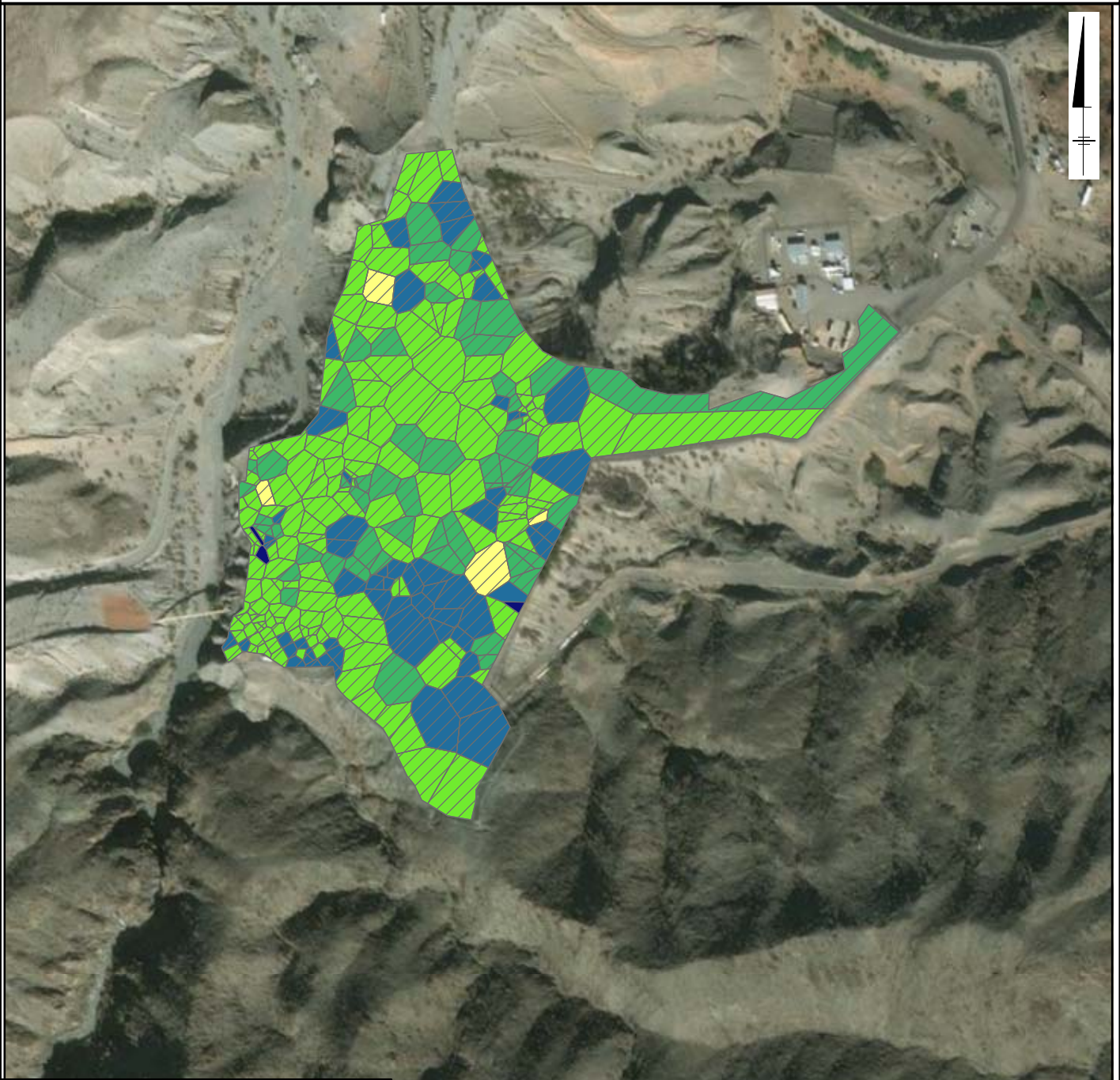
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FIGURE
ICS-A3.161

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE SILVER



BACKGROUND THRESHOLD VALUE: None

LEGEND: SILVER (MG/KG)

	NOT DETECTED
	0.13 - 0.17
	≥0.17 - 0.52
	≥0.52 - 0.55
	≥0.55 - 0.73
	≥0.73 - 2.74

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



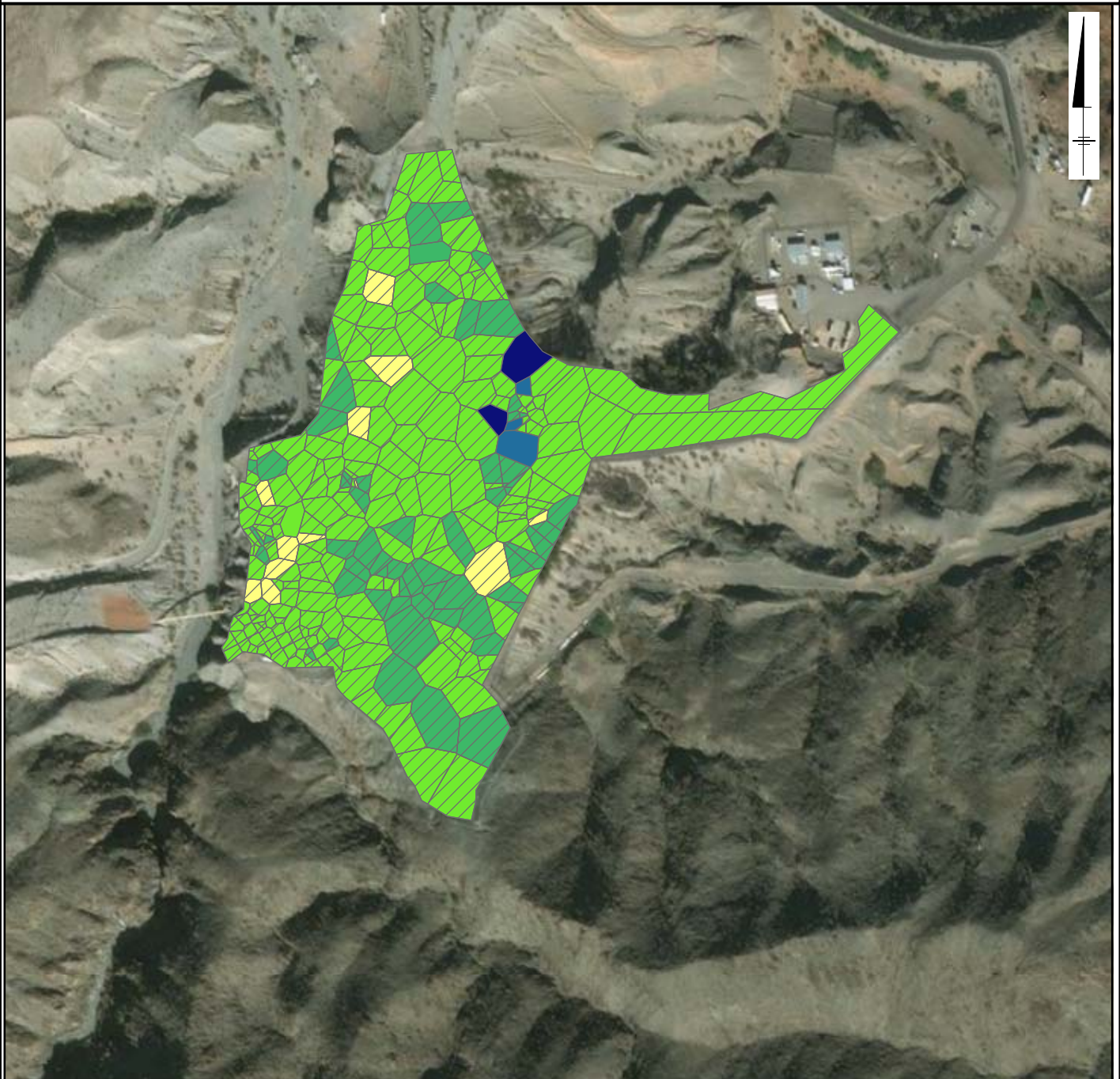
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FIGURE
ICS-A3.162

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE THALLIUM



BACKGROUND THRESHOLD VALUE: None

LEGEND: THALLIUM (MG/KG)

	NOT DETECTED
	0.14 - 0.54
	≥0.54 - 1.06
	≥1.06 - 1.29
	≥1.29 - 1.64
	≥1.64 - 2.32

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



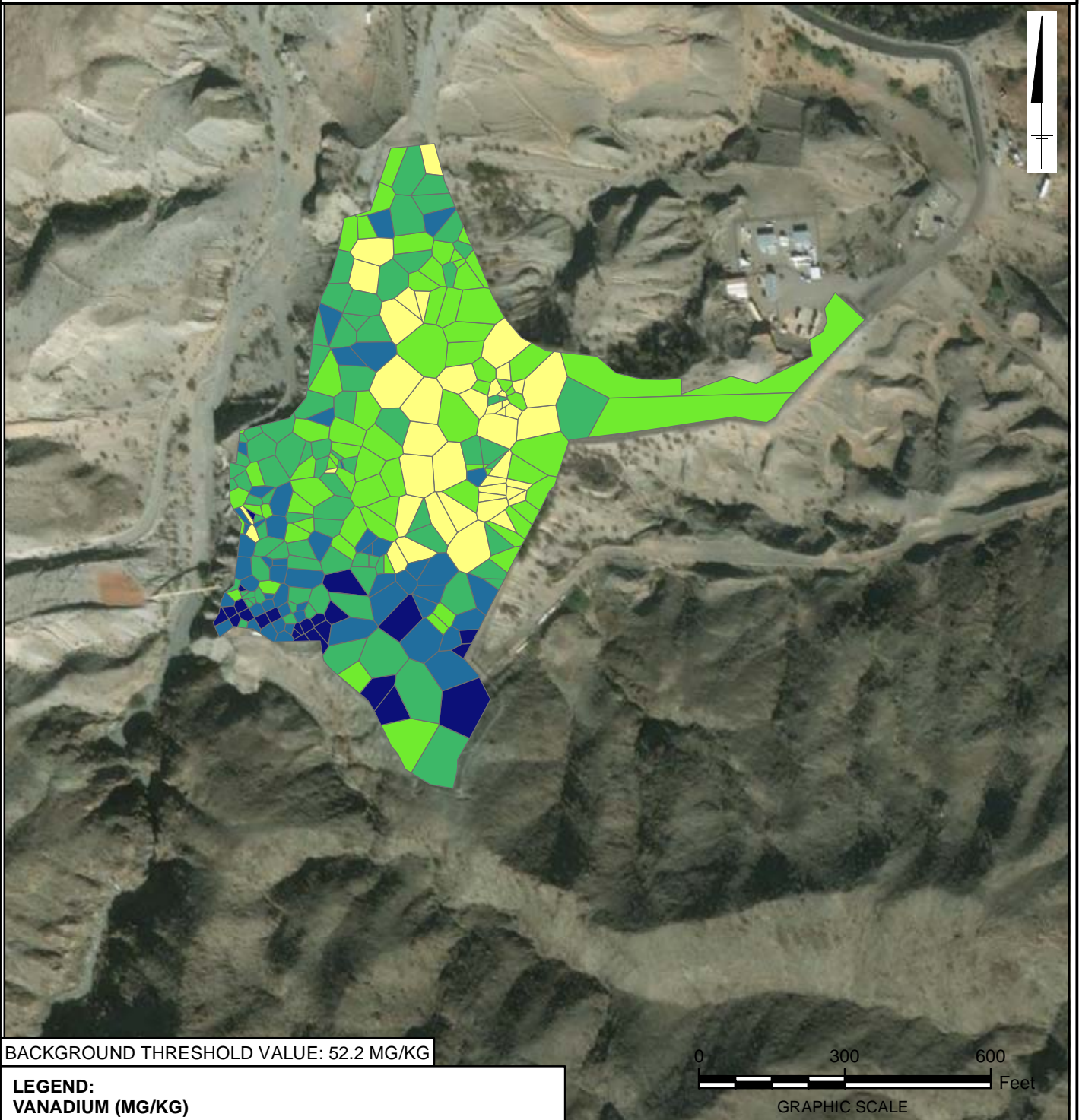
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FIGURE
ICS-A3.163

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE VANADIUM



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PG&E Topock (RC000753.0040.00003)
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SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

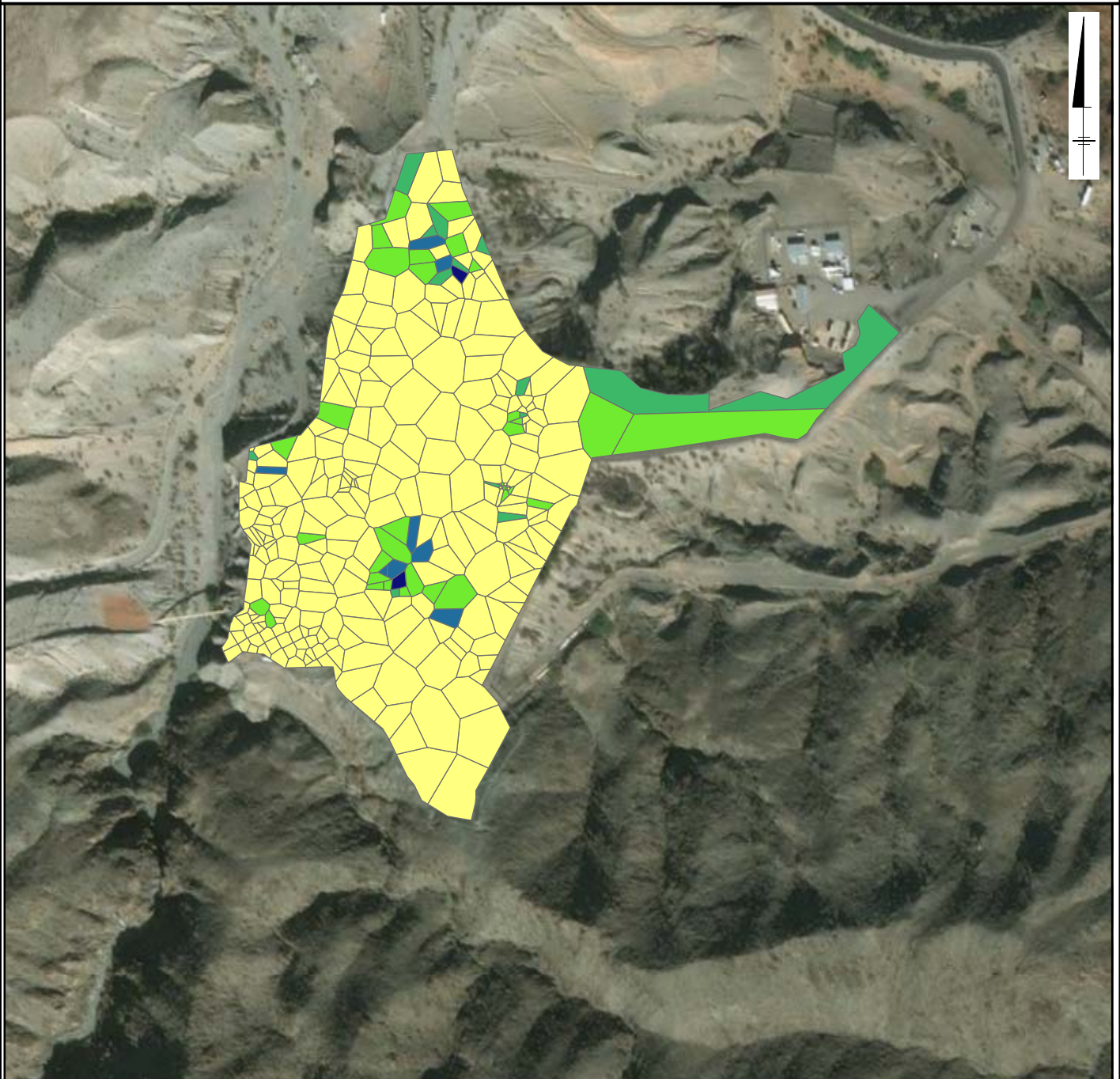
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**FIGURE
ICS-A3.164**

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ZINC



BACKGROUND THRESHOLD VALUE: 58 MG/KG

LEGEND: ZINC (MG/KG)

- NOT DETECTED
- 9.30 - 65.70
- ≥65.70 - 150.00
- ≥150.00 - 297.00
- ≥297.00 - 685.00
- ≥685.00 - 1130.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



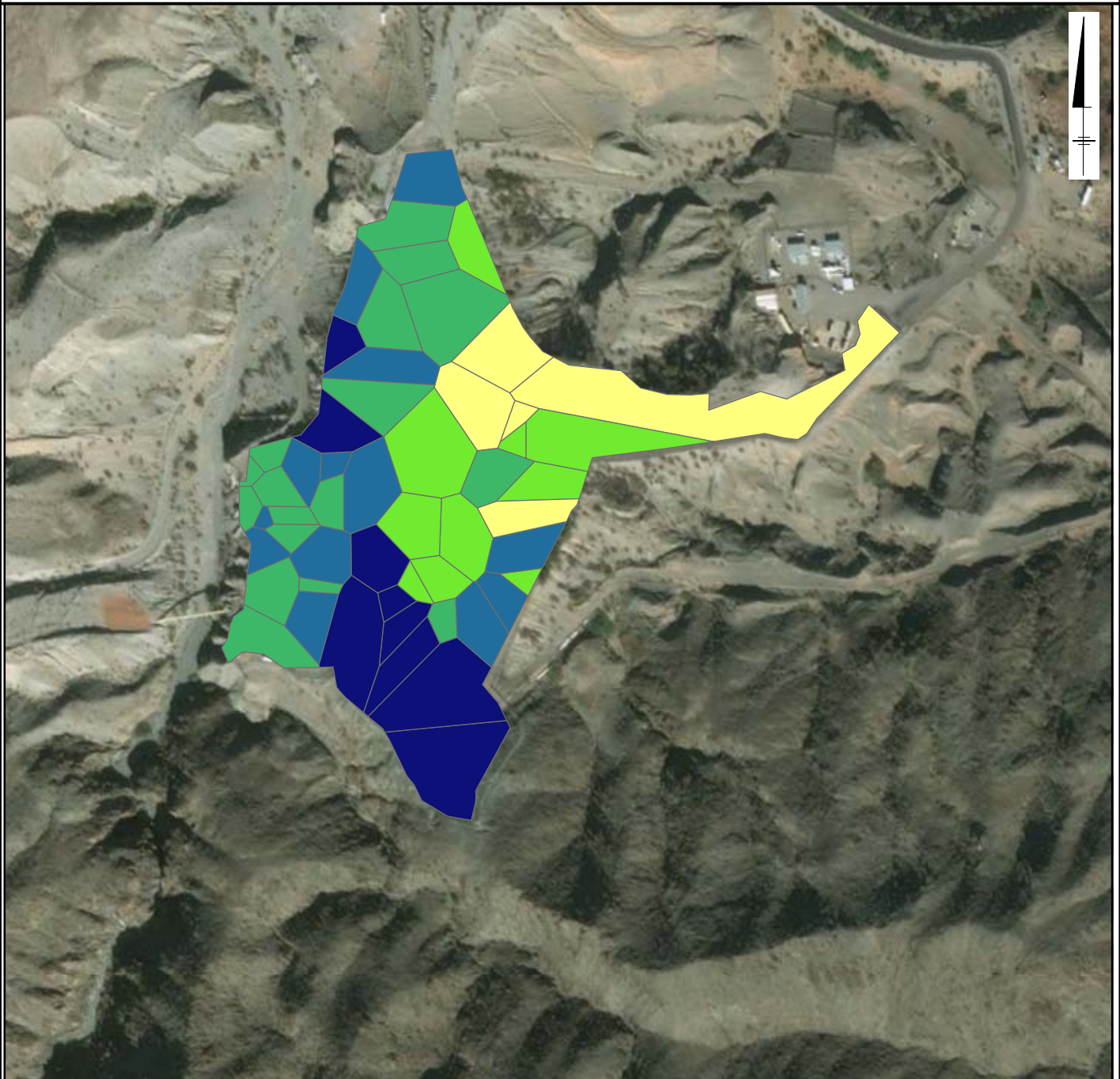
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FIGURE
ICS-A3.165

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ALUMINUM

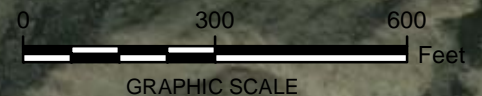


BACKGROUND THRESHOLD VALUE: 16400 MG/KG

LEGEND: ALUMINUM (MG/KG)

- NOT DETECTED
- 670.00 - 2700.00
- ≥2700.00 - 5320.00
- ≥5320.00 - 7940.00
- ≥7940.00 - 11000.00
- ≥11000.00 - 18500.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



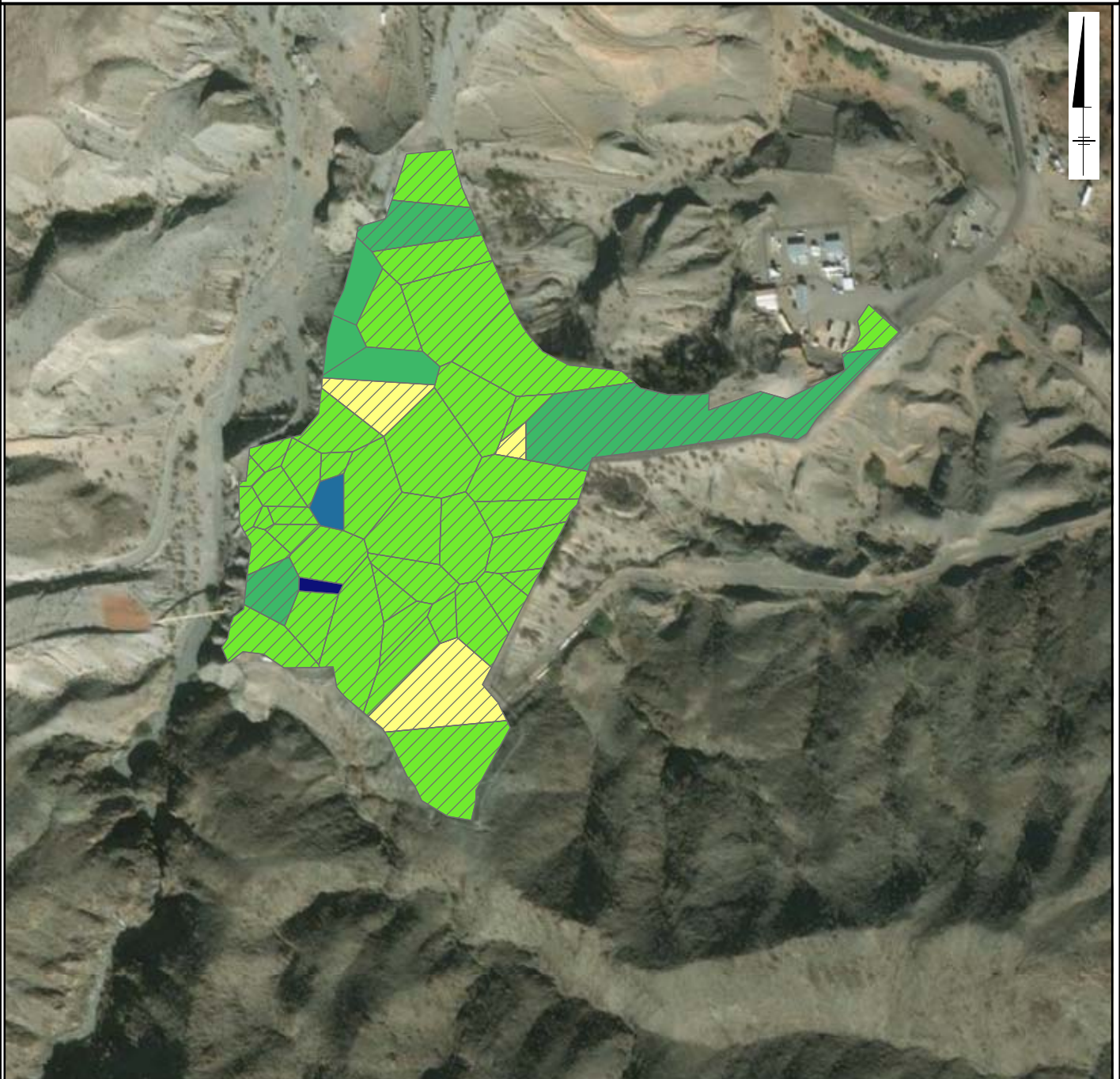
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FIGURE
ICS-A3.166

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE CYANIDE



BACKGROUND THRESHOLD VALUE: None

LEGEND: CYANIDE (MG/KG)

	NOT DETECTED
	0.02 - 0.02
	≥0.02 - 0.13
	≥0.13 - 1.00
	≥1.00 - 1.90
	≥1.90 - 5.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



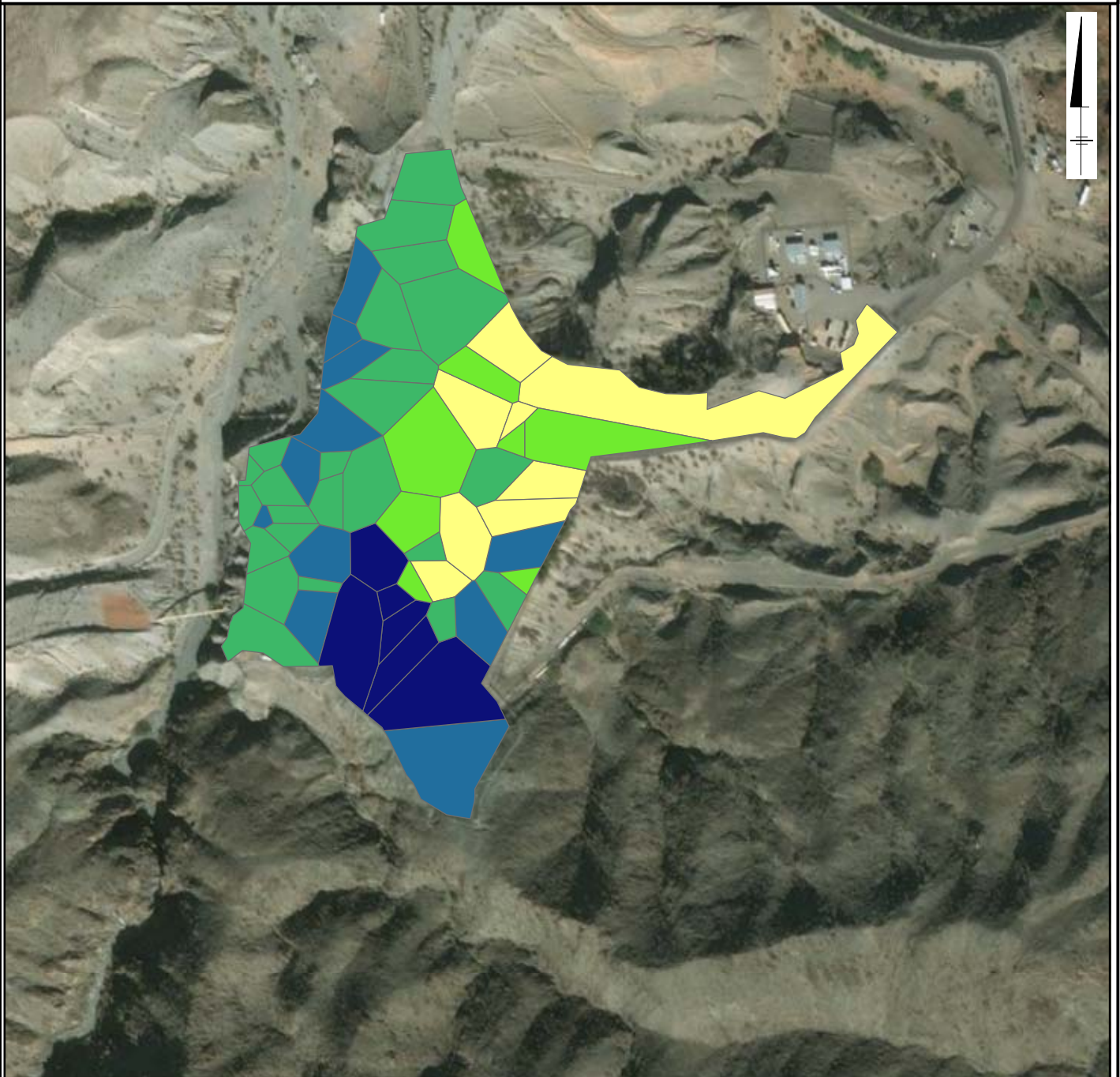
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FIGURE
ICS-A3.167

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE IRON

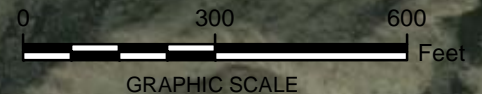


BACKGROUND THRESHOLD VALUE: 29303 MG/KG

LEGEND: IRON (MG/KG)

	NOT DETECTED
	2400.00 - 6660.00
	≥6660.00 - 9420.00
	≥9420.00 - 15900.00
	≥15900.00 - 21000.00
	≥21000.00 - 36600.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



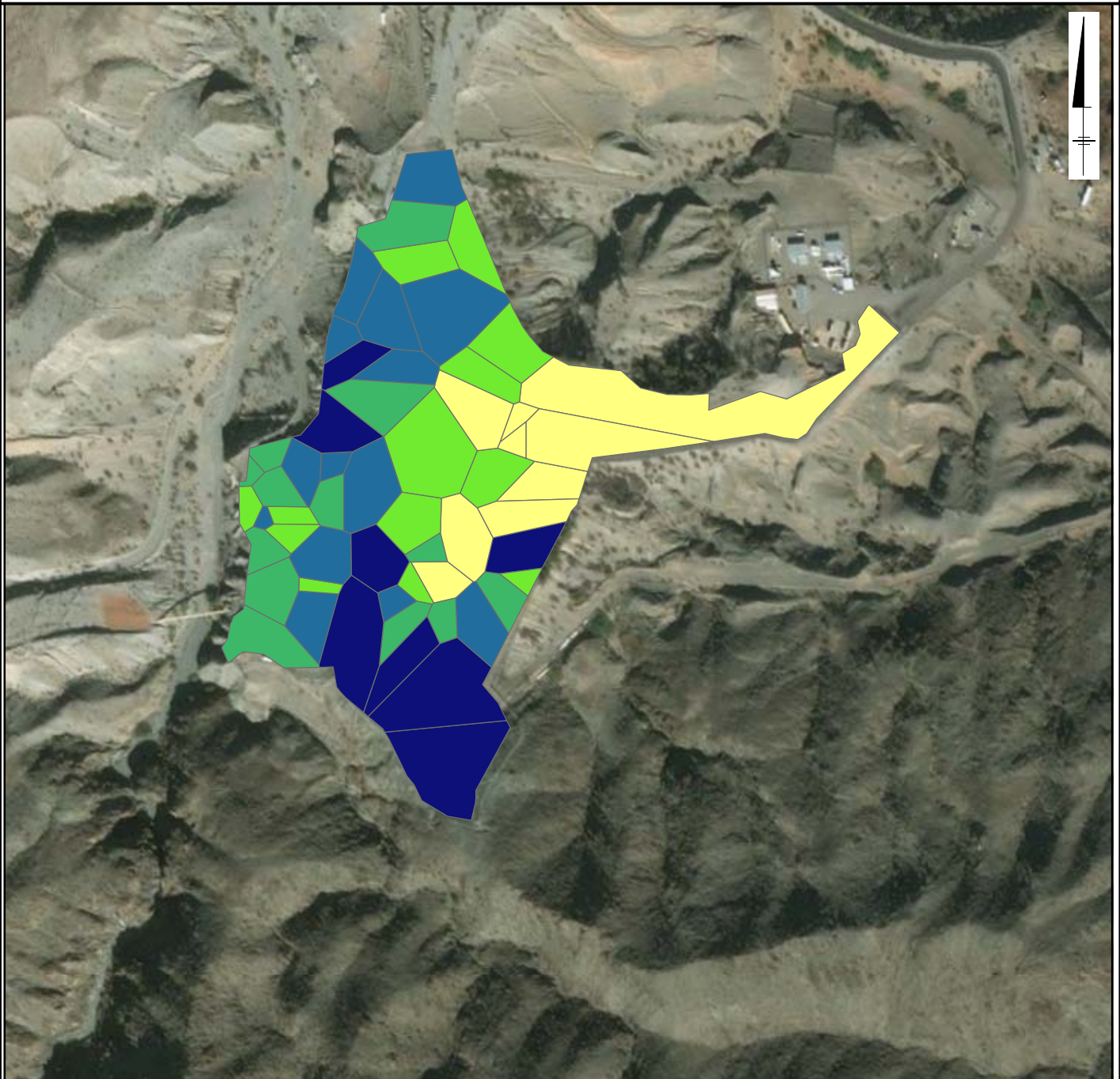
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FIGURE
ICS-A3.168

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE MANGANESE

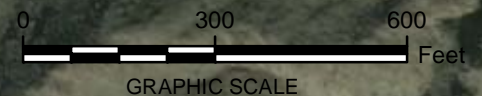


BACKGROUND THRESHOLD VALUE: 402 MG/KG

LEGEND: MANGANESE (MG/KG)

-  NOT DETECTED
-  64.00 - 132.00
-  ≥132.00 - 182.00
-  ≥182.00 - 228.00
-  ≥228.00 - 280.00
-  ≥280.00 - 430.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



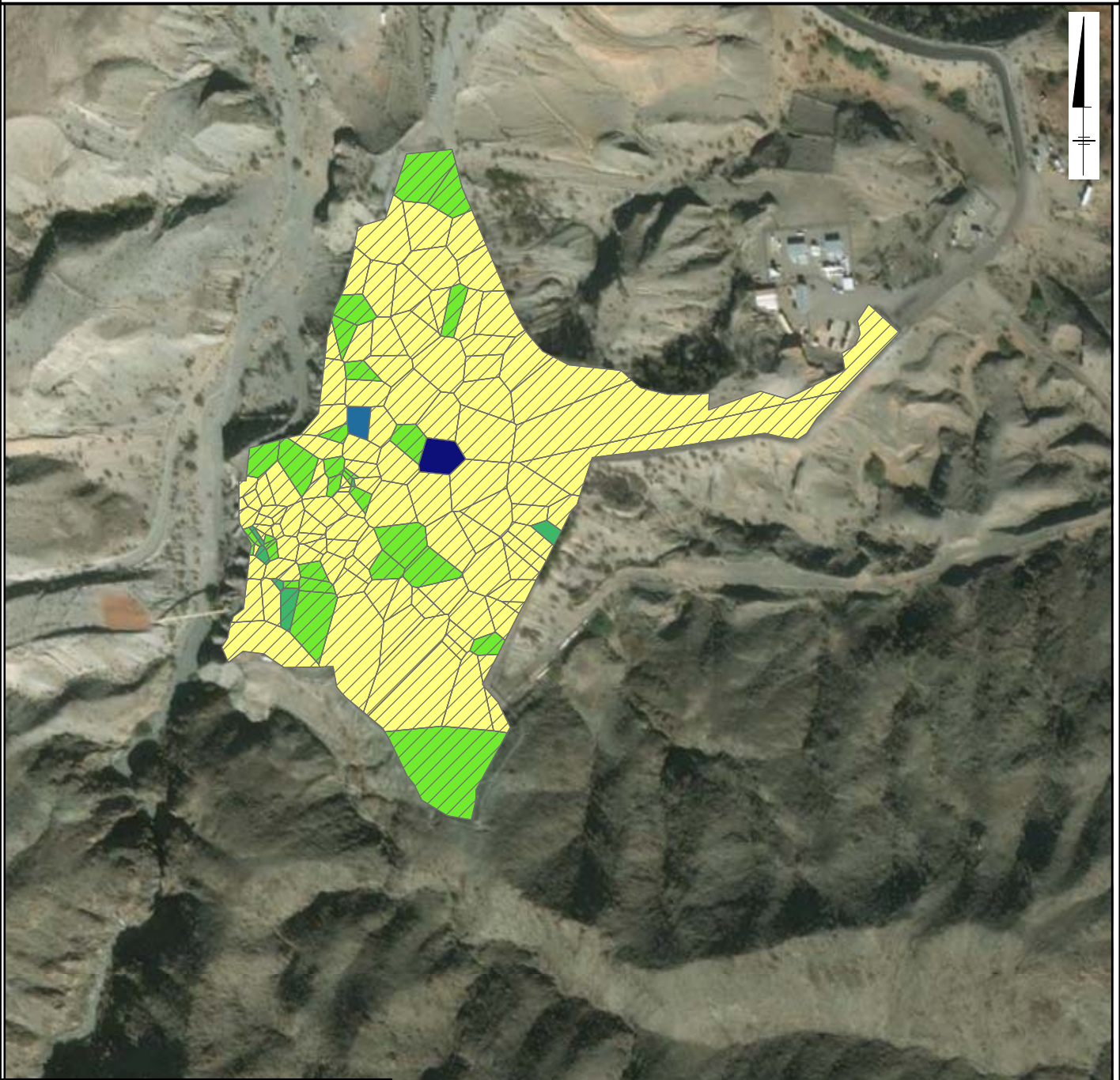
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FIGURE
ICS-A3.169

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ACETONE

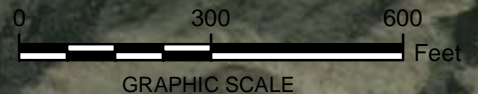


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACETONE (UG/KG)

	NOT DETECTED
	23.00 - 35.50
	≥35.50 - 57.50
	≥57.50 - 92.50
	≥92.50 - 214.00
	≥214.00 - 2200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



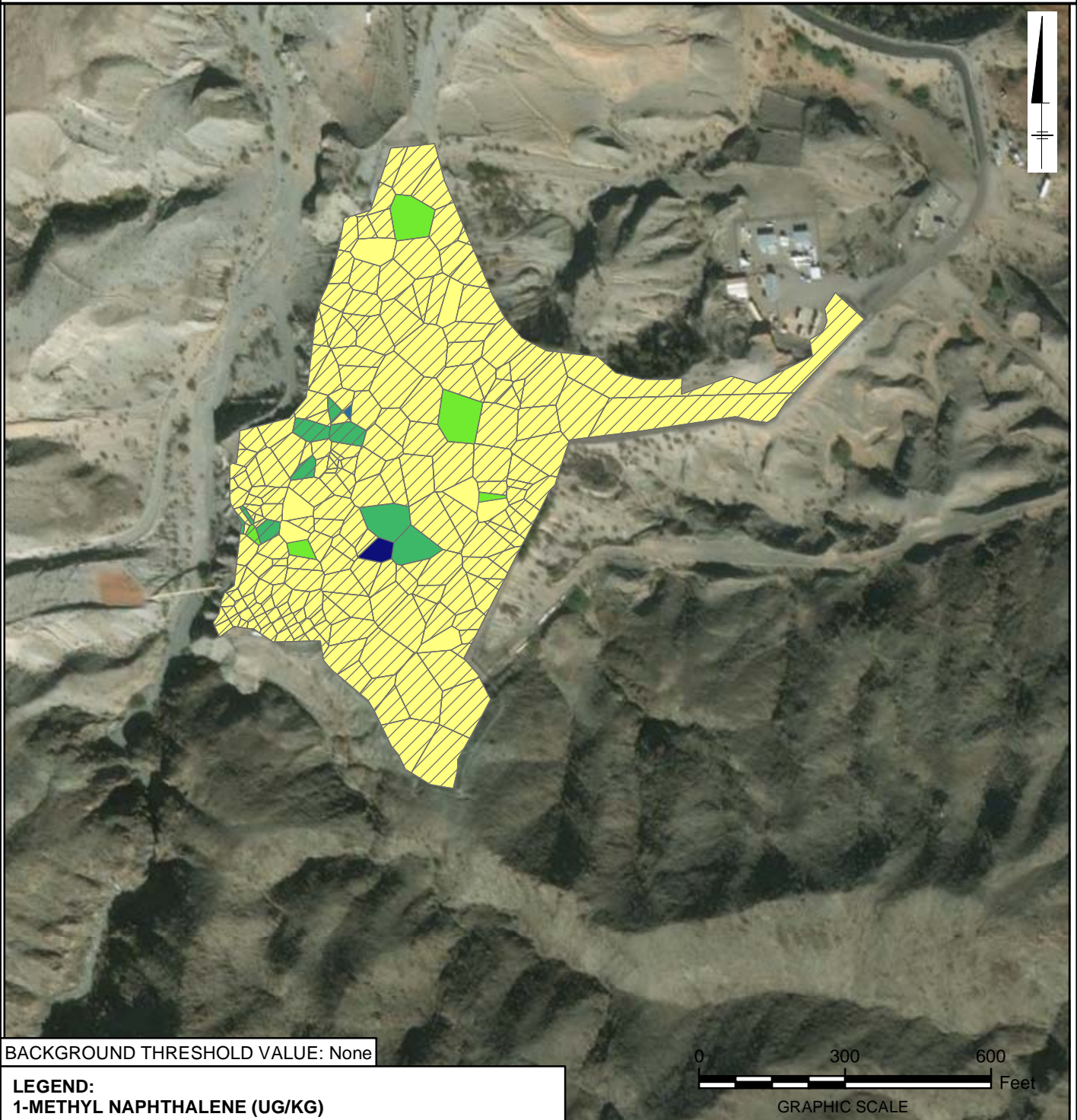
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FIGURE
ICS-A3.170

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE 1-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 1-METHYL NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.84
- ≥5.84 - 16.40
- ≥16.40 - 82.00
- ≥82.00 - 1000.00
- ≥1000.00 - 2400.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

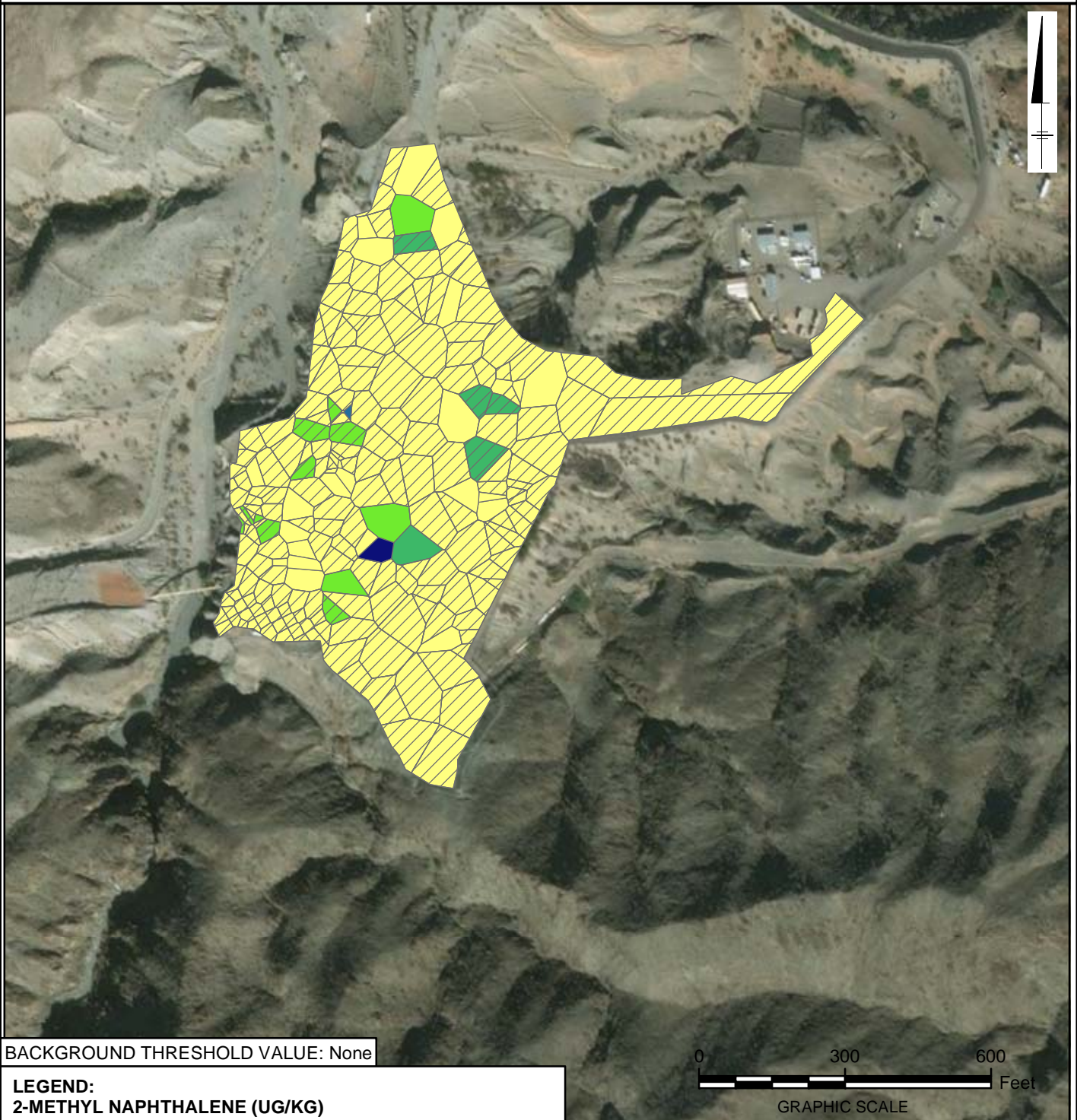
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FIGURE
ICS-A3.171

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE 2-METHYL NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: 2-METHYL NAPHTHALENE (UG/KG)

- NOT DETECTED
- 2.50 - 15.40
- ≥15.40 - 65.00
- ≥65.00 - 180.00
- ≥180.00 - 1000.00
- ≥1000.00 - 3140.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

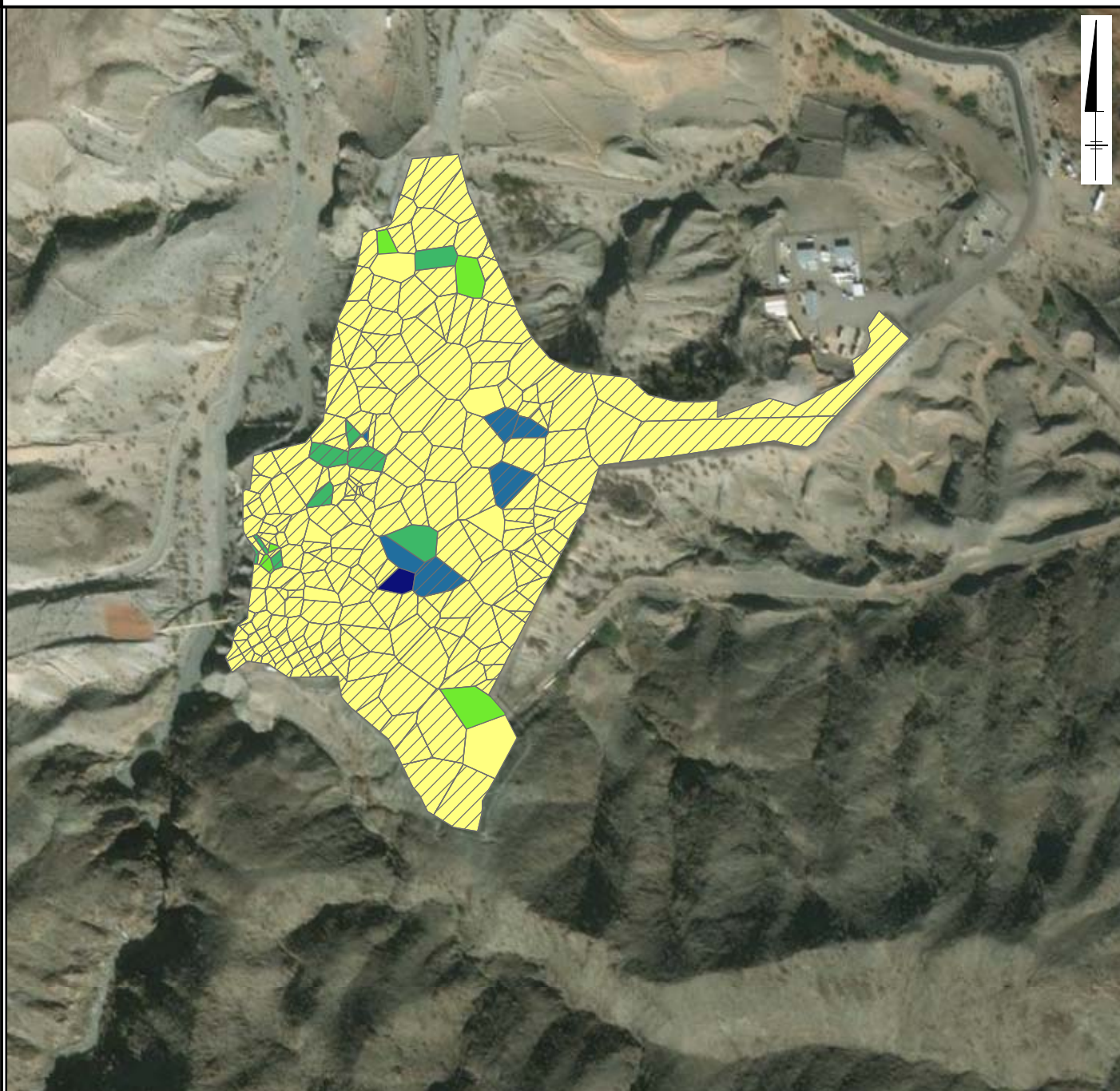
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FIGURE
ICS-A3.172

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ACENAPHTHENE

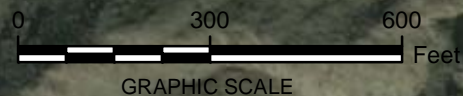


BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHENE (UG/KG)

- NOT DETECTED
- 2.50 - 6.10
- ≥6.10 - 19.80
- ≥19.80 - 98.10
- ≥98.10 - 260.00
- ≥260.00 - 533.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



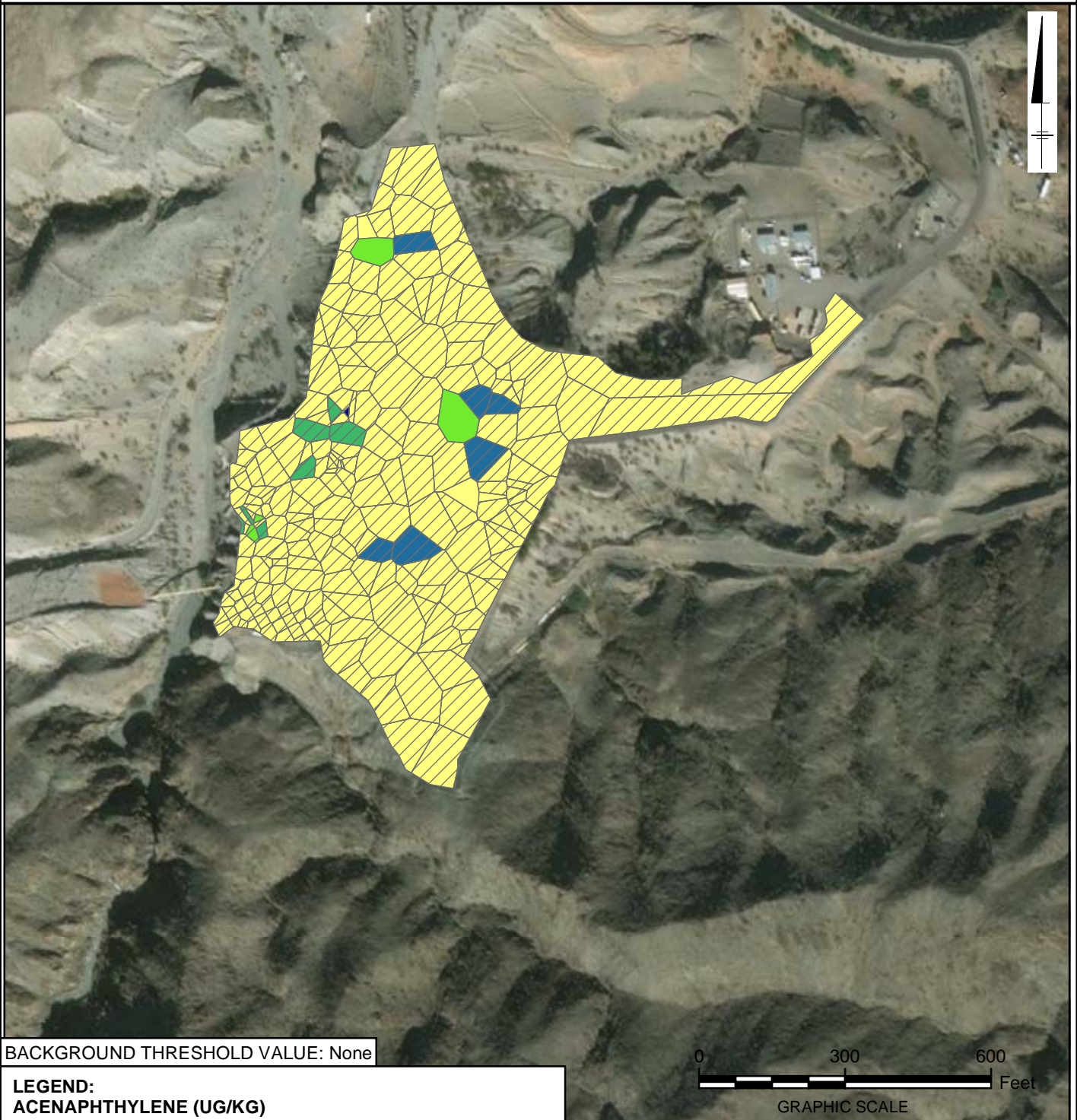
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FIGURE
ICS-A3.173

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ACENAPHTHYLENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ACENAPHTHYLENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.00
- ≥5.00 - 19.80
- ≥19.80 - 65.00
- ≥65.00 - 185.00
- ≥185.00 - 2000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

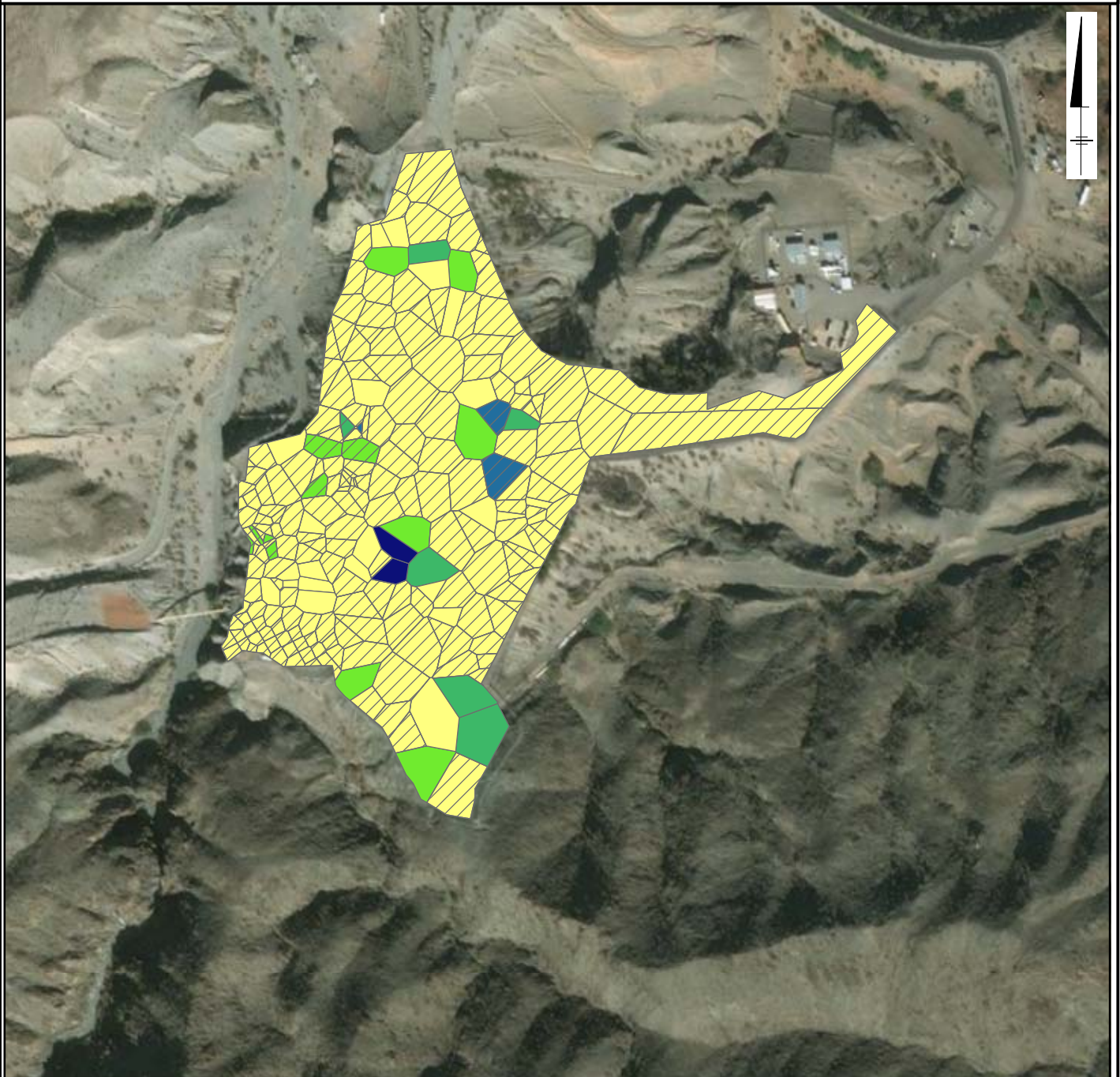
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FIGURE
ICS-A3.174

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 13.50
- ≥13.50 - 52.00
- ≥52.00 - 103.00
- ≥103.00 - 260.00
- ≥260.00 - 363.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

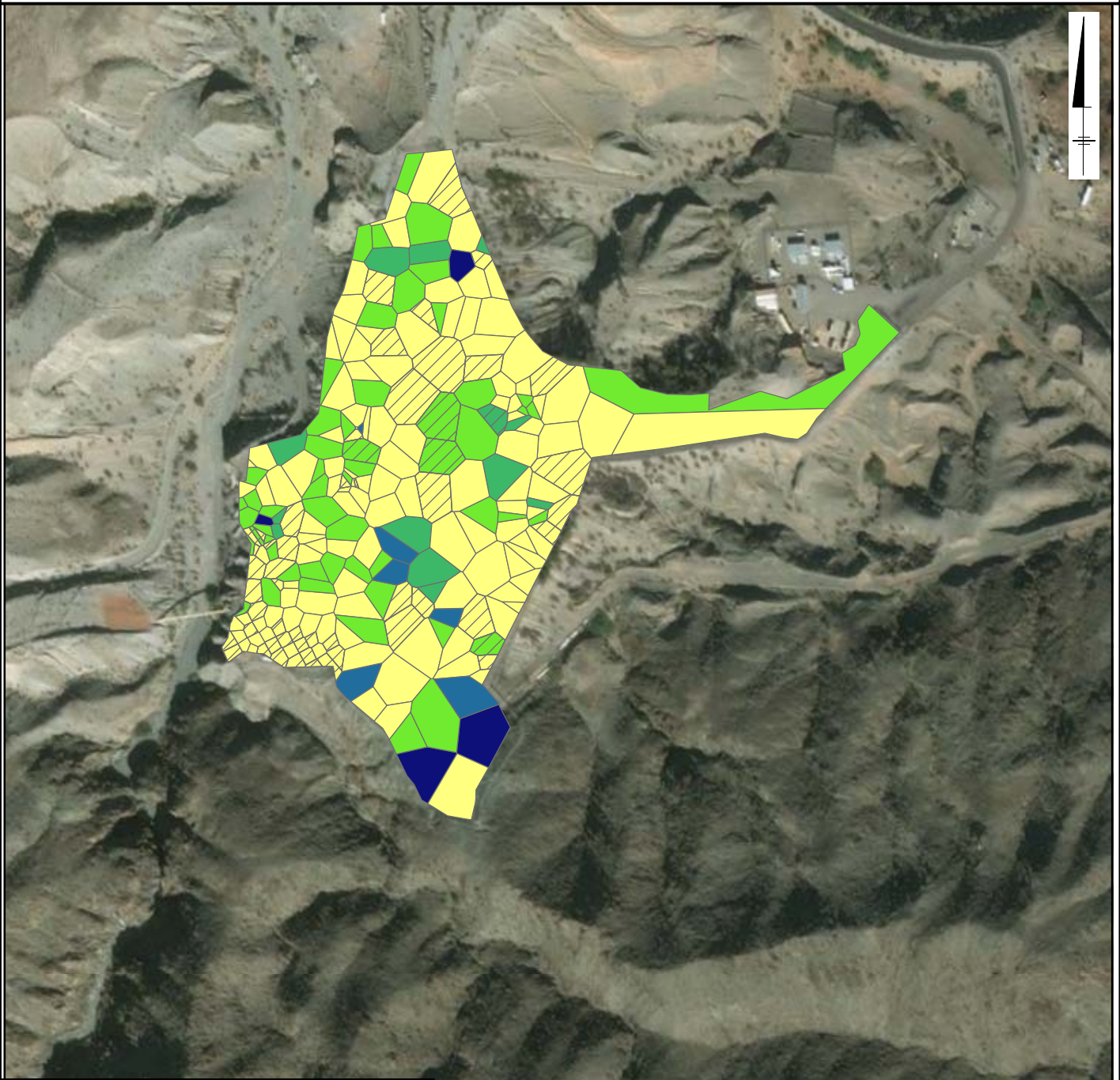
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FIGURE
ICS-A3.175

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE B(A)P EQUIVALENT



BACKGROUND THRESHOLD VALUE: 55 UG/KG

LEGEND: B(A)P EQUIVALENT (UG/KG)

- NOT DETECTED
- 5.88 - 40.00
- ≥ 40.00 - 163.00
- ≥ 163.00 - 490.00
- ≥ 490.00 - 1080.00
- ≥ 1080.00 - 2520.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

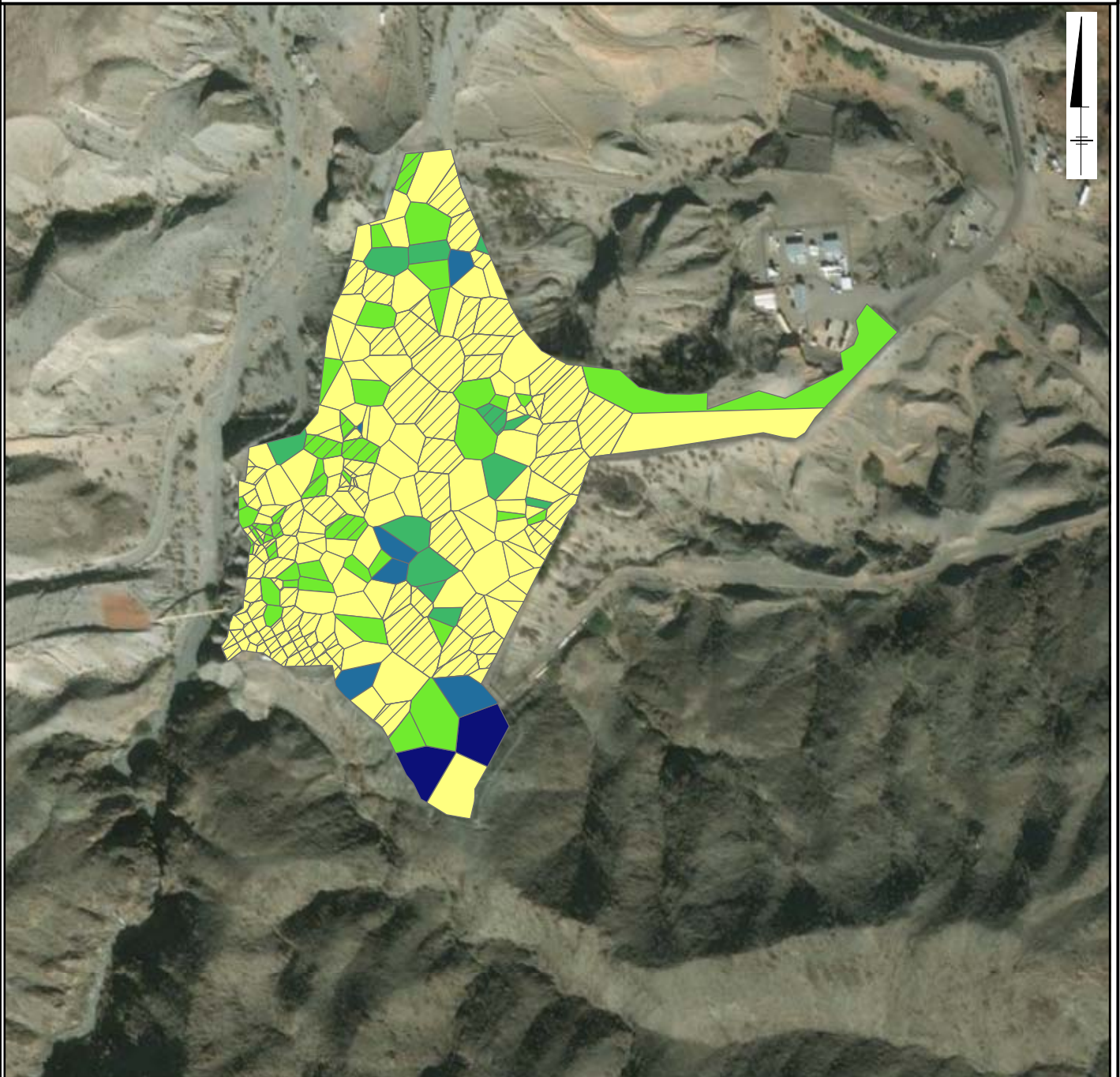
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FIGURE
ICS-A3.176

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (A) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.51 - 20.40
- ≥20.40 - 110.00
- ≥110.00 - 416.00
- ≥416.00 - 1080.00
- ≥1080.00 - 2990.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

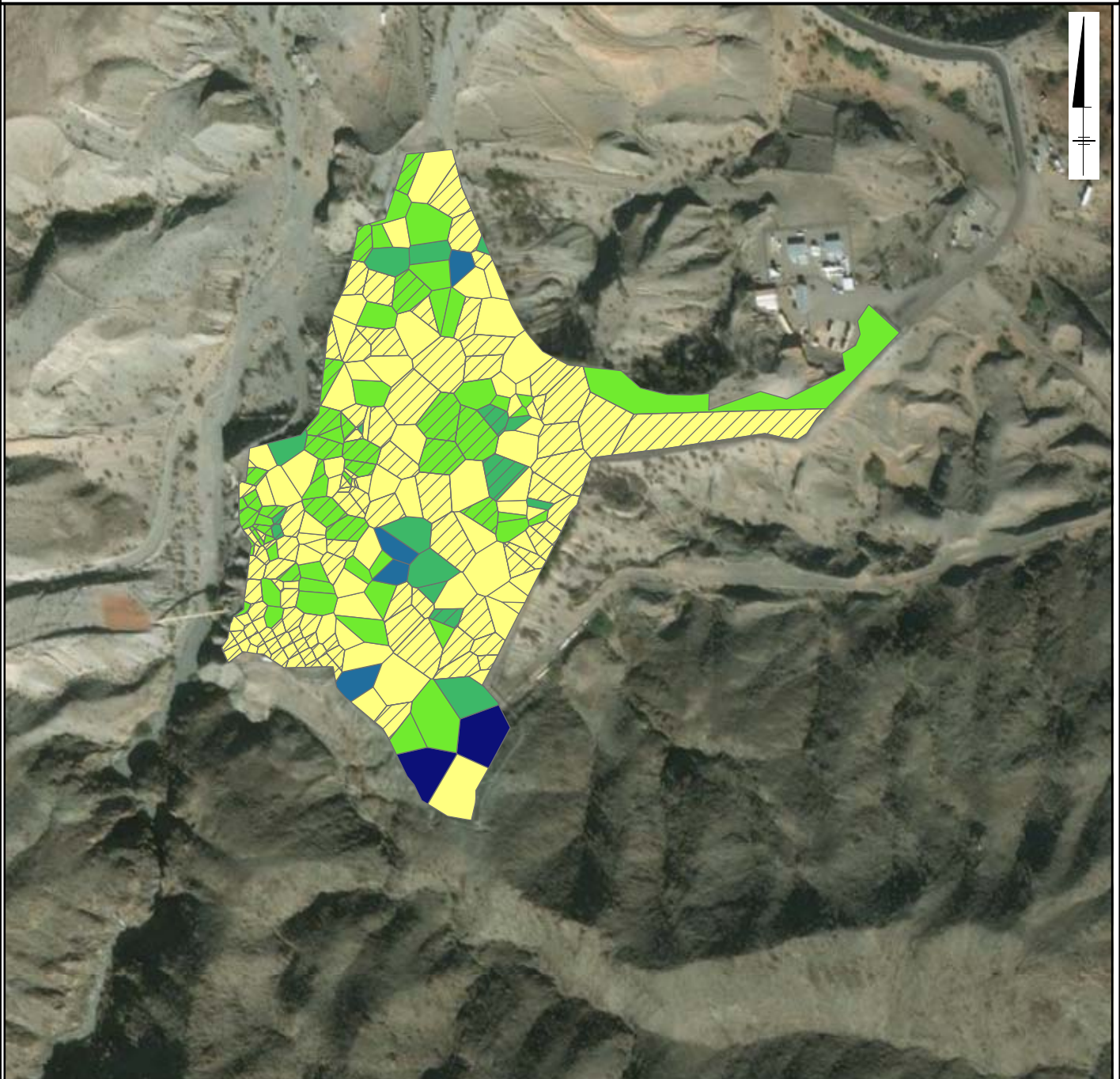
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FIGURE
ICS-A3.177







INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BENZO (A) PYRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (A) PYRENE (UG/KG)

-  NOT DETECTED
-  2.51 - 22.30
-  ≥22.30 - 133.00
-  ≥133.00 - 467.00
-  ≥467.00 - 1040.00
-  ≥1040.00 - 1740.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

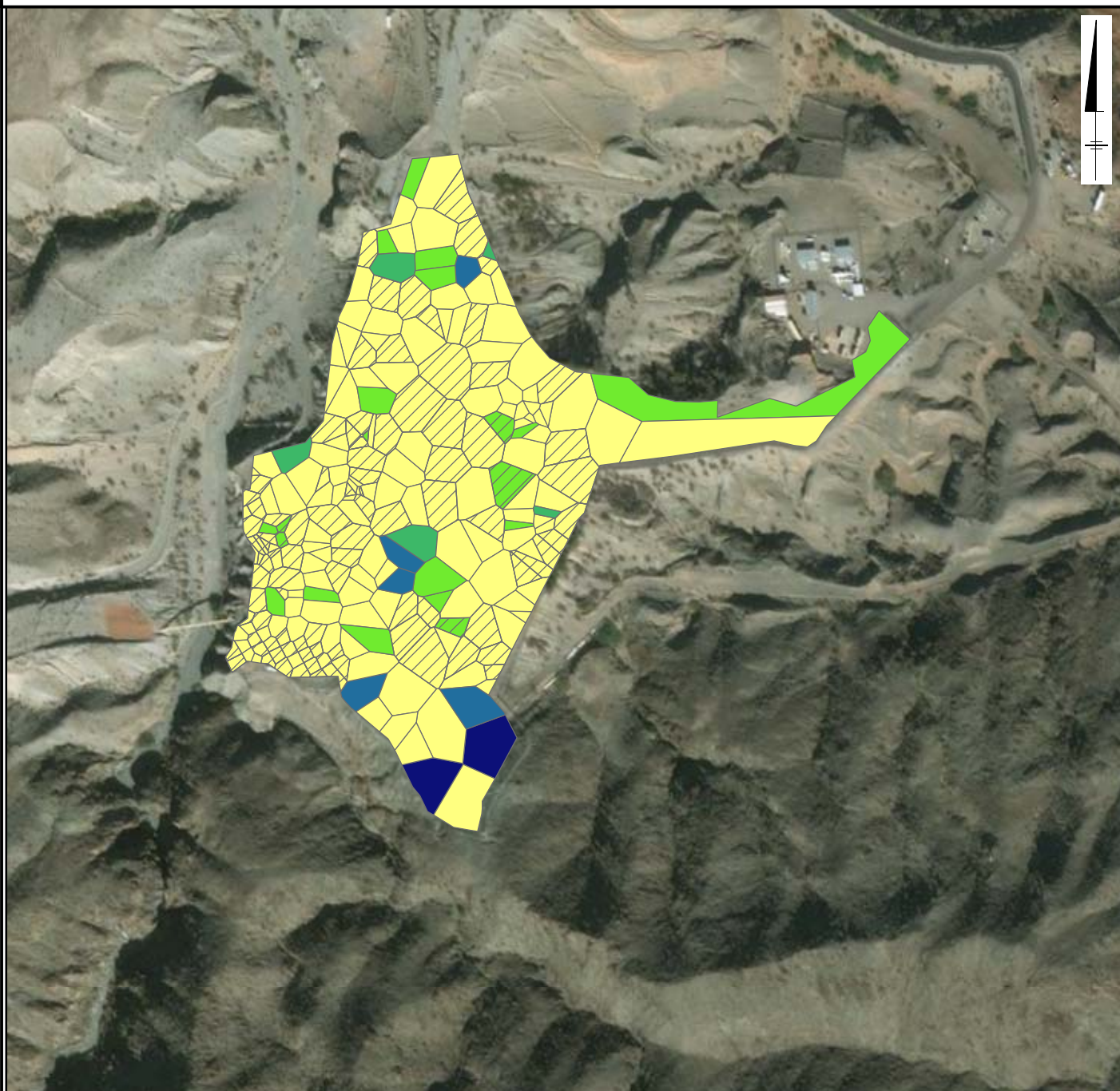
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FIGURE
ICS-A3.178

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BENZO (B) FLUORANTHENE

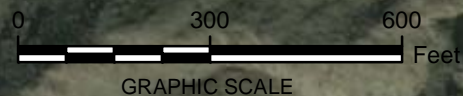


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (B) FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.54 - 108.00
- ≥108.00 - 334.00
- ≥334.00 - 720.00
- ≥720.00 - 1450.00
- ≥1450.00 - 3550.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



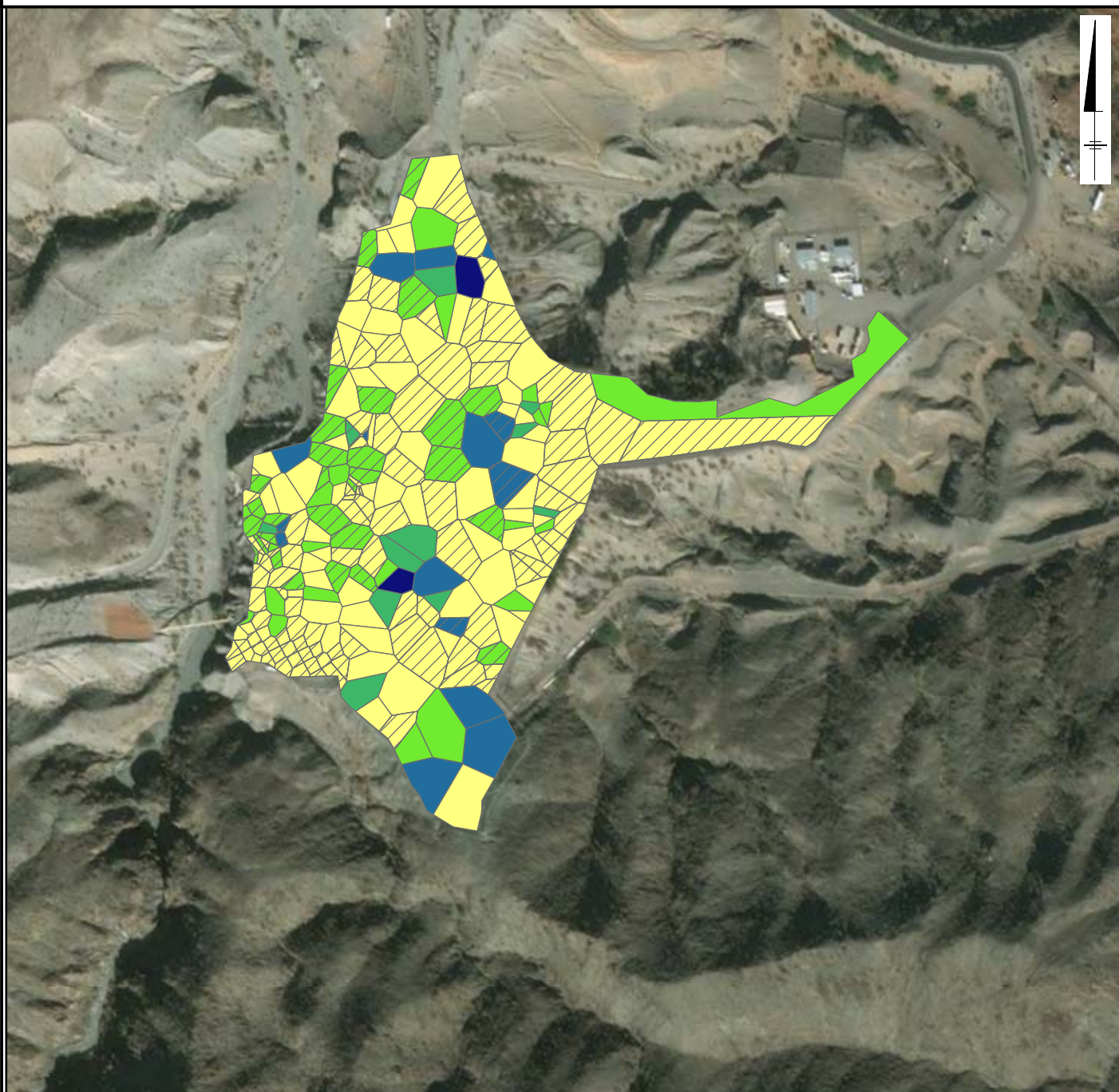
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FIGURE
ICS-A3.179

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BENZO (GHI) PERYLENE

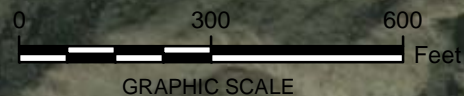


BACKGROUND THRESHOLD VALUE: None

LEGEND: BENZO (GHI) PERYLENE (UG/KG)

- NOT DETECTED
- 2.51 - 15.80
- ≥15.80 - 49.90
- ≥49.90 - 133.00
- ≥133.00 - 530.00
- ≥530.00 - 1060.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



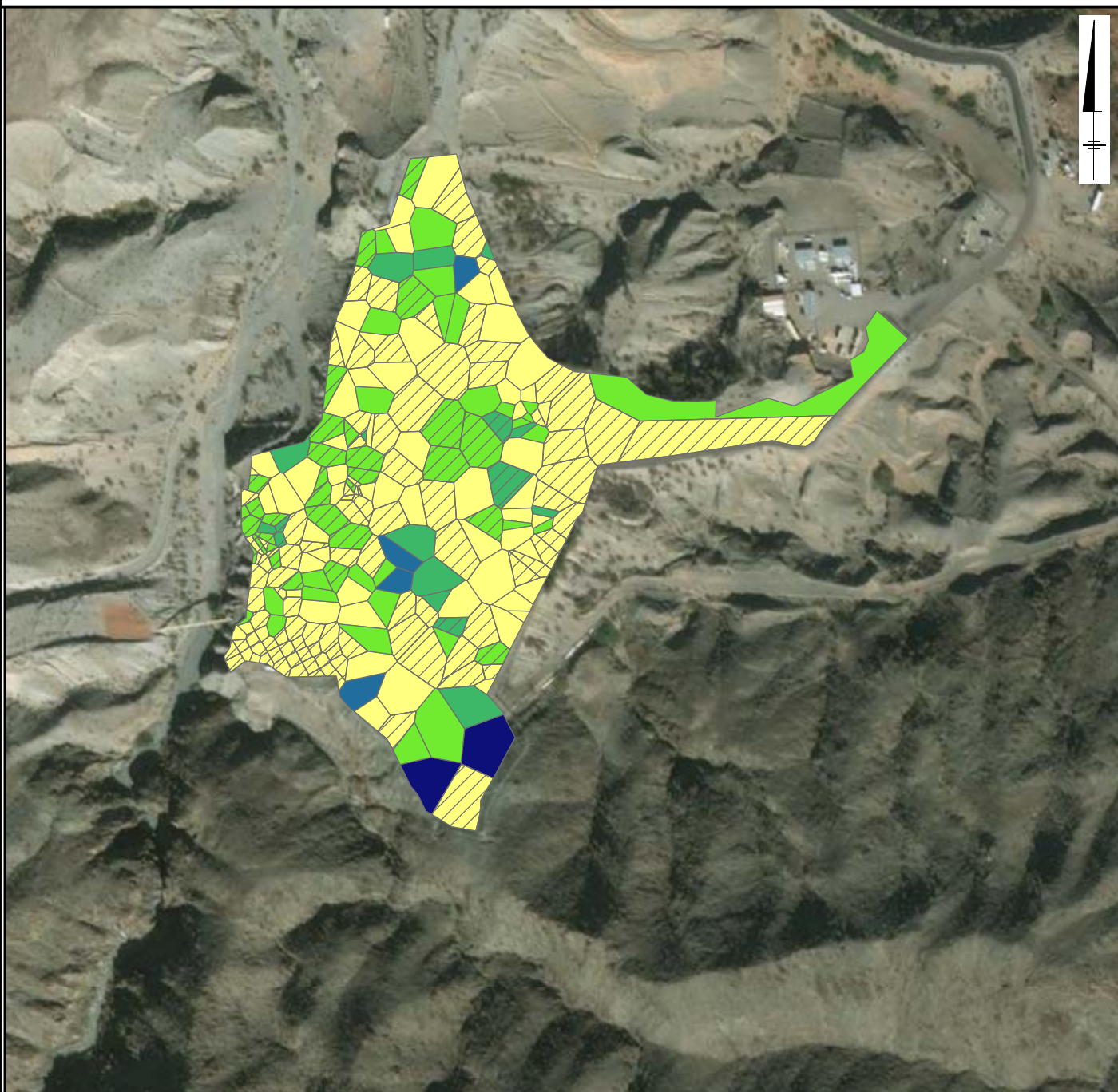
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FIGURE
ICS-A3.180







INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE BENZO (K) FLUORANTHENE



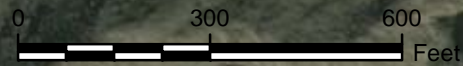
BACKGROUND THRESHOLD VALUE: None

LEGEND:

BENZO (K) FLUORANTHENE (UG/KG)

-  NOT DETECTED
-  2.50 - 18.40
-  ≥18.40 - 97.00
-  ≥97.00 - 280.00
-  ≥280.00 - 517.00
-  ≥517.00 - 1100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

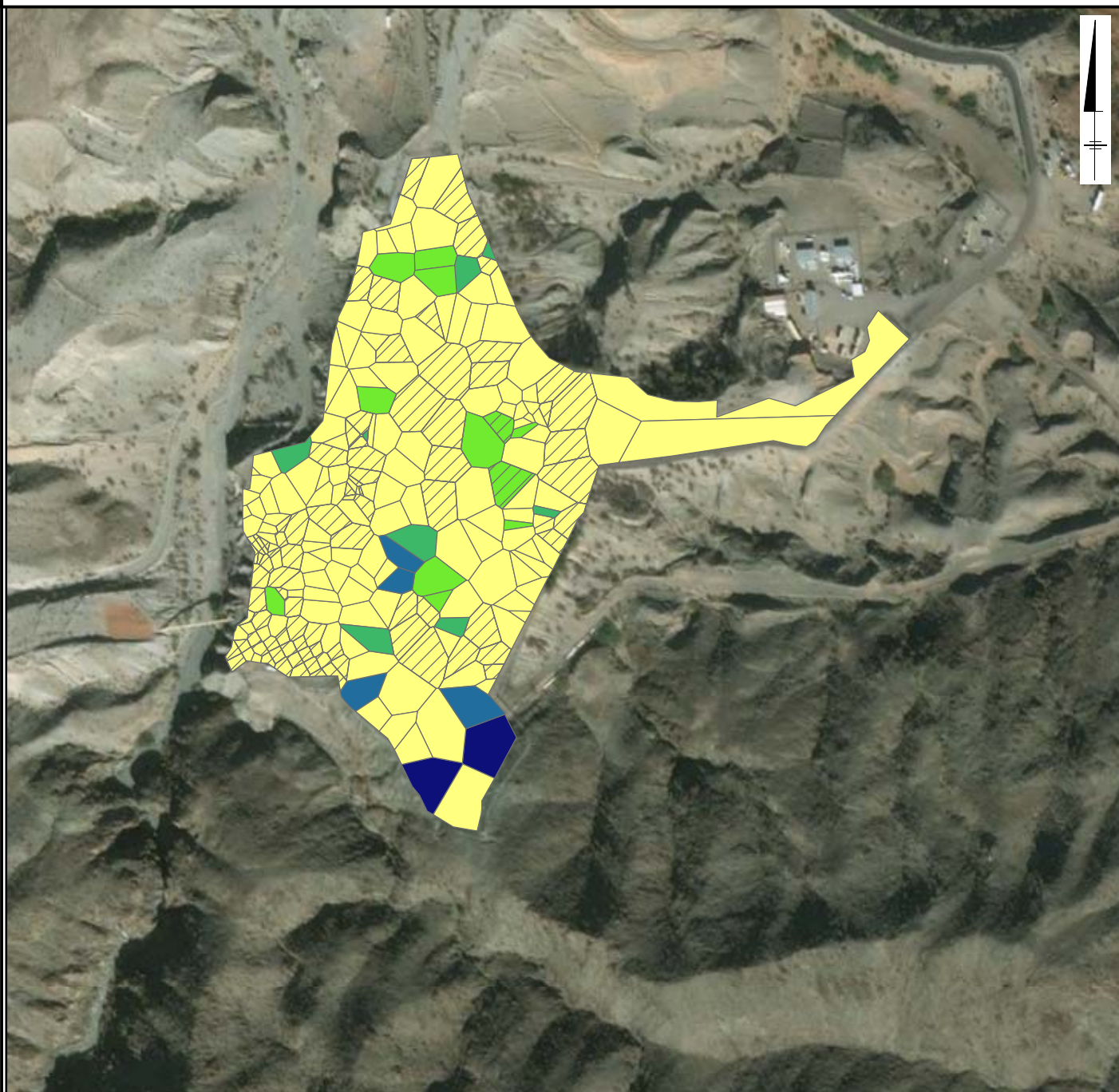
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**THIESSEN POLYGONS FOR
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FIGURE
ICS-A3.181

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE CHRYSENE

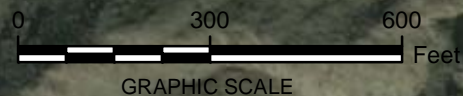


BACKGROUND THRESHOLD VALUE: None

LEGEND: CHRYSENE (UG/KG)

- NOT DETECTED
- 2.54 - 70.80
- ≥70.80 - 234.00
- ≥234.00 - 468.00
- ≥468.00 - 1400.00
- ≥1400.00 - 2320.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



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NEEDLES, CALIFORNIA

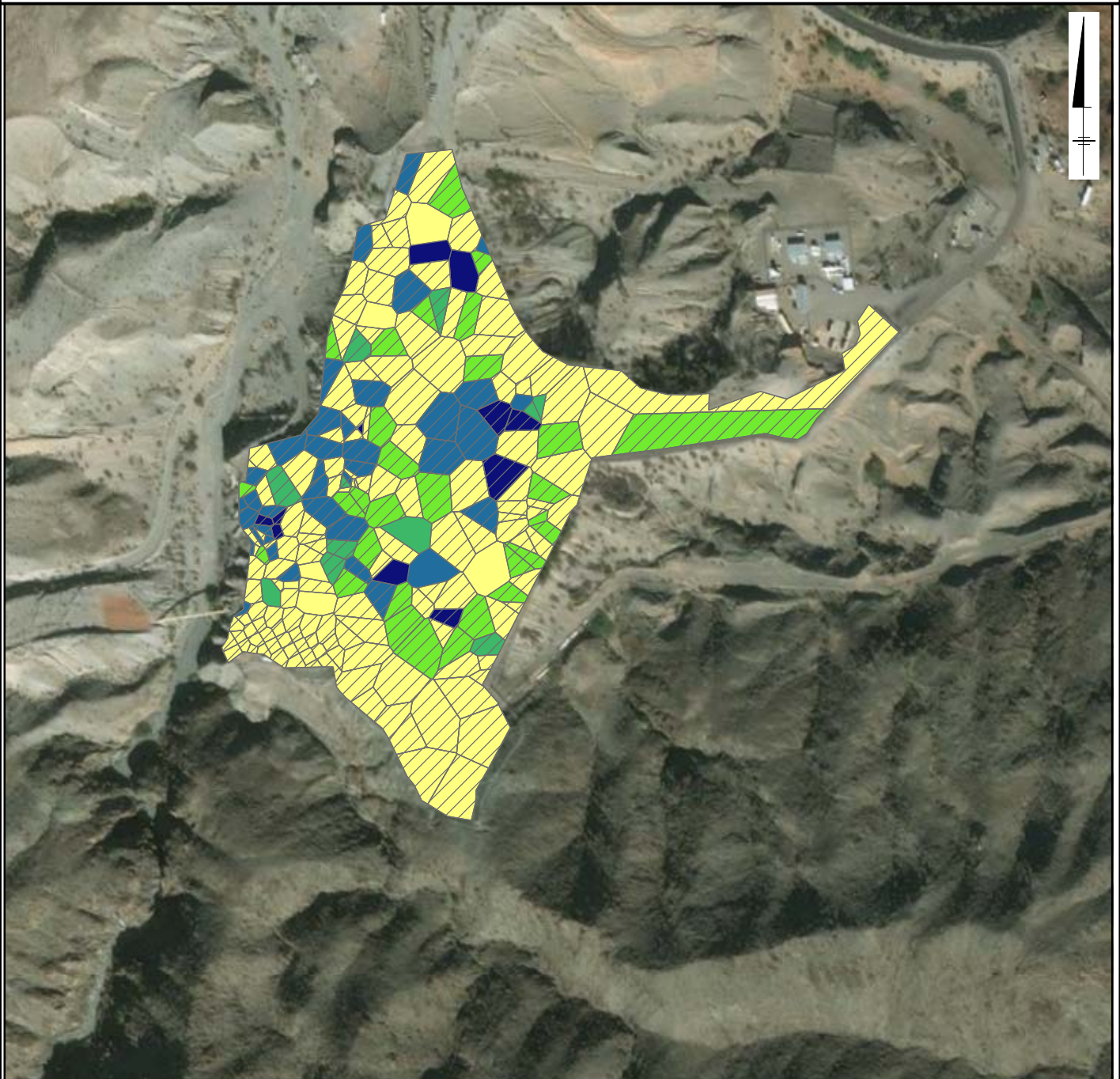
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FIGURE
ICS-A3.182

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE DIBENZO (A,H) ANTHRACENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: DIBENZO (A,H) ANTHRACENE (UG/KG)

- NOT DETECTED
- 2.50 - 5.10
- ≥5.10 - 10.10
- ≥10.10 - 22.40
- ≥22.40 - 91.90
- ≥91.90 - 310.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

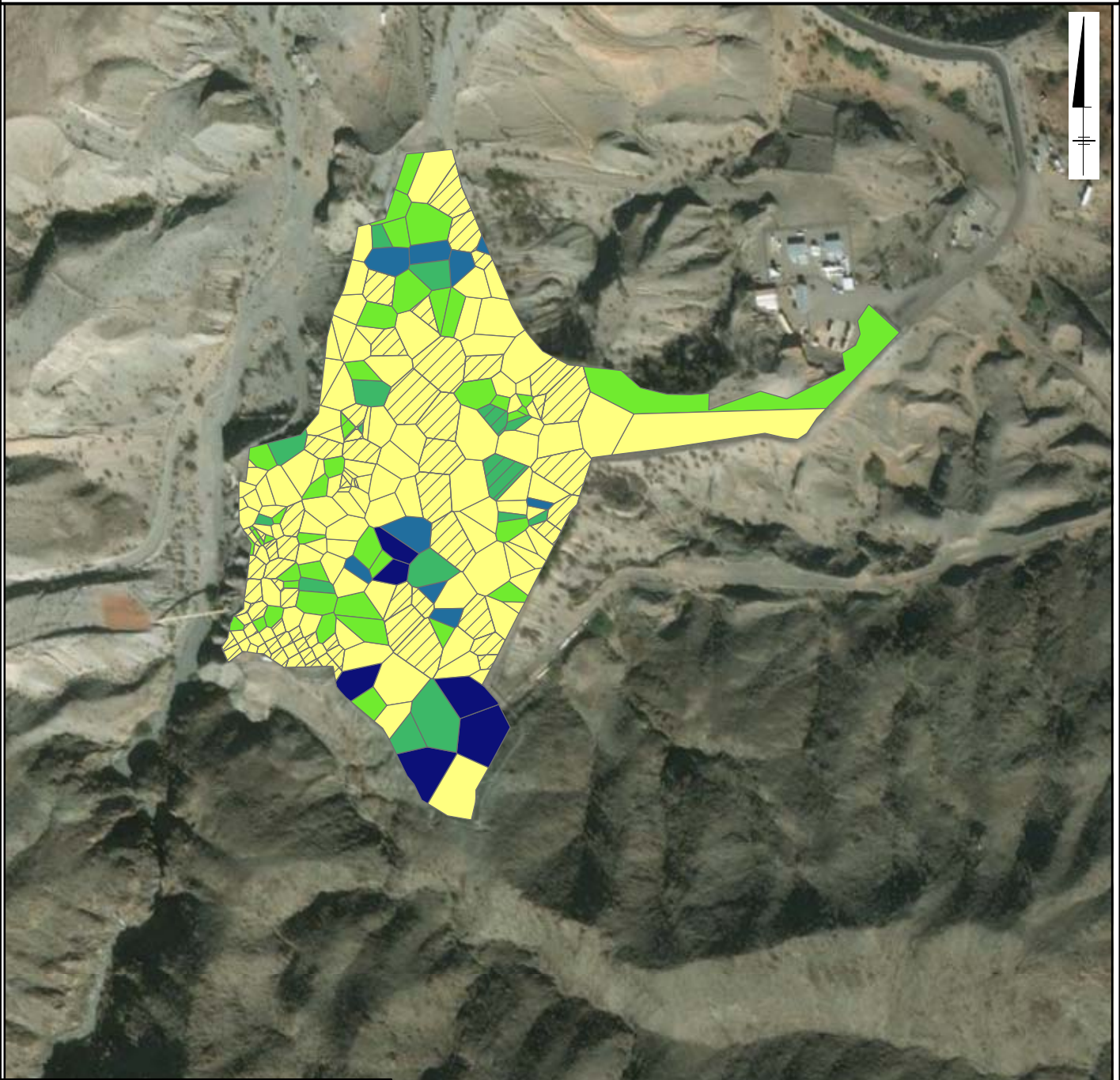
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FIGURE
ICS-A3.183

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE FLUORANTHENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORANTHENE (UG/KG)

- NOT DETECTED
- 2.54 - 27.00
- ≥27.00 - 88.00
- ≥88.00 - 260.00
- ≥260.00 - 720.00
- ≥720.00 - 5200.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600
Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

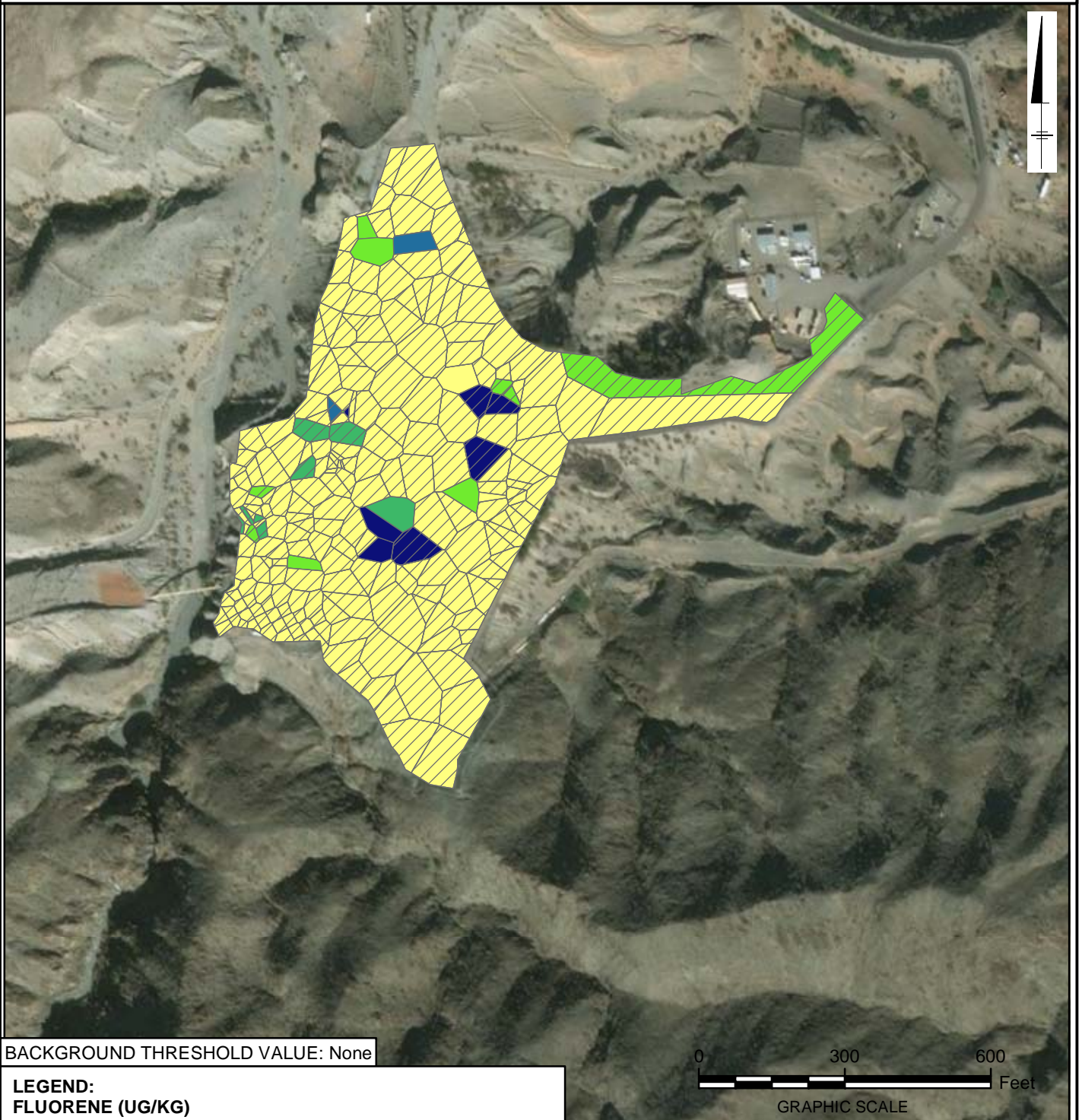
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FIGURE
ICS-A3.184

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE FLUORENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: FLUORENE (UG/KG)

	NOT DETECTED
	2.50 - 3.90
	≥3.90 - 13.50
	≥13.50 - 30.20
	≥30.20 - 95.30
	≥95.30 - 353.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

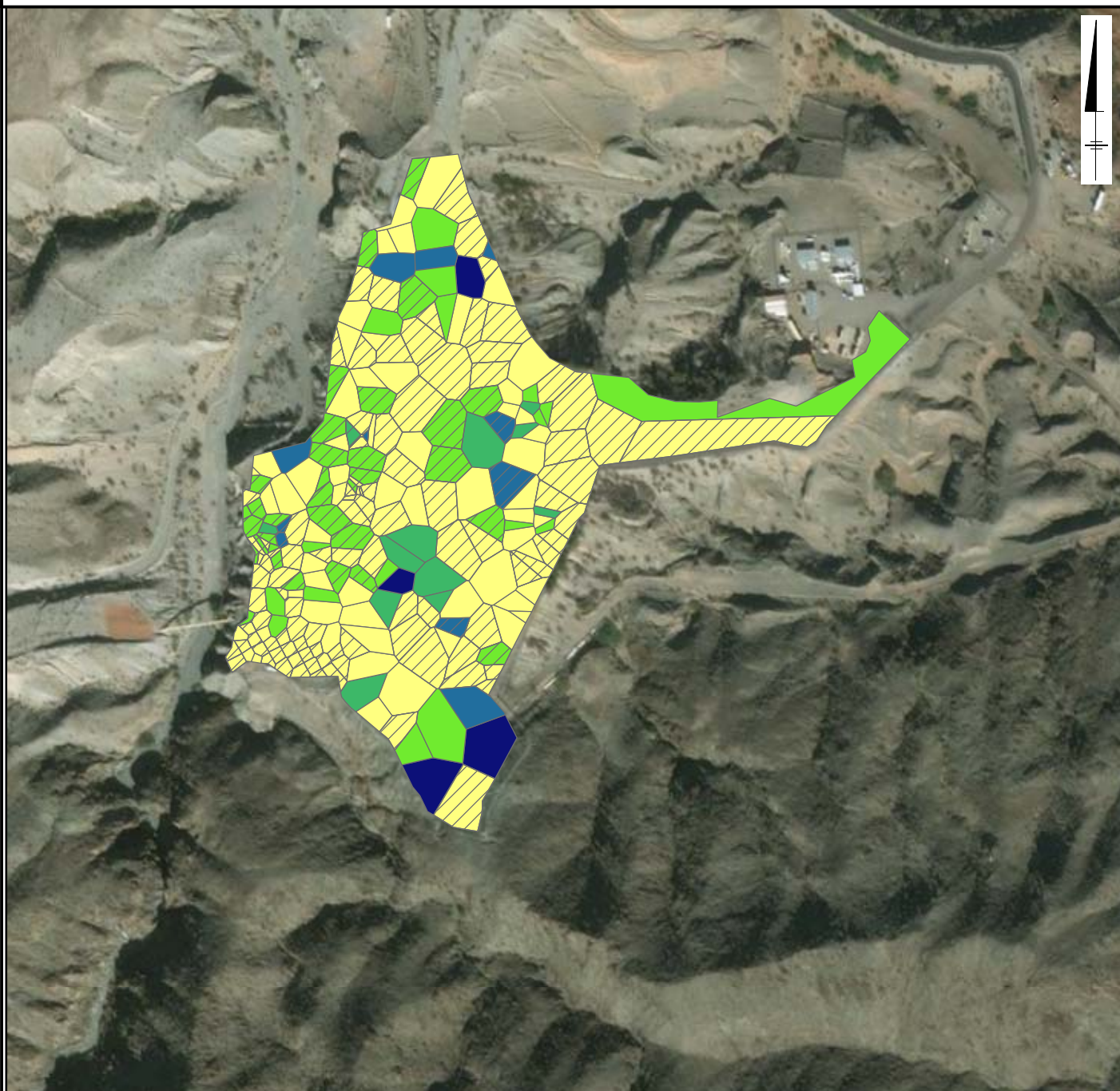
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
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FIGURE
ICS-A3.185

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE INDENO (1,2,3-CD) PYRENE

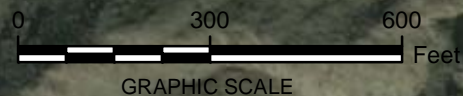


BACKGROUND THRESHOLD VALUE: None

LEGEND: INDENO (1,2,3-CD) PYRENE (UG/KG)

-  NOT DETECTED
-  2.50 - 15.60
-  ≥15.60 - 49.00
-  ≥49.00 - 140.00
-  ≥140.00 - 280.00
-  ≥280.00 - 863.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



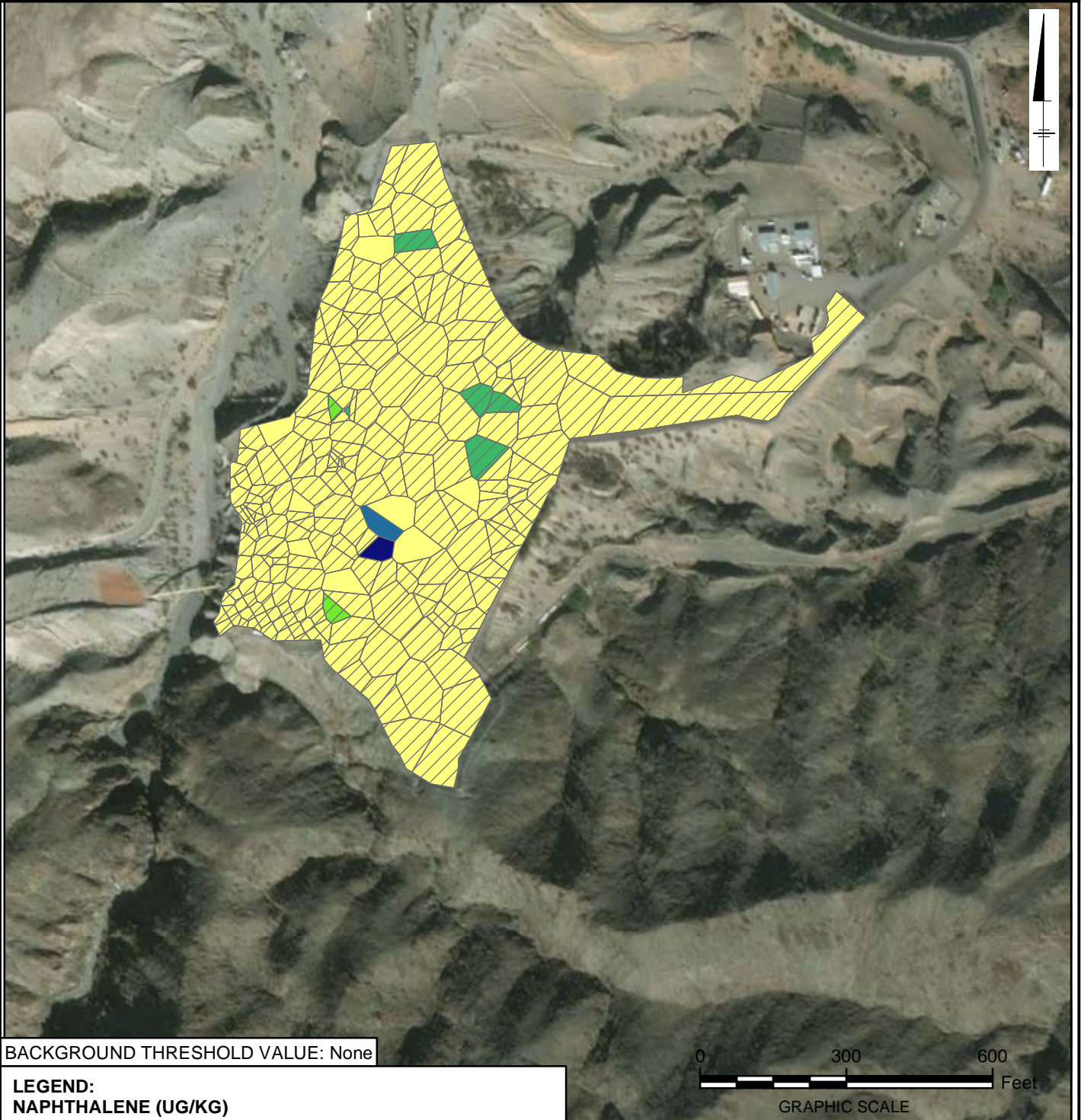
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FIGURE
ICS-A3.186

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE NAPHTHALENE



BACKGROUND THRESHOLD VALUE: None

LEGEND: NAPHTHALENE (UG/KG)

	NOT DETECTED
	2.28 - 19.80
	≥19.80 - 65.00
	≥65.00 - 260.00
	≥260.00 - 551.00
	≥551.00 - 1080.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

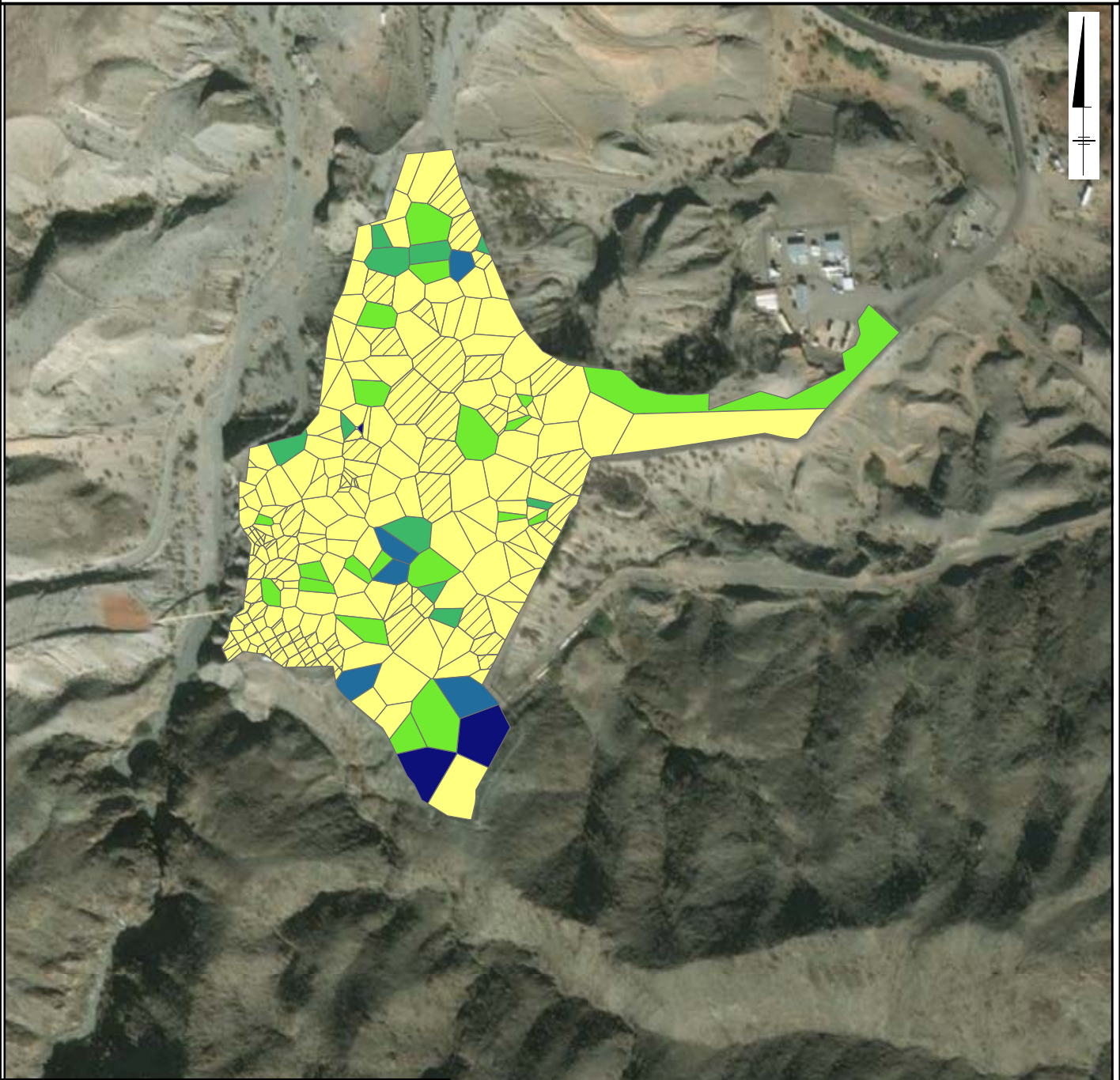
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FIGURE
ICS-A3.187

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE PAH HIGH MOLECULAR WEIGHT



BACKGROUND THRESHOLD VALUE: 37.6 UG/KG

LEGEND: PAH HIGH MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 350.00
- ≥350.00 - 1170.00
- ≥1170.00 - 3310.00
- ≥3310.00 - 10700.00
- ≥10700.00 - 28700.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



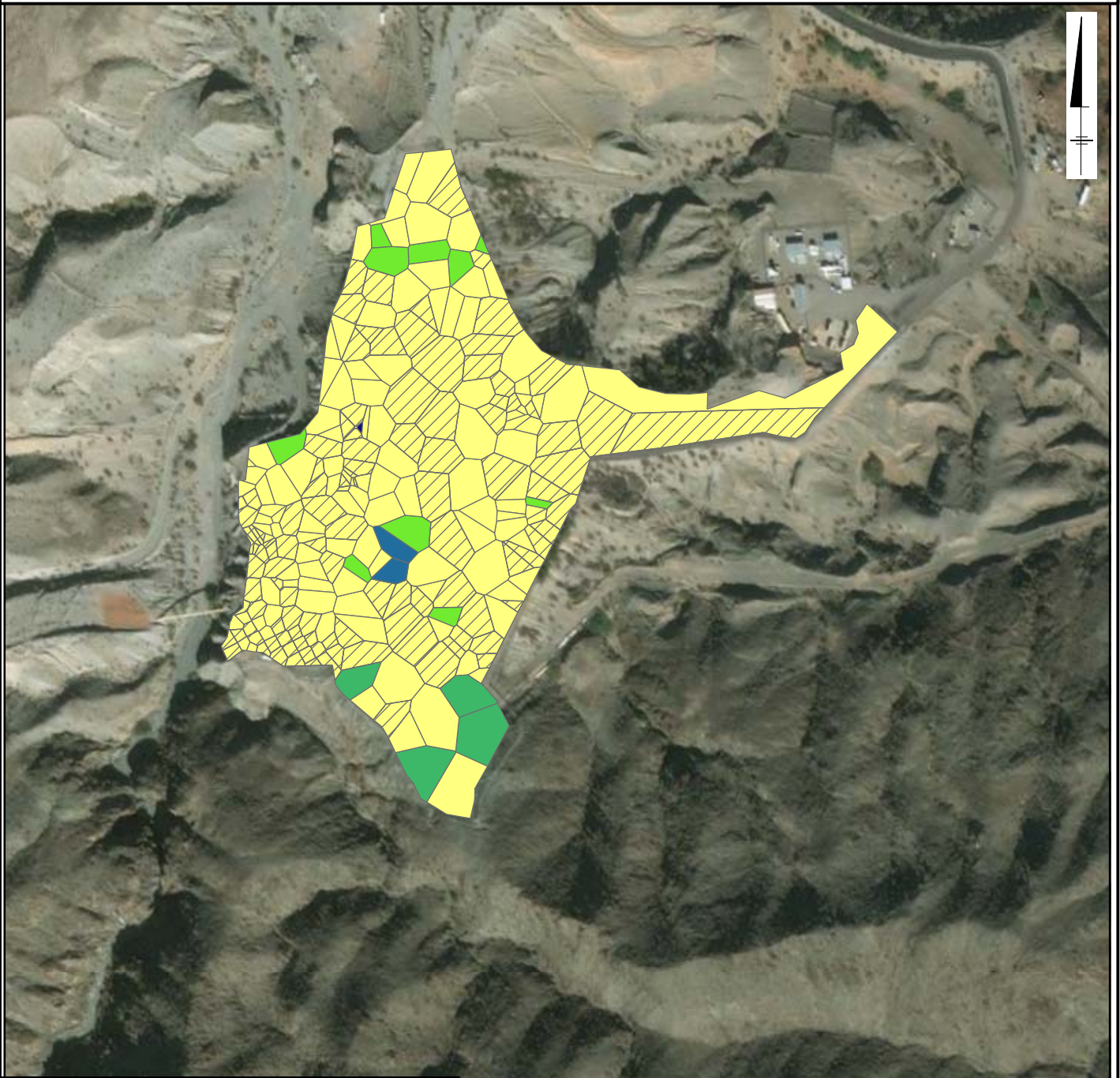
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FIGURE
ICS-A3.188

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE PAH LOW MOLECULAR WEIGHT

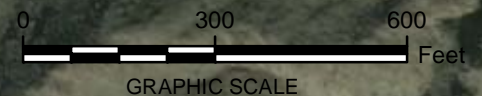


BACKGROUND THRESHOLD VALUE: 267.4 UG/KG

LEGEND: PAH LOW MOLECULAR WEIGHT (UG/KG)

- NOT DETECTED
- 0.00 - 100.00
- ≥ 100.00 - 416.00
- ≥ 416.00 - 842.00
- ≥ 842.00 - 3840.00
- ≥ 3840.00 - 33000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



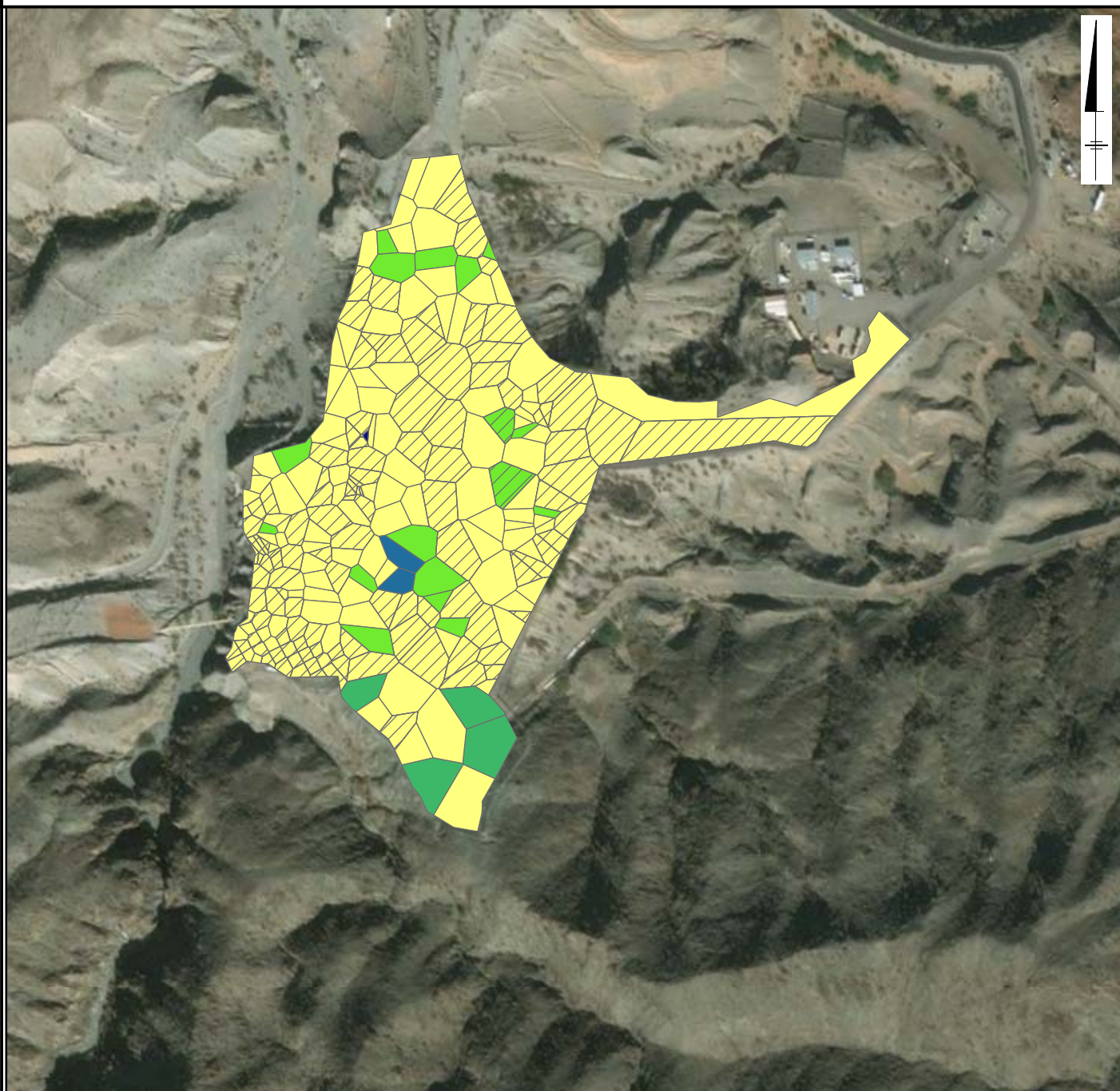
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
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FIGURE
ICS-A3.189

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE PHENANTHRENE



BACKGROUND THRESHOLD VALUE: None

LEGEND:

PHENANTHRENE (UG/KG)

- NOT DETECTED
- 2.51 - 76.80
- ≥76.80 - 338.00
- ≥338.00 - 770.00
- ≥770.00 - 2490.00
- ≥2490.00 - 29000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

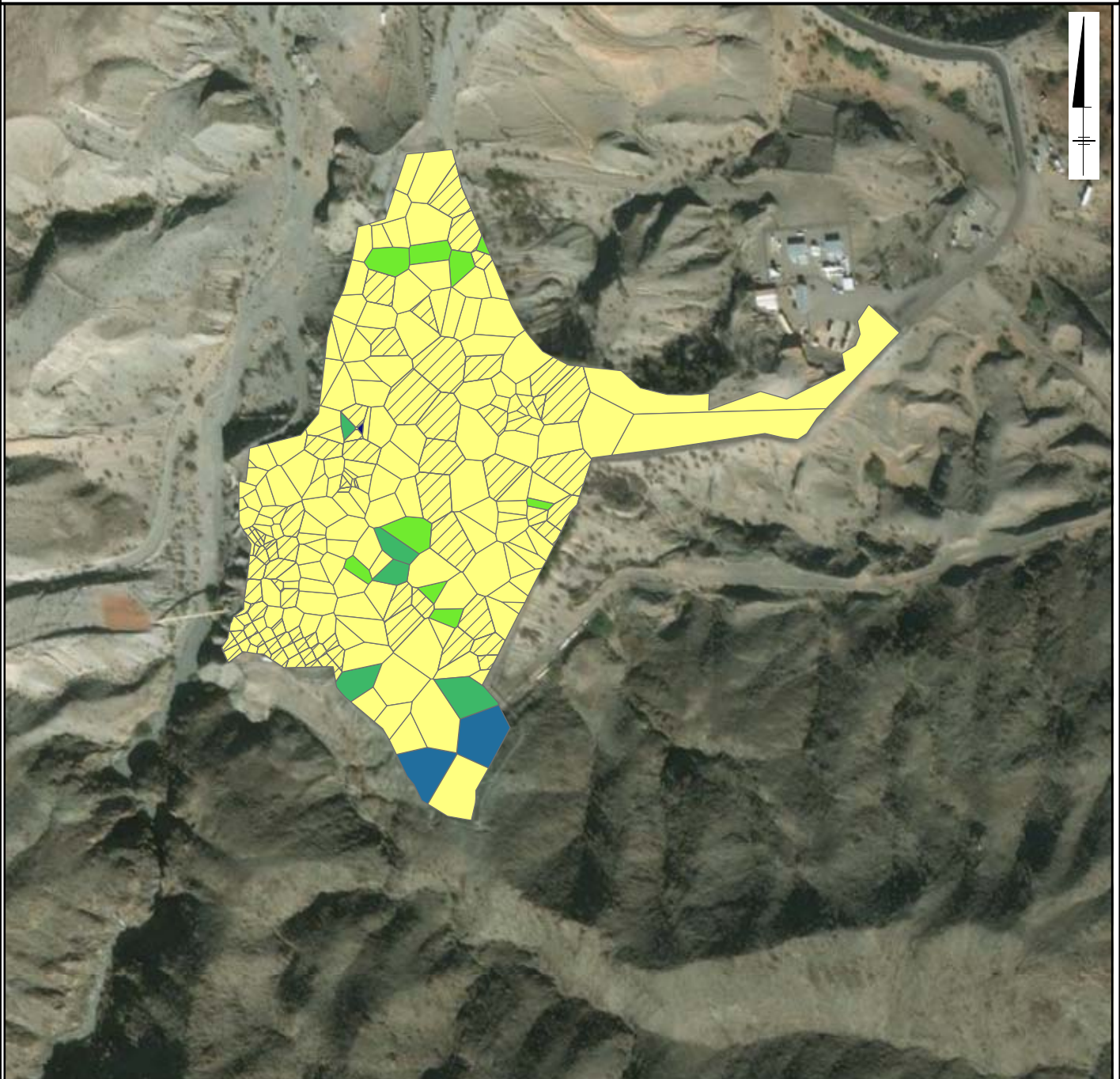
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FIGURE
ICS-A3.190

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE PYRENE

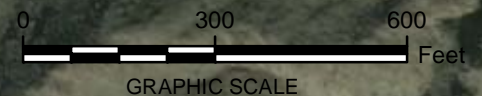


BACKGROUND THRESHOLD VALUE: None

LEGEND: PYRENE (UG/KG)

- NOT DETECTED
- 2.54 - 210.00
- ≥210.00 - 582.00
- ≥582.00 - 2800.00
- ≥2800.00 - 4950.00
- ≥4950.00 - 28000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



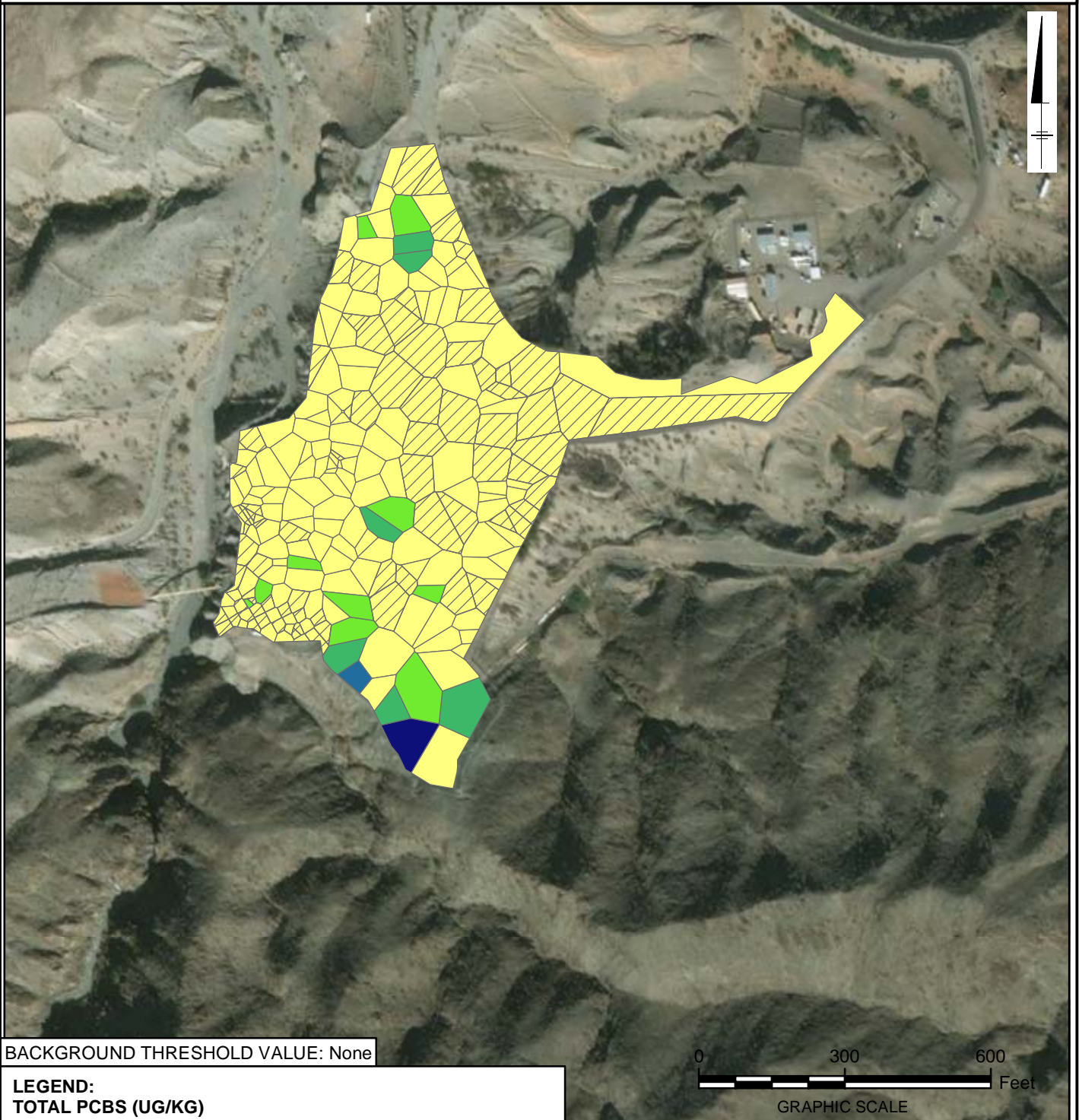
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

THIESSEN POLYGONS FOR AREA WEIGHTING



FIGURE
ICS-A3.191

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TOTAL PCBS



City: SYR Div/Group: IMDV Created By: K. SINSABAUGH Last Saved By: ksinsabaugh
PG&E Topock (RC000753.0040.00003)
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SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

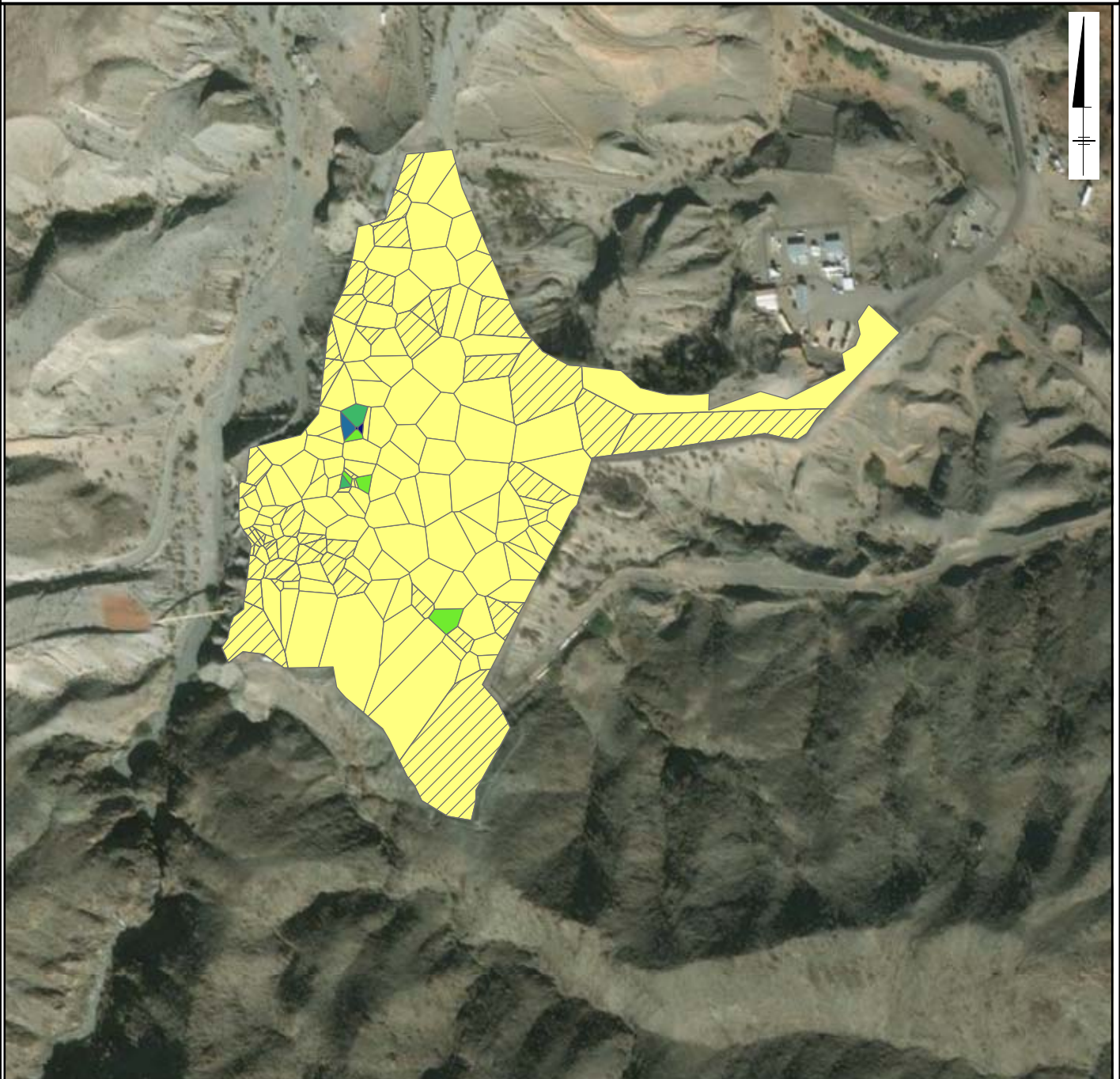
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

**THIESSEN POLYGONS FOR
AREA WEIGHTING**

ARCADIS Design & Consultancy
for natural and built assets

**FIGURE
ICS-A3.192**

INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TPH AS DIESEL



BACKGROUND THRESHOLD VALUE: None

LEGEND: TPH AS DIESEL (MG/KG)

- NOT DETECTED
- 5.00 - 72.80
- ≥72.80 - 361.00
- ≥361.00 - 900.00
- ≥900.00 - 3500.00
- ≥3500.00 - 7100.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.

0 300 600 Feet

GRAPHIC SCALE

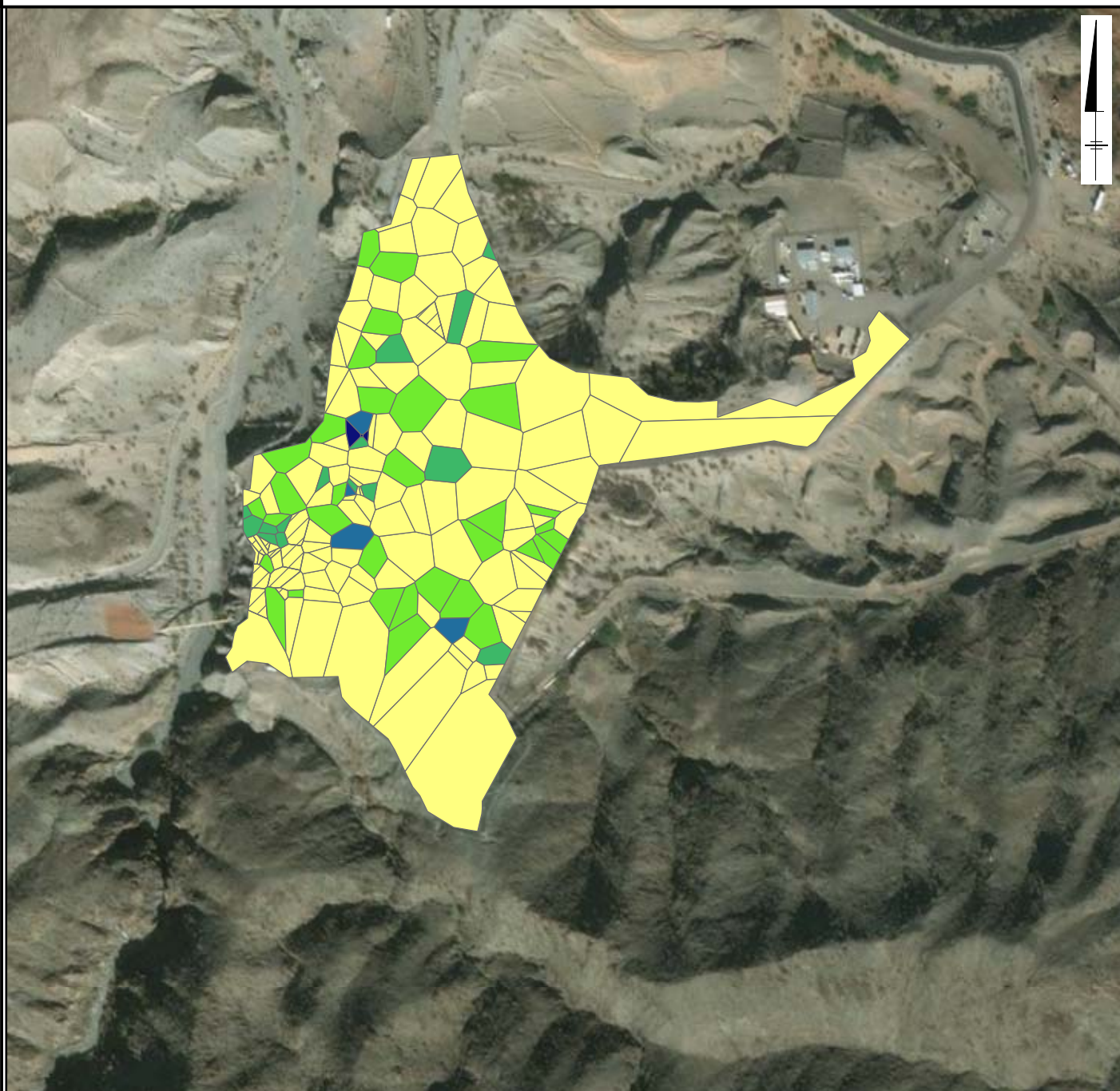
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
**SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT**

THIESSEN POLYGONS FOR AREA WEIGHTING

ARCADIS Design & Consultancy
for natural and
built assets

**FIGURE
ICS-A3.193**







INSIDE TOPOCK COMPRESSOR STATION 0 - 10 FEET BELOW GROUND SURFACE TPH AS MOTOR OIL



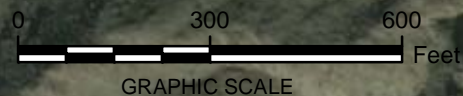
BACKGROUND THRESHOLD VALUE: None

LEGEND:

TPH AS MOTOR OIL (MG/KG)

-  NOT DETECTED
-  5.00 - 90.00
-  ≥90.00 - 223.00
-  ≥223.00 - 512.00
-  ≥512.00 - 1100.00
-  ≥1100.00 - 21000.00

SAMPLE LOCATIONS FOR ALL COPCS/COPECS AND ALL EXPOSURE DEPTHS EVALUATED FOR THIS EXPOSURE AREA ARE PRESENTED IN FIGURE ICS-1.1.
DEPTH-WEIGHTED CONCENTRATIONS ARE DISPLAYED FOR EACH LOCATION.
REPORTING LIMITS USED FOR DISPLAY COLOR OF NON-DETECT RESULTS.



PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

SOIL HUMAN HEALTH AND
ECOLOGICAL RISK ASSESSMENT

THIESSEN POLYGONS FOR
AREA WEIGHTING



FIGURE
ICS-A3.194

ATTACHMENT B

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at ICS Using Depth-Weighted EPCs and Area-Weighted EPCs



Attachment ICS-B1

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at ICS Using Depth-Weighted EPCs

Tables

ICS-B1.1a	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
ICS-B1.1b	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
ICS-B1.2a	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
ICS-B1.2b	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
ICS-B1.3a	Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker
ICS-B1.3b	Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
ICS-B1.3c	Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
ICS-B1.4a	Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker
ICS-B1.4b	Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
ICS-B1.4c	Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker
ICS-B1.5	Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker
ICS-B1.6a	Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker
ICS-B1.6b	Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Table ICS-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	3.6E-09	NV	NA	4.4E-08	2.8E-09	NV	NA	3.4E-08	2.0E-09	NV	NA	2.4E-08	1.6E-09	NV	NA	2.0E-08
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cyanide	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Molybdenum	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Silver	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Acetone	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	ND	9.7E-09	ND	ND	6.3E-12	9.7E-09	1.1E-10	7.7E-11	6.3E-12	9.7E-09	1.1E-10	7.7E-11	6.3E-12	9.7E-09	1.1E-10	7.7E-11
Methyl acetate	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methylene chloride	ND	4.3E-09	ND	ND	ND	4.3E-09	ND	ND	1.9E-12	4.3E-09	3.5E-11	2.4E-11	2.3E-12	4.3E-09	4.2E-11	2.9E-11
Toluene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.9E-10	NV	3.4E-09	2.3E-09	1.5E-10	NV	2.8E-09	1.9E-09	2.4E-10	NV	4.3E-09	3.0E-09	2.4E-10	NV	4.3E-09	3.0E-09
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	3.6E-11	2.7E-09	9.8E-10	4.4E-10	4.0E-11	2.7E-09	1.1E-09	4.9E-10	3.8E-11	2.7E-09	1.0E-09	4.8E-10	3.8E-11	2.7E-09	1.0E-09	4.7E-10
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table ICS-B1.1a
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	1.5E-11	1.5E-09	4.2E-10	1.9E-10	1.4E-11	1.5E-09	3.9E-10	1.8E-10	1.4E-11	1.5E-09	3.9E-10	1.8E-10	1.7E-11	1.5E-09	4.6E-10	2.1E-10
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.2E-10	NV	3.2E-09	1.5E-09	1.1E-10	NV	2.9E-09	1.3E-09	1.0E-10	NV	2.8E-09	1.3E-09	9.6E-11	NV	2.6E-09	1.2E-09
Pesticides																
4,4-DDE	3.8E-12	9.2E-12	3.4E-11	4.6E-11	3.8E-12	9.2E-12	3.4E-11	4.6E-11	3.8E-12	9.2E-12	3.4E-11	4.6E-11	3.8E-12	9.2E-12	3.4E-11	4.6E-11
4,4-DDT	3.1E-12	NV	2.8E-11	3.9E-11	3.1E-12	NV	2.8E-11	3.9E-11	3.1E-12	NV	2.8E-11	3.9E-11	3.1E-12	NV	2.8E-11	3.9E-11
alpha-Chlordane	8.9E-13	NV	8.0E-12	1.1E-11	6.8E-13	NV	6.1E-12	8.4E-12	8.9E-13	NV	8.0E-12	1.1E-11	8.9E-13	NV	8.0E-12	1.1E-11
gamma-Chlordane	1.5E-12	NV	1.3E-11	1.8E-11	1.5E-12	NV	1.3E-11	1.8E-11	1.5E-12	NV	1.3E-11	1.8E-11	1.5E-12	NV	1.3E-11	1.8E-11
Polychlorinated Biphenyls																
Total PCBs	4.4E-10	2.4E-09	1.2E-08	5.4E-09	3.8E-10	2.4E-09	1.0E-08	4.7E-09	3.3E-10	2.4E-09	9.0E-09	4.1E-09	3.1E-10	2.4E-09	8.3E-09	3.8E-09
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	1.0E-13	1.1E-13	5.4E-13	1.2E-12	8.3E-14	1.1E-13	4.5E-13	1.0E-12	5.9E-14	1.1E-13	3.2E-13	7.4E-13	5.1E-14	1.1E-13	2.8E-13	6.3E-13

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	2.7E-08	NV	NA	3.3E-07	2.1E-08	NV	NA	2.6E-07	1.5E-08	NV	NA	1.8E-07	1.2E-08	NV	NA	1.5E-07
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cyanide	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Molybdenum	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Silver	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Acetone	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	ND	1.3E-08	ND	ND	4.7E-11	1.3E-08	1.7E-09	5.8E-10	4.7E-11	1.3E-08	1.7E-09	5.8E-10	4.7E-11	1.3E-08	1.7E-09	5.8E-10
Methyl acetate	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methylene chloride	ND	5.9E-09	ND	ND	ND	5.9E-09	ND	ND	1.5E-11	5.9E-09	5.3E-10	1.8E-10	1.8E-11	5.9E-09	6.3E-10	2.2E-10
Toluene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.4E-09	NV	5.1E-08	1.7E-08	1.2E-09	NV	4.2E-08	1.4E-08	1.8E-09	NV	6.5E-08	2.2E-08	1.8E-09	NV	6.5E-08	2.2E-08
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	2.7E-10	3.7E-09	1.5E-08	3.3E-09	3.0E-10	3.7E-09	1.6E-08	3.7E-09	2.9E-10	3.7E-09	1.6E-08	3.6E-09	2.9E-10	3.7E-09	1.6E-08	3.5E-09
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table ICS-B1.1b
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	1.2E-10	2.0E-09	6.3E-09	1.4E-09	1.1E-10	2.0E-09	5.8E-09	1.3E-09	1.1E-10	2.0E-09	5.9E-09	1.3E-09	1.3E-10	2.0E-09	6.9E-09	1.6E-09
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	8.9E-10	NV	4.8E-08	1.1E-08	8.0E-10	NV	4.4E-08	9.9E-09	7.8E-10	NV	4.2E-08	9.6E-09	7.2E-10	NV	3.9E-08	8.9E-09
Pesticides																
4,4-DDE	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10
4,4-DDT	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10
alpha-Chlordane	6.7E-12	NV	1.2E-10	8.2E-11	5.1E-12	NV	9.2E-11	6.3E-11	6.7E-12	NV	1.2E-10	8.2E-11	6.7E-12	NV	1.2E-10	8.2E-11
gamma-Chlordane	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10
Polychlorinated Biphenyls																
Total PCBs	3.3E-09	3.3E-09	1.8E-07	4.1E-08	2.9E-09	3.3E-09	1.6E-07	3.5E-08	2.5E-09	3.3E-09	1.3E-07	3.1E-08	2.3E-09	3.3E-09	1.3E-07	2.9E-08
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	7.5E-13	1.5E-13	8.2E-12	9.3E-12	6.2E-13	1.5E-13	6.8E-12	7.7E-12	4.5E-13	1.5E-13	4.8E-12	5.5E-12	3.8E-13	1.5E-13	4.1E-12	4.7E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	1.2E-07	NV	2.1E-07	1.4E-06	2.2E-08	NV	4.1E-08	2.8E-07	1.8E-08	NV	3.3E-08	2.3E-07	1.7E-08	NV	3.0E-08	2.0E-07
Chromium, Hexavalent	2.5E-07	NV	NA	3.1E-06	1.9E-07	NV	NA	2.4E-06	1.4E-07	NV	NA	1.7E-06	1.1E-07	NV	NA	1.4E-06
Chromium, total	5.8E-06	NV	1.1E-05	7.2E-05	4.9E-06	NV	8.8E-06	6.0E-05	3.8E-06	NV	6.9E-06	4.7E-05	3.3E-06	NV	6.0E-06	4.1E-05
Copper	2.2E-06	NV	4.0E-06	2.7E-05	2.1E-06	NV	3.7E-06	2.6E-05	1.8E-06	NV	3.3E-06	2.2E-05	1.7E-06	NV	3.1E-06	2.1E-05
Cyanide	1.8E-08	NV	3.2E-08	2.2E-07	1.6E-08	NV	3.0E-08	2.0E-07	1.5E-08	NV	2.7E-08	1.8E-07	1.5E-08	NV	2.7E-08	1.8E-07
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	6.2E-09	NV	1.1E-08	7.7E-08	8.2E-09	NV	1.5E-08	1.0E-07	7.2E-09	NV	1.3E-08	8.9E-08	6.8E-09	NV	1.2E-08	8.4E-08
Molybdenum	2.7E-06	NV	4.9E-06	3.4E-05	2.1E-06	NV	3.8E-06	2.6E-05	1.5E-06	NV	2.8E-06	1.9E-05	1.3E-06	NV	2.3E-06	1.6E-05
Silver	ND	NV	ND	ND	5.7E-09	NV	1.0E-08	7.1E-08	6.4E-09	NV	1.2E-08	7.9E-08	6.5E-09	NV	1.2E-08	8.0E-08
Thallium	8.8E-08	NV	1.6E-07	1.1E-06	9.3E-09	NV	1.7E-08	1.2E-07	1.1E-08	NV	2.0E-08	1.4E-07	1.3E-08	NV	2.3E-08	1.6E-07
Zinc	5.3E-06	NV	9.7E-06	6.6E-05	4.6E-06	NV	8.3E-06	5.7E-05	3.8E-06	NV	6.9E-06	4.7E-05	3.5E-06	NV	6.2E-06	4.3E-05
Volatile Organic Compounds																
Acetone	2.4E-08	9.2E-07	4.3E-07	2.9E-07	8.0E-08	9.2E-07	1.5E-06	9.9E-07	3.2E-09	9.2E-07	5.7E-08	3.9E-08	3.1E-09	9.2E-07	5.6E-08	3.8E-08
Chloroform	ND	6.8E-07	ND	ND	4.4E-10	6.8E-07	7.9E-09	5.4E-09	4.4E-10	6.8E-07	7.9E-09	5.4E-09	4.4E-10	6.8E-07	7.9E-09	5.4E-09
Methyl acetate	1.0E-09	3.3E-05	1.9E-08	1.3E-08	6.6E-08	3.3E-05	1.2E-06	8.1E-07	6.6E-08	3.3E-05	1.2E-06	8.1E-07	6.6E-08	3.3E-05	1.2E-06	8.1E-07
Methylene chloride	ND	3.0E-07	ND	ND	ND	3.0E-07	ND	ND	1.4E-10	3.0E-07	2.5E-09	1.7E-09	1.6E-10	3.0E-07	3.0E-09	2.0E-09
Toluene	2.2E-10	1.2E-07	3.9E-09	2.7E-09	2.0E-10	1.2E-07	3.5E-09	2.4E-09	1.6E-10	1.2E-07	2.8E-09	1.9E-09	1.3E-10	1.2E-07	2.4E-09	1.6E-09
Xylenes, total	6.2E-10	1.5E-07	1.1E-08	7.7E-09	4.5E-10	1.5E-07	8.2E-09	5.6E-09	2.9E-10	1.5E-07	5.2E-09	3.6E-09	2.2E-10	1.5E-07	3.9E-09	2.7E-09
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.3E-08	NV	2.4E-07	1.6E-07	1.1E-08	NV	2.0E-07	1.3E-07	1.7E-08	NV	3.0E-07	2.1E-07	1.7E-08	NV	3.0E-07	2.1E-07
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	2.5E-09	1.9E-07	6.8E-08	3.1E-08	2.8E-09	1.9E-07	7.5E-08	3.4E-08	2.7E-09	1.9E-07	7.3E-08	3.3E-08	2.7E-09	1.9E-07	7.2E-08	3.3E-08
2-Methyl naphthalene	2.9E-09	2.2E-07	8.0E-08	3.6E-08	3.2E-09	2.2E-07	8.6E-08	3.9E-08	3.1E-09	2.2E-07	8.4E-08	3.8E-08	3.2E-09	2.2E-07	8.7E-08	4.0E-08
Acenaphthene	1.2E-10	1.8E-08	3.2E-09	1.5E-09	5.1E-10	1.8E-08	1.4E-08	6.3E-09	1.3E-10	1.8E-08	3.4E-09	1.6E-09	6.5E-10	1.8E-08	1.8E-08	8.0E-09
Acenaphthylene	2.8E-09	NV	7.5E-08	3.4E-08	2.0E-09	NV	5.5E-08	2.5E-08	1.9E-09	NV	5.2E-08	2.4E-08	1.9E-09	NV	5.2E-08	2.4E-08
Anthracene	5.2E-10	5.4E-09	1.4E-08	6.4E-09	1.7E-10	5.4E-09	4.6E-09	2.1E-09	4.9E-10	5.4E-09	1.3E-08	6.1E-09	6.8E-10	5.4E-09	1.8E-08	8.4E-09
Benzo (a) anthracene	7.7E-09	4.9E-09	2.1E-07	9.5E-08	5.8E-09	4.9E-09	1.6E-07	7.2E-08	5.2E-09	4.9E-09	1.4E-07	6.4E-08	5.3E-09	4.9E-09	1.4E-07	6.5E-08
Benzo (a) pyrene	4.5E-09	NV	1.2E-07	5.6E-08	4.1E-09	NV	1.1E-07	5.0E-08	3.8E-09	NV	1.0E-07	4.7E-08	3.8E-09	NV	1.0E-07	4.7E-08
Benzo (b) fluoranthene	5.2E-09	NV	1.4E-07	6.5E-08	4.6E-09	NV	1.2E-07	5.7E-08	7.3E-09	NV	2.0E-07	9.1E-08	7.2E-09	NV	2.0E-07	8.9E-08
Benzo (ghi) perylene	2.9E-09	NV	7.8E-08	3.6E-08	2.2E-09	NV	6.0E-08	2.7E-08	2.1E-09	NV	5.7E-08	2.6E-08	2.1E-09	NV	5.7E-08	2.6E-08
Benzo (k) fluoranthene	3.2E-09	NV	8.8E-08	4.0E-08	2.7E-09	NV	7.2E-08	3.3E-08	2.4E-09	NV	6.4E-08	2.9E-08	2.4E-09	NV	6.4E-08	2.9E-08
Chrysene	5.7E-09	NV	1.5E-07	7.0E-08	5.2E-09	NV	1.4E-07	6.4E-08	4.8E-09	NV	1.3E-07	5.9E-08	4.9E-09	NV	1.3E-07	6.1E-08
Dibenzo (a,h) anthracene	2.5E-10	NV	6.8E-09	3.1E-09	1.5E-10	NV	4.1E-09	1.9E-09	3.8E-10	NV	1.0E-08	4.7E-09	1.5E-10	NV	4.1E-09	1.9E-09
Fluoranthene	1.6E-08	NV	4.3E-07	1.9E-07	1.1E-08	NV	3.0E-07	1.4E-07	9.8E-09	NV	2.7E-07	1.2E-07	1.0E-08	NV	2.8E-07	1.3E-07
Fluorene	1.1E-10	6.7E-09	3.0E-09	1.4E-09	1.1E-10	6.7E-09	3.0E-09	1.4E-09	2.7E-10	6.7E-09	7.4E-09	3.4E-09	4.8E-10	6.7E-09	1.3E-08	5.9E-09
Indeno (1,2,3-cd) pyrene	2.5E-09	NV	6.8E-08	3.1E-08	2.0E-09	NV	5.3E-08	2.4E-08	1.8E-09	NV	5.0E-08	2.3E-08	1.8E-09	NV	5.0E-08	2.3E-08

Table ICS-B1.2a
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Short Term Maintenance Worker (0 to 3 feet bgs) ^a				Short Term Maintenance Worker (0 to 6 feet bgs) ^a				Short Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	1.1E-09	1.0E-07	2.9E-08	1.3E-08	9.9E-10	1.0E-07	2.7E-08	1.2E-08	1.0E-09	1.0E-07	2.7E-08	1.3E-08	1.2E-09	1.0E-07	3.2E-08	1.5E-08
Phenanthrene	6.8E-09	NV	1.8E-07	8.4E-08	2.7E-08	NV	7.3E-07	3.3E-07	2.6E-08	NV	7.0E-07	3.2E-07	2.6E-08	NV	7.0E-07	3.2E-07
Pyrene	1.4E-08	4.6E-08	3.7E-07	1.7E-07	2.9E-08	4.6E-08	7.9E-07	3.6E-07	2.8E-08	4.6E-08	7.7E-07	3.5E-07	2.8E-08	4.6E-08	7.6E-07	3.5E-07
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	2.6E-10	6.5E-10	2.4E-09	3.3E-09	2.6E-10	6.5E-10	2.4E-09	3.3E-09	2.6E-10	6.5E-10	2.4E-09	3.3E-09	2.6E-10	6.5E-10	2.4E-09	3.3E-09
4,4-DDT	2.2E-10	NV	2.0E-09	2.7E-09	2.2E-10	NV	2.0E-09	2.7E-09	2.2E-10	NV	2.0E-09	2.7E-09	2.2E-10	NV	2.0E-09	2.7E-09
alpha-Chlordane	6.2E-11	NV	5.6E-10	7.7E-10	4.7E-11	NV	4.3E-10	5.9E-10	6.2E-11	NV	5.6E-10	7.7E-10	6.2E-11	NV	5.6E-10	7.7E-10
gamma-Chlordane	1.0E-10	NV	9.3E-10	1.3E-09	1.0E-10	NV	9.3E-10	1.3E-09	1.0E-10	NV	9.3E-10	1.3E-09	1.0E-10	NV	9.3E-10	1.3E-09
Polychlorinated Biphenyls																
Total PCBs	3.1E-08	1.7E-07	8.3E-07	3.8E-07	2.7E-08	1.7E-07	7.2E-07	3.3E-07	2.3E-08	1.7E-07	6.3E-07	2.9E-07	2.2E-08	1.7E-07	5.8E-07	2.7E-07
Total Petroleum Hydrocarbons																
TPH as diesel	1.6E-06	3.1E-02	2.9E-05	2.0E-05	9.7E-06	3.1E-02	1.8E-04	1.2E-04	1.5E-05	3.1E-02	2.7E-04	1.9E-04	1.5E-05	3.1E-02	2.7E-04	1.9E-04
TPH as motor oil	7.7E-06	NV	1.4E-04	9.6E-05	7.4E-06	NV	1.3E-04	9.2E-05	4.6E-05	NV	8.4E-04	5.7E-04	4.5E-05	NV	8.2E-04	5.6E-04
Dioxins/Furans																
TEQ Human	7.0E-12	7.5E-12	3.8E-11	8.7E-11	5.8E-12	7.5E-12	3.2E-11	7.2E-11	4.2E-12	7.5E-12	2.3E-11	5.2E-11	3.6E-12	7.5E-12	1.9E-11	4.4E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	2.9E-08	NV	1.1E-07	3.6E-07	5.6E-09	NV	2.0E-08	7.0E-08	4.6E-09	NV	1.7E-08	5.7E-08	4.1E-09	NV	1.5E-08	5.1E-08
Chromium, Hexavalent	6.3E-08	NV	NA	7.8E-07	4.9E-08	NV	NA	6.0E-07	3.4E-08	NV	NA	4.2E-07	2.8E-08	NV	NA	3.5E-07
Chromium, total	1.5E-06	NV	5.3E-06	1.8E-05	1.2E-06	NV	4.4E-06	1.5E-05	9.5E-07	NV	3.4E-06	1.2E-05	8.3E-07	NV	3.0E-06	1.0E-05
Copper	5.5E-07	NV	2.0E-06	6.8E-06	5.2E-07	NV	1.9E-06	6.4E-06	4.5E-07	NV	1.6E-06	5.6E-06	4.3E-07	NV	1.6E-06	5.3E-06
Cyanide	4.4E-09	NV	1.6E-08	5.4E-08	4.1E-09	NV	1.5E-08	5.1E-08	3.7E-09	NV	1.3E-08	4.6E-08	3.7E-09	NV	1.3E-08	4.6E-08
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.6E-09	NV	5.7E-09	1.9E-08	2.1E-09	NV	7.4E-09	2.5E-08	1.8E-09	NV	6.5E-09	2.2E-08	1.7E-09	NV	6.1E-09	2.1E-08
Molybdenum	6.8E-07	NV	2.5E-06	8.4E-06	5.3E-07	NV	1.9E-06	6.5E-06	3.8E-07	NV	1.4E-06	4.7E-06	3.2E-07	NV	1.2E-06	4.0E-06
Silver	ND	NV	ND	ND	1.4E-09	NV	5.2E-09	1.8E-08	1.6E-09	NV	5.8E-09	2.0E-08	1.6E-09	NV	5.9E-09	2.0E-08
Thallium	2.2E-08	NV	7.9E-08	2.7E-07	2.3E-09	NV	8.4E-09	2.9E-08	2.8E-09	NV	1.0E-08	3.5E-08	3.2E-09	NV	1.1E-08	3.9E-08
Zinc	1.3E-06	NV	4.8E-06	1.7E-05	1.1E-06	NV	4.1E-06	1.4E-05	9.5E-07	NV	3.4E-06	1.2E-05	8.6E-07	NV	3.1E-06	1.1E-05
Volatile Organic Compounds																
Acetone	5.9E-09	4.2E-08	2.1E-07	7.3E-08	2.0E-08	4.2E-08	7.3E-07	2.5E-07	7.9E-10	4.2E-08	2.9E-08	9.8E-09	7.7E-10	4.2E-08	2.8E-08	9.6E-09
Chloroform	ND	3.1E-08	ND	ND	1.1E-10	3.1E-08	4.0E-09	1.4E-09	1.1E-10	3.1E-08	4.0E-09	1.4E-09	1.1E-10	3.1E-08	4.0E-09	1.4E-09
Methyl acetate	2.6E-10	1.5E-06	9.3E-09	3.2E-09	1.6E-08	1.5E-06	5.9E-07	2.0E-07	1.6E-08	1.5E-06	5.9E-07	2.0E-07	1.6E-08	1.5E-06	5.9E-07	2.0E-07
Methylene chloride	ND	1.4E-08	ND	ND	ND	1.4E-08	ND	ND	3.4E-11	1.4E-08	1.2E-09	4.2E-10	4.1E-11	1.4E-08	1.5E-09	5.1E-10
Toluene	5.4E-11	5.7E-09	2.0E-09	6.7E-10	4.9E-11	5.7E-09	1.8E-09	6.1E-10	3.9E-11	5.7E-09	1.4E-09	4.8E-10	3.3E-11	5.7E-09	1.2E-09	4.1E-10
Xylenes, total	1.6E-10	6.9E-09	5.6E-09	1.9E-09	1.1E-10	6.9E-09	4.1E-09	1.4E-09	7.2E-11	6.9E-09	2.6E-09	8.9E-10	5.4E-11	6.9E-09	2.0E-09	6.7E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	3.3E-09	NV	1.2E-07	4.1E-08	2.7E-09	NV	9.8E-08	3.3E-08	4.2E-09	NV	1.5E-07	5.2E-08	4.2E-09	NV	1.5E-07	5.2E-08
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	6.3E-10	8.6E-09	3.4E-08	7.8E-09	6.9E-10	8.6E-09	3.8E-08	8.6E-09	6.7E-10	8.6E-09	3.6E-08	8.3E-09	6.7E-10	8.6E-09	3.6E-08	8.3E-09
2-Methyl naphthalene	7.4E-10	1.0E-08	4.0E-08	9.1E-09	7.9E-10	1.0E-08	4.3E-08	9.8E-09	7.7E-10	1.0E-08	4.2E-08	9.6E-09	8.0E-10	1.0E-08	4.4E-08	1.0E-08
Acenaphthene	3.0E-11	8.3E-10	1.6E-09	3.7E-10	1.3E-10	8.3E-10	6.9E-09	1.6E-09	3.2E-11	8.3E-10	1.7E-09	3.9E-10	1.6E-10	8.3E-10	8.8E-09	2.0E-09
Acenaphthylene	6.9E-10	NV	3.8E-08	8.6E-09	5.1E-10	NV	2.8E-08	6.3E-09	4.8E-10	NV	2.6E-08	6.0E-09	4.8E-10	NV	2.6E-08	5.9E-09
Anthracene	1.3E-10	2.5E-10	7.0E-09	1.6E-09	4.2E-11	2.5E-10	2.3E-09	5.2E-10	1.2E-10	2.5E-10	6.7E-09	1.5E-09	1.7E-10	2.5E-10	9.2E-09	2.1E-09
Benzo (a) anthracene	1.9E-09	2.3E-10	1.0E-07	2.4E-08	1.5E-09	2.3E-10	7.9E-08	1.8E-08	1.3E-09	2.3E-10	7.0E-08	1.6E-08	1.3E-09	2.3E-10	7.1E-08	1.6E-08
Benzo (a) pyrene	1.1E-09	NV	6.1E-08	1.4E-08	1.0E-09	NV	5.5E-08	1.3E-08	9.4E-10	NV	5.1E-08	1.2E-08	9.5E-10	NV	5.2E-08	1.2E-08
Benzo (b) fluoranthene	1.3E-09	NV	7.1E-08	1.6E-08	1.2E-09	NV	6.2E-08	1.4E-08	1.8E-09	NV	1.0E-07	2.3E-08	1.8E-09	NV	9.8E-08	2.2E-08
Benzo (ghi) perylene	7.2E-10	NV	3.9E-08	8.9E-09	5.5E-10	NV	3.0E-08	6.8E-09	5.2E-10	NV	2.8E-08	6.5E-09	5.2E-10	NV	2.8E-08	6.5E-09
Benzo (k) fluoranthene	8.1E-10	NV	4.4E-08	1.0E-08	6.6E-10	NV	3.6E-08	8.2E-09	5.9E-10	NV	3.2E-08	7.3E-09	5.9E-10	NV	3.2E-08	7.3E-09
Chrysene	1.4E-09	NV	7.7E-08	1.8E-08	1.3E-09	NV	7.0E-08	1.6E-08	1.2E-09	NV	6.5E-08	1.5E-08	1.2E-09	NV	6.6E-08	1.5E-08
Dibenzo (a,h) anthracene	6.3E-11	NV	3.4E-09	7.8E-10	3.8E-11	NV	2.1E-09	4.7E-10	9.6E-11	NV	5.2E-09	1.2E-09	3.8E-11	NV	2.0E-09	4.6E-10
Fluoranthene	3.9E-09	NV	2.1E-07	4.9E-08	2.8E-09	NV	1.5E-07	3.4E-08	2.5E-09	NV	1.3E-07	3.0E-08	2.5E-09	NV	1.4E-07	3.1E-08
Fluorene	2.8E-11	3.1E-10	1.5E-09	3.5E-10	2.8E-11	3.1E-10	1.5E-09	3.4E-10	6.8E-11	3.1E-10	3.7E-09	8.5E-10	1.2E-10	3.1E-10	6.5E-09	1.5E-09
Indeno (1,2,3-cd) pyrene	6.2E-10	NV	3.4E-08	7.7E-09	4.9E-10	NV	2.6E-08	6.0E-09	4.6E-10	NV	2.5E-08	5.7E-09	4.6E-10	NV	2.5E-08	5.7E-09

Table ICS-B1.2b
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	2.7E-10	4.7E-09	1.5E-08	3.3E-09	2.5E-10	4.7E-09	1.3E-08	3.1E-09	2.5E-10	4.7E-09	1.4E-08	3.1E-09	3.0E-10	4.7E-09	1.6E-08	3.7E-09
Phenanthrene	1.7E-09	NV	9.2E-08	2.1E-08	6.7E-09	NV	3.7E-07	8.3E-08	6.4E-09	NV	3.5E-07	8.0E-08	6.4E-09	NV	3.5E-07	8.0E-08
Pyrene	3.4E-09	2.1E-09	1.8E-07	4.2E-08	7.3E-09	2.1E-09	4.0E-07	9.0E-08	7.1E-09	2.1E-09	3.8E-07	8.7E-08	7.0E-09	2.1E-09	3.8E-07	8.7E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10
4,4-DDT	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10
alpha-Chlordane	1.6E-11	NV	2.8E-10	1.9E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.6E-11	NV	2.8E-10	1.9E-10	1.6E-11	NV	2.8E-10	1.9E-10
gamma-Chlordane	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10
Polychlorinated Biphenyls																
Total PCBs	7.6E-09	7.6E-09	4.1E-07	9.5E-08	6.7E-09	7.6E-09	3.6E-07	8.3E-08	5.8E-09	7.6E-09	3.1E-07	7.2E-08	5.4E-09	7.6E-09	2.9E-07	6.7E-08
Total Petroleum Hydrocarbons																
TPH as diesel	4.0E-07	1.4E-03	1.5E-05	5.0E-06	2.4E-06	1.4E-03	8.8E-05	3.0E-05	3.8E-06	1.4E-03	1.4E-04	4.6E-05	3.8E-06	1.4E-03	1.4E-04	4.6E-05
TPH as motor oil	1.9E-06	NV	7.0E-05	2.4E-05	1.9E-06	NV	6.7E-05	2.3E-05	1.2E-05	NV	4.2E-04	1.4E-04	1.1E-05	NV	4.1E-04	1.4E-04
Dioxins/Furans																
TEQ Human	1.8E-12	3.4E-13	1.9E-11	2.2E-11	1.5E-12	3.4E-13	1.6E-11	1.8E-11	1.0E-12	3.4E-13	1.1E-11	1.3E-11	8.9E-13	3.4E-13	9.7E-12	1.1E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Inorganics						
Antimony	3.2E+00	6.2E-01	NC	NC	--	--
Chromium, Hexavalent	6.9E+00	5.3E+00	6.3E+00	USEPA	1.1E-06	8.5E-07
Chromium, total	1.6E+02	1.3E+02	NC	NC	--	--
Copper	6.0E+01	5.7E+01	NC	NC	--	--
Cyanide	4.8E-01	4.5E-01	NC	NC	--	--
Lead	5.3E+01	4.4E+01	NC	NC	na	na
Mercury (inorganic)	1.7E-01	2.3E-01	NC	NC	--	--
Molybdenum	7.5E+01	5.8E+01	NC	NC	--	--
Silver	ND	1.6E-01	NC	NC	--	--
Thallium	2.4E+00	2.6E-01	NC	NC	--	--
Zinc	1.5E+02	1.3E+02	NC	NC	--	--
Volatile Organic Compounds						
Acetone	6.5E-01	2.2E+00	NC	NC	--	--
Chloroform	ND	1.2E-02	1.4E+00	USEPA	--	8.6E-09
Methyl acetate	2.8E-02	1.8E+00	NC	NC	--	--
Toluene	5.9E-03	5.4E-03	NC	NC	--	--
Xylenes, total	1.7E-02	1.2E-02	NC	NC	--	--
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.6E-01	3.0E-01	1.6E+02	USEPA	2.3E-09	1.8E-09
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	6.9E-02	7.6E-02	7.3E+01	USEPA	9.4E-10	1.0E-09
2-Methyl naphthalene	8.1E-02	8.7E-02	NC	NC	--	--
Acenaphthene	3.2E-03	1.4E-02	NC	NC	--	--

Table ICS-B1.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Acenaphthylene	7.6E-02	5.6E-02	NC	NC	--	--
Anthracene	1.4E-02	4.6E-03	NC	NC	--	--
Benzo (a) anthracene	2.1E-01	1.6E-01	NA	NA	NA	NA
Benzo (a) pyrene	1.2E-01	1.1E-01	NA	NA	NA	NA
Benzo (b) fluoranthene	1.4E-01	1.3E-01	NA	NA	NA	NA
Benzo (ghi) perylene	7.9E-02	6.0E-02	NC	NC	--	--
Benzo (k) fluoranthene	8.9E-02	7.3E-02	NA	NA	NA	NA
Chrysene	1.6E-01	1.4E-01	NA	NA	NA	NA
Dibenzo (a,h) anthracene	6.9E-03	4.2E-03	NA	NA	NA	NA
Fluoranthene	4.3E-01	3.0E-01	NC	NC	--	--
Fluorene	3.1E-03	3.0E-03	NC	NC	--	--
Indeno (1,2,3-cd) pyrene	6.8E-02	5.3E-02	NA	NA	NA	NA
Naphthalene	3.0E-02	2.7E-02	1.7E+01	USEPA	1.7E-09	1.6E-09
Phenanthrene	1.9E-01	7.4E-01	NC	NC	--	--
Pyrene	3.7E-01	8.0E-01	NC	NC	--	--
B(a)P Equivalent	2.3E-01	2.1E-01	2.1E+00	Surrogate (USEPA)	1.1E-07	9.8E-08
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	9.3E+00	USEPA	7.7E-10	7.7E-10
4,4-DDT	6.0E-03	6.0E-03	8.5E+00	USEPA	7.1E-10	7.1E-10
alpha-Chlordane	1.7E-03	1.3E-03	1.5E+00	Surrogate (DTSC Note 3)	1.1E-09	8.7E-10
gamma-Chlordane	2.8E-03	2.8E-03	1.5E+00	Surrogate (DTSC Note 3)	1.9E-09	1.9E-09
Polychlorinated Biphenyls						
Total PCBs	8.4E-01	7.3E-01	9.4E-01	USEPA	8.9E-07	7.8E-07
Total Petroleum Hydrocarbons						
TPH as diesel	4.4E+01	2.7E+02	NC	NC	--	--
TPH as motor oil	2.1E+02	2.0E+02	NC	NC	--	--

Table ICS-B1.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Dioxins/Furans						
TEQ Human	1.9E-04	1.6E-04	2.2E-05	Surrogate (USEPA)	8.7E-06	7.2E-06
Cumulative ILCR					1E-05	9E-06

Notes:

^a Risk-based screening concentrations (RBSCs) for carcinogenic effects correspond to a target incremental lifetime cancer risk (ILCR) of 1×10^{-6} . In the absence of available screening concentrations for chemicals of potential concern, surrogate chemicals were chosen based on structural similarity to avoid underestimating potential carcinogenic risks:

- Alpha- and gamma-chlordane were represented by technical chlordane.
- Potential carcinogenic effects of B(a)P Equivalent were represented by benzo(a)pyrene.
- TEQ human was represented by 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

^b Chemical-specific cancer risks calculated as: $[EPC/Cancer\ RBSC] \times 1 \times 10^{-6}$. Chemicals contributing a cancer risk of greater than 1×10^{-6} are in bold.

Abbreviations:

-- = not calculated

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/kg = milligrams per kilogram.

na = Not applicable. Potential exposure to lead is evaluated using the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) health-based screening levels (DTSC-SLs) for commercial/industrial soil. Please see Section 5.4.3 of the human health risk assessment for discussion.

NA = Not applicable. Potential carcinogenic effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Please see text for discussion.

NC = Not considered a carcinogen

ND = Not detected.

PCB = Polychlorinated biphenyls.

TEQ = Toxic Equivalent.

TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2018. DTSC Recommended Methodology for Use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment Process at Hazardous Waste Sites and Permitted Facilities. Human Health Risk Assessment (HHRA) Note Number: 3. Human and Ecological Risk Office (HERO). January.

United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels, Screening Levels for Chemical Contaminants. November. Available at <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-B1.3b
Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	5.4E-07	NV	NA	2.2E-08	5.6E-07	4.2E-07	NV	NA	1.7E-08	4.3E-07	2.9E-07	NV	NA	1.2E-08	3.0E-07	2.4E-07	NV	NA	9.9E-09	2.5E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cyanide	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Molybdenum	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Silver	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Acetone	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloroform	ND	2.2E-10	ND	ND	2.2E-10	1.4E-13	2.2E-10	3.5E-12	2.4E-12	2.3E-10	1.4E-13	2.2E-10	3.5E-12	2.4E-12	2.3E-10	1.4E-13	2.2E-10	3.5E-12	2.4E-12	2.3E-10
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Methylene chloride	ND	4.3E-12	ND	ND	4.3E-12	ND	4.3E-12	ND	ND	4.3E-12	1.9E-15	4.3E-12	4.9E-13	3.4E-13	5.2E-12	2.3E-15	4.3E-12	5.9E-13	4.1E-13	5.3E-12
Toluene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Xylenes, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	4.5E-13	NV	4.8E-11	3.3E-11	8.1E-11	3.7E-13	NV	3.9E-11	2.7E-11	6.6E-11	5.8E-13	NV	6.1E-11	4.2E-11	1.0E-10	5.8E-13	NV	6.1E-11	4.2E-11	1.0E-10
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	2.6E-13	2.0E-11	2.8E-11	1.3E-11	6.1E-11	2.9E-13	2.0E-11	3.1E-11	1.4E-11	6.5E-11	2.8E-13	2.0E-11	3.0E-11	1.4E-11	6.4E-11	2.8E-13	2.0E-11	3.0E-11	1.4E-11	6.3E-11
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--

Table ICS-B1.3b
Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Naphthalene	5.3E-13	5.0E-11	5.0E-11	2.3E-11	1.2E-10	4.8E-13	5.0E-11	4.6E-11	2.1E-11	1.2E-10	4.9E-13	5.0E-11	4.7E-11	2.1E-11	1.2E-10	5.8E-13	5.0E-11	5.6E-11	2.5E-11	1.3E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.3E-10	NV	3.2E-09	1.5E-09	4.8E-09	1.2E-10	NV	2.9E-09	1.3E-09	4.3E-09	1.1E-10	NV	2.8E-09	1.3E-09	4.2E-09	1.1E-10	NV	2.6E-09	1.2E-09	3.9E-09
Pesticides																				
4,4-DDE	3.6E-13	8.9E-13	1.2E-11	1.6E-11	2.9E-11	3.6E-13	8.9E-13	1.2E-11	1.6E-11	2.9E-11	3.6E-13	8.9E-13	1.2E-11	1.6E-11	2.9E-11	3.6E-13	8.9E-13	1.2E-11	1.6E-11	2.9E-11
4,4-DDT	3.0E-13	NV	9.6E-12	1.3E-11	2.3E-11	3.0E-13	NV	9.6E-12	1.3E-11	2.3E-11	3.0E-13	NV	9.6E-12	1.3E-11	2.3E-11	3.0E-13	NV	9.6E-12	1.3E-11	2.3E-11
alpha-Chlordane	3.0E-13	NV	1.0E-11	1.4E-11	2.5E-11	2.3E-13	NV	8.0E-12	1.1E-11	1.9E-11	3.0E-13	NV	1.0E-11	1.4E-11	2.5E-11	3.0E-13	NV	1.0E-11	1.4E-11	2.5E-11
gamma-Chlordane	5.0E-13	NV	1.7E-11	2.4E-11	4.1E-11	5.0E-13	NV	1.7E-11	2.4E-11	4.1E-11	5.0E-13	NV	1.7E-11	2.4E-11	4.1E-11	5.0E-13	NV	1.7E-11	2.4E-11	4.1E-11
Polychlorinated Biphenyls																				
Total PCBs	2.5E-10	1.4E-09	2.4E-08	1.1E-08	3.6E-08	2.2E-10	1.4E-09	2.1E-08	9.4E-09	3.2E-08	1.9E-10	1.4E-09	1.8E-08	8.2E-09	2.8E-08	1.8E-10	1.4E-09	1.7E-08	7.6E-09	2.6E-08
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	3.8E-09	4.1E-09	7.1E-08	1.6E-07	2.4E-07	3.2E-09	4.1E-09	5.9E-08	1.3E-07	2.0E-07	2.3E-09	4.1E-09	4.2E-08	9.6E-08	1.4E-07	1.9E-09	4.1E-09	3.6E-08	8.2E-08	1.2E-07
Cumulative ILCR	5E-07	6E-09	1E-07	2E-07	8E-07	4E-07	6E-09	8E-08	2E-07	7E-07	3E-07	6E-09	6E-08	1E-07	5E-07	2E-07	6E-09	6E-08	1E-07	4E-07

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.3c
Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	4.0E-06	NV	NA	1.7E-07	4.2E-06	3.1E-06	NV	NA	1.3E-07	3.3E-06	2.2E-06	NV	NA	9.1E-08	2.3E-06	1.8E-06	NV	NA	7.4E-08	1.9E-06
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cyanide	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Molybdenum	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Silver	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Acetone	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloroform	ND	3.0E-10	ND	ND	3.0E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Methylene chloride	ND	5.9E-12	ND	ND	5.9E-12	ND	5.9E-12	ND	ND	5.9E-12	1.5E-14	5.9E-12	7.4E-12	2.5E-12	1.6E-11	1.8E-14	5.9E-12	8.9E-12	3.0E-12	1.8E-11
Toluene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Xylenes, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	3.4E-12	NV	7.1E-10	2.4E-10	9.6E-10	2.8E-12	NV	5.9E-10	2.0E-10	7.9E-10	4.3E-12	NV	9.1E-10	3.1E-10	1.2E-09	4.3E-12	NV	9.1E-10	3.1E-10	1.2E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	2.0E-12	2.7E-11	4.2E-10	9.7E-11	5.5E-10	2.2E-12	2.7E-11	4.7E-10	1.1E-10	6.0E-10	2.1E-12	2.7E-11	4.5E-10	1.0E-10	5.9E-10	2.1E-12	2.7E-11	4.5E-10	1.0E-10	5.8E-10
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--

Table ICS-B1.3c
Baseline Scenario ILCRs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Naphthalene	3.9E-12	6.8E-11	7.5E-10	1.7E-10	1.0E-09	3.6E-12	6.8E-11	6.9E-10	1.6E-10	9.2E-10	3.7E-12	6.8E-11	7.1E-10	1.6E-10	9.4E-10	4.4E-12	6.8E-11	8.3E-10	1.9E-10	1.1E-09
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	9.8E-10	NV	4.8E-08	1.1E-08	6.0E-08	8.8E-10	NV	4.4E-08	9.9E-09	5.4E-08	8.6E-10	NV	4.2E-08	9.6E-09	5.3E-08	7.9E-10	NV	3.9E-08	8.9E-09	4.9E-08
Pesticides																				
4,4-DDE	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10
4,4-DDT	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10
alpha-Chlordane	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10	1.7E-12	NV	1.2E-10	8.2E-11	2.0E-10	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10
gamma-Chlordane	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10
Polychlorinated Biphenyls																				
Total PCBs	1.9E-09	1.9E-09	3.6E-07	8.1E-08	4.4E-07	1.6E-09	1.9E-09	3.1E-07	7.1E-08	3.8E-07	1.4E-09	1.9E-09	2.7E-07	6.2E-08	3.3E-07	1.3E-09	1.9E-09	2.5E-07	5.7E-08	3.1E-07
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	2.9E-08	5.6E-09	1.1E-06	1.2E-06	2.3E-06	2.4E-08	5.6E-09	8.8E-07	1.0E-06	1.9E-06	1.7E-08	5.6E-09	6.3E-07	7.2E-07	1.4E-06	1.4E-08	5.6E-09	5.4E-07	6.1E-07	1.2E-06
Cumulative ILCR	4E-06	8E-09	1E-06	1E-06	7E-06	3E-06	8E-09	1E-06	1E-06	6E-06	2E-06	8E-09	9E-07	9E-07	4E-06	2E-06	8E-09	8E-07	8E-07	3E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Inorganics						
Antimony	3.2E+00	6.2E-01	4.7E+02	USEPA	6.8E-03	1.3E-03
Chromium, Hexavalent	6.9E+00	5.3E+00	3.5E+03	USEPA	2.0E-03	1.5E-03
Chromium, total	1.6E+02	1.3E+02	1.7E+05	Surrogate (DTSC Note 3)	9.4E-04	7.8E-04
Copper	6.0E+01	5.7E+01	4.7E+04	USEPA	1.3E-03	1.2E-03
Cyanide	4.8E-01	4.5E-01	1.5E+02	USEPA	3.2E-03	3.0E-03
Lead	5.3E+01	4.4E+01	3.2E+02	DTSC Note 3	na	na
Mercury (inorganic)	1.7E-01	2.3E-01	4.5E+00	Surrogate (DTSC Note 3)	3.8E-02	5.0E-02
Molybdenum	7.5E+01	5.8E+01	5.8E+03	USEPA	1.3E-02	1.0E-02
Silver	ND	1.6E-01	1.5E+03	DTSC Note 3	--	1.0E-04
Thallium	2.4E+00	2.6E-01	1.2E+01	USEPA	2.0E-01	2.1E-02
Zinc	1.5E+02	1.3E+02	3.5E+05	USEPA	4.2E-04	3.6E-04
Volatile Organic Compounds						
Acetone	6.5E-01	2.2E+00	6.7E+05	USEPA	9.7E-07	3.3E-06
Chloroform	ND	1.2E-02	1.0E+03	USEPA	--	1.2E-05
Methyl acetate	2.8E-02	1.8E+00	1.3E+05	DTSC Note 3	2.2E-07	1.4E-05
Toluene	5.9E-03	5.4E-03	5.4E+03	DTSC Note 3	1.1E-06	9.9E-07
Xylenes, total	1.7E-02	1.2E-02	2.5E+03	USEPA	6.8E-06	5.0E-06
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.6E-01	3.0E-01	1.6E+04	USEPA	2.3E-05	1.8E-05
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	6.9E-02	7.6E-02	5.3E+04	USEPA	1.3E-06	1.4E-06
2-Methyl naphthalene	8.1E-02	8.7E-02	3.0E+03	USEPA	2.7E-05	2.9E-05
Acenaphthene	3.2E-03	1.4E-02	4.5E+04	USEPA	7.2E-08	3.1E-07

Table ICS-B1.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Acenaphthylene	7.6E-02	5.6E-02	4.5E+04	Surrogate (USEPA)	1.7E-06	1.2E-06
Anthracene	1.4E-02	4.6E-03	2.3E+05	USEPA	6.1E-08	2.0E-08
Benzo (a) anthracene	2.1E-01	1.6E-01	2.3E+04	Surrogate (USEPA)	9.1E-06	6.9E-06
Benzo (a) pyrene	1.2E-01	1.1E-01	2.2E+02	USEPA	5.6E-04	5.0E-04
Benzo (b) fluoranthene	1.4E-01	1.3E-01	2.3E+04	Surrogate (USEPA)	6.2E-06	5.5E-06
Benzo (ghi) perylene	7.9E-02	6.0E-02	2.3E+04	Surrogate (USEPA)	3.4E-06	2.6E-06
Benzo (k) fluoranthene	8.9E-02	7.3E-02	2.3E+04	Surrogate (USEPA)	3.9E-06	3.2E-06
Chrysene	1.6E-01	1.4E-01	2.3E+04	Surrogate (USEPA)	6.7E-06	6.1E-06
Dibenzo (a,h) anthracene	6.9E-03	4.2E-03	2.2E+02	Surrogate (USEPA)	3.1E-05	1.9E-05
Fluoranthene	4.3E-01	3.0E-01	3.0E+04	USEPA	1.4E-05	1.0E-05
Fluorene	3.1E-03	3.0E-03	3.0E+04	USEPA	1.0E-07	1.0E-07
Indeno (1,2,3-cd) pyrene	6.8E-02	5.3E-02	2.3E+04	Surrogate (USEPA)	3.0E-06	2.3E-06
Naphthalene	3.0E-02	2.7E-02	5.9E+02	USEPA	5.0E-05	4.6E-05
Phenanthrene	1.9E-01	7.4E-01	2.3E+05	Surrogate (USEPA)	8.0E-07	3.2E-06
Pyrene	3.7E-01	8.0E-01	2.3E+04	USEPA	1.6E-05	3.5E-05
B(a)P Equivalent	2.3E-01	2.1E-01	NA	NA	NA	NA
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	3.5E+02	USEPA	2.1E-05	2.1E-05
4,4-DDT	6.0E-03	6.0E-03	5.2E+02	USEPA	1.2E-05	1.2E-05
alpha-Chlordane	1.7E-03	1.3E-03	4.5E+02	Surrogate (DTSC Note 3)	3.8E-06	2.9E-06
gamma-Chlordane	2.8E-03	2.8E-03	4.5E+02	Surrogate (DTSC Note 3)	6.2E-06	6.2E-06
Polychlorinated Biphenyls						
Total PCBs	8.4E-01	7.3E-01	1.5E+01	Surrogate (USEPA)	5.6E-02	4.9E-02
Total Petroleum Hydrocarbons						
TPH as diesel	4.4E+01	2.7E+02	5.5E+04	SFBRWQCB	8.0E-04	4.8E-03
TPH as motor oil	2.1E+02	2.0E+02	4.7E+05	SFBRWQCB	4.5E-04	4.3E-04

Table ICS-B1.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Dioxins/Furans						
TEQ Human	1.9E-04	1.6E-04	7.2E-04	Surrogate (USEPA)	2.7E-01	2.2E-01
Total Hazard Index					6E-01	4E-01

Notes:

- ^a Risk-based screening concentrations (RBSCs) for noncarcinogenic effects correspond to a target noncancer hazard quotient (HQ) of 1. In the absence of available screening concentrations for chemicals of potential concern, surrogate chemicals were chosen based on structural similarity to avoid underestimating potential noncarcinogenic hazards:
- Total chromium was represented by chromium (III).
 - Mercury (inorganic) was represented by mercury.
 - Acenaphthylene was represented by acenaphthene.
 - Potential noncarcinogenic effects of CPAHs, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene, were represented by pyrene.
 - Potential noncarcinogenic effects of CPAH dibenzo(a,h)anthracene were represented by benzo(a)pyrene.
 - Benzo(g,h,i)perylene was represented by pyrene.
 - Phenanthrene was represented by anthracene.
 - Alpha- and gamma-chlordane was represented by technical chlordane.
 - Potential noncarcinogenic effects of Total PCBs was represented by Aroclor 1254.
 - TEQ human was represented by 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).
- ^b Chemical-specific hazard quotients calculated as: [EPC/Noncancer RBSC].

Table ICS-B1.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Abbreviations:

-- = not calculated

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HQ = Hazard Quotient.

mg/kg = milligrams per kilogram.

na = Not applicable. Potential exposure to lead is evaluated using the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) health-based screening levels (DTSC-SLs) for commercial/industrial soil. Please see Section 5.4.3 of the human health risk assessment for discussion.

NA = Not applicable. Potential noncarcinogenic effects of CPAHs are evaluated for each of the CPAHs individually. Please see text for discussion.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TEQ = Toxic Equivalent.

TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2018. DTSC Recommended Methodology for Use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment Process at Hazardous Waste Sites and Permitted Facilities. Human Health Risk Assessment (HHRA) Note Number: 3. Human and Ecological Risk Office (HERO).

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United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels, Screening Levels for Chemical Contaminants. November. Available at <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-B1.4b
Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	7.3E-04	NV	5.3E-03	3.6E-02	4.2E-02	1.4E-04	NV	1.0E-03	7.0E-03	8.1E-03	1.2E-04	NV	8.3E-04	5.7E-03	6.6E-03	1.0E-04	NV	7.5E-04	5.1E-03	6.0E-03
Chromium, Hexavalent	2.5E-03	NV	NA	1.0E-03	3.6E-03	1.9E-03	NV	NA	8.0E-04	2.8E-03	1.4E-03	NV	NA	5.6E-04	1.9E-03	1.1E-03	NV	NA	4.6E-04	1.6E-03
Chromium, total	9.7E-07	NV	7.0E-06	4.8E-05	5.6E-05	8.1E-07	NV	5.9E-06	4.0E-05	4.7E-05	6.3E-07	NV	4.6E-06	3.1E-05	3.7E-05	5.5E-07	NV	4.0E-06	2.7E-05	3.2E-05
Copper	1.4E-05	NV	9.9E-05	6.8E-04	7.9E-04	1.3E-05	NV	9.4E-05	6.4E-04	7.5E-04	1.1E-05	NV	8.2E-05	5.6E-04	6.5E-04	1.1E-05	NV	7.8E-05	5.3E-04	6.2E-04
Cyanide	2.2E-05	NV	1.6E-06	1.1E-05	3.4E-05	2.1E-05	NV	1.5E-06	1.0E-05	3.2E-05	1.9E-05	NV	1.3E-06	9.2E-06	2.9E-05	1.9E-05	NV	1.3E-06	9.2E-06	2.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	2.1E-04	NV	7.1E-05	4.8E-04	7.6E-04	2.7E-04	NV	9.3E-05	6.4E-04	1.0E-03	2.4E-04	NV	8.1E-05	5.6E-04	8.8E-04	2.3E-04	NV	7.7E-05	5.3E-04	8.3E-04
Molybdenum	1.4E-04	NV	9.9E-04	6.8E-03	7.9E-03	1.1E-04	NV	7.7E-04	5.2E-03	6.1E-03	7.7E-05	NV	5.5E-04	3.8E-03	4.4E-03	6.4E-05	NV	4.6E-04	3.2E-03	3.7E-03
Silver	ND	NV	ND	ND	--	2.8E-07	NV	2.1E-06	1.4E-05	1.6E-05	3.2E-07	NV	2.3E-06	1.6E-05	1.8E-05	3.2E-07	NV	2.3E-06	1.6E-05	1.9E-05
Thallium	2.2E-03	NV	1.6E-02	1.1E-01	1.3E-01	2.3E-04	NV	1.7E-03	1.2E-02	1.3E-02	2.8E-04	NV	2.0E-03	1.4E-02	1.6E-02	3.2E-04	NV	2.3E-03	1.6E-02	1.8E-02
Zinc	4.4E-06	NV	3.2E-05	2.2E-04	2.6E-04	3.8E-06	NV	2.8E-05	1.9E-04	2.2E-04	3.2E-06	NV	2.3E-05	1.6E-04	1.8E-04	2.9E-06	NV	2.1E-05	1.4E-04	1.7E-04
Volatile Organic Compounds																				
Acetone	7.7E-10	3.0E-08	2.1E-07	1.5E-07	3.9E-07	2.6E-09	3.0E-08	7.3E-07	5.0E-07	1.3E-06	1.0E-10	3.0E-08	2.9E-08	2.0E-08	7.8E-08	1.0E-10	3.0E-08	2.8E-08	1.9E-08	7.7E-08
Chloroform	ND	2.8E-06	ND	ND	2.8E-06	1.8E-09	2.8E-06	7.9E-08	5.4E-08	3.0E-06	1.8E-09	2.8E-06	7.9E-08	5.4E-08	3.0E-06	1.8E-09	2.8E-06	7.9E-08	5.4E-08	3.0E-06
Methyl acetate	1.0E-08	3.3E-04	1.9E-09	1.3E-09	3.3E-04	6.6E-07	3.3E-04	1.2E-07	8.1E-08	3.3E-04	6.6E-07	3.3E-04	1.2E-07	8.1E-08	3.3E-04	6.6E-07	3.3E-04	1.2E-07	8.1E-08	3.3E-04
Methylene chloride	ND	2.9E-07	ND	ND	2.9E-07	ND	2.9E-07	ND	ND	2.9E-07	1.3E-10	2.9E-07	4.1E-08	2.8E-08	3.6E-07	1.6E-10	2.9E-07	4.9E-08	3.4E-08	3.8E-07
Toluene	7.2E-10	4.2E-07	4.9E-09	3.3E-09	4.3E-07	6.5E-10	4.2E-07	4.4E-09	3.0E-09	4.2E-07	5.2E-10	4.2E-07	3.5E-09	2.4E-09	4.2E-07	4.4E-10	4.2E-07	3.0E-09	2.1E-09	4.2E-07
Xylenes, total	6.2E-09	1.5E-06	5.6E-08	3.8E-08	1.6E-06	4.5E-09	1.5E-06	4.1E-08	2.8E-08	1.6E-06	2.9E-09	1.5E-06	2.6E-08	1.8E-08	1.6E-06	2.2E-09	1.5E-06	2.0E-08	1.3E-08	1.6E-06
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	1.6E-07	NV	2.4E-06	1.6E-06	4.2E-06	1.3E-07	NV	2.0E-06	1.3E-06	3.4E-06	2.1E-07	NV	3.0E-06	2.1E-06	5.3E-06	2.1E-07	NV	3.0E-06	2.1E-06	5.3E-06
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	9.0E-09	6.7E-07	9.8E-07	4.4E-07	2.1E-06	9.9E-09	6.7E-07	1.1E-06	4.9E-07	2.3E-06	9.6E-09	6.7E-07	1.0E-06	4.8E-07	2.2E-06	9.5E-09	6.7E-07	1.0E-06	4.7E-07	2.2E-06
2-Methyl naphthalene	1.8E-07	1.4E-05	2.0E-05	9.1E-06	4.3E-05	2.0E-07	1.4E-05	2.1E-05	9.8E-06	4.5E-05	1.9E-07	1.4E-05	2.1E-05	9.6E-06	4.4E-05	2.0E-07	1.4E-05	2.2E-05	1.0E-05	4.6E-05
Acenaphthene	4.9E-11	7.6E-09	5.4E-09	2.4E-09	1.5E-08	2.1E-10	7.6E-09	2.3E-08	1.0E-08	4.1E-08	5.3E-11	7.6E-09	5.7E-09	2.6E-09	1.6E-08	2.7E-10	7.6E-09	2.9E-08	1.3E-08	5.0E-08
Acenaphthylene	1.2E-09	NV	1.3E-07	5.7E-08	1.8E-07	8.5E-10	NV	9.2E-08	4.2E-08	1.3E-07	8.1E-10	NV	8.7E-08	4.0E-08	1.3E-07	8.0E-10	NV	8.7E-08	3.9E-08	1.3E-07
Anthracene	1.3E-11	1.3E-10	1.4E-09	6.4E-10	2.2E-09	4.2E-12	1.3E-10	4.6E-10	2.1E-10	8.1E-10	1.2E-11	1.3E-10	1.3E-09	6.1E-10	2.1E-09	1.7E-11	1.3E-10	1.8E-09	8.4E-10	2.8E-09
Benzo (a) anthracene	6.4E-08	4.1E-08	6.9E-06	3.2E-06	1.0E-05	4.8E-08	4.1E-08	5.3E-06	2.4E-06	7.7E-06	4.3E-08	4.1E-08	4.7E-06	2.1E-06	6.9E-06	4.4E-08	4.1E-08	4.8E-06	2.2E-06	7.0E-06
Benzo (a) pyrene	2.3E-03	NV	4.1E-04	1.9E-04	2.9E-03	2.0E-03	NV	3.7E-04	1.7E-04	2.6E-03	1.9E-03	NV	3.4E-04	1.6E-04	2.4E-03	1.9E-03	NV	3.4E-04	1.6E-04	2.4E-03
Benzo (b) fluoranthene	4.4E-08	NV	4.7E-06	2.2E-06	6.9E-06	3.8E-08	NV	4.2E-06	1.9E-06	6.1E-06	6.1E-08	NV	6.6E-06	3.0E-06	9.7E-06	6.0E-08	NV	6.5E-06	3.0E-06	9.5E-06
Benzo (ghi) perylene	2.4E-08	NV	2.6E-06	1.2E-06	3.8E-06	1.8E-08	NV	2.0E-06	9.1E-07	2.9E-06	1.7E-08	NV	1.9E-06	8.6E-07	2.8E-06	1.7E-08	NV	1.9E-06	8.6E-07	2.8E-06
Benzo (k) fluoranthene	2.7E-08	NV	2.9E-06	1.3E-06	4.3E-06	2.2E-08	NV	2.4E-06	1.1E-06	3.5E-06	2.0E-08	NV	2.1E-06	9.7E-07	3.1E-06	2.0E-08	NV	2.1E-06	9.7E-07	3.1E-06
Chrysene	4.7E-08	NV	5.1E-06	2.3E-06	7.5E-06	4.3E-08	NV	4.7E-06	2.1E-06	6.8E-06	4.0E-08	NV	4.3E-06	2.0E-06	6.3E-06	4.1E-08	NV	4.4E-06	2.0E-06	6.5E-06
Dibenzo (a,h) anthracene	1.3E-04	NV	2.3E-05	1.0E-05	1.6E-04	7.6E-05	NV	1.4E-05	6.3E-06	9.6E-05	1.9E-04	NV	3.5E-05	1.6E-05	2.4E-04	7.5E-05	NV	1.4E-05	6.2E-06	9.5E-05
Fluoranthene	9.8E-09	NV	1.1E-06	4.9E-07	1.6E-06	6.9E-09	NV	7.5E-07	3.4E-07	1.1E-06	6.1E-09	NV	6.7E-07	3.0E-07	9.8E-07	6.3E-09	NV	6.9E-07	3.1E-07	1.0E-06
Fluorene	7.0E-11	4.2E-09	7.6E-09	3.5E-09	1.5E-08	6.9E-11	4.2E-09	7.5E-09	3.4E-09	1.5E-08	1.7E-10	4.2E-09	1.9E-08	8.5E-09	3.1E-08	3.0E-10	4.2E-09	3.2E-08	1.5E-08	5.2E-08
Indeno (1,2,3-cd) pyrene	2.1E-08	NV	2.3E-06	1.0E-06	3.3E-06	1.6E-08	NV	1.8E-06	8.0E-07	2.6E-06	1.5E-08	NV	1.7E-06	7.6E-07	2.4E-06	1.5E-08	NV	1.7E-06	7.6E-07	2.4E-06

Table ICS-B1.4b
Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Short Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Short Term Maintenance Worker (0 to 3 feet bgs) ^a					Short Term Maintenance Worker (0 to 6 feet bgs) ^a					Short Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Naphthalene	3.6E-07	3.4E-05	4.9E-08	2.2E-08	3.5E-05	3.3E-07	3.4E-05	4.5E-08	2.0E-08	3.5E-05	3.4E-07	3.4E-05	4.6E-08	2.1E-08	3.5E-05	4.0E-07	3.4E-05	5.4E-08	2.5E-08	3.5E-05
Phenanthrene	1.7E-10	NV	1.8E-08	8.4E-09	2.7E-08	6.7E-10	NV	7.3E-08	3.3E-08	1.1E-07	6.4E-10	NV	7.0E-08	3.2E-08	1.0E-07	6.4E-10	NV	7.0E-08	3.2E-08	1.0E-07
Pyrene	1.1E-08	3.9E-08	1.2E-06	5.6E-07	1.8E-06	2.4E-08	3.9E-08	2.6E-06	1.2E-06	3.9E-06	2.4E-08	3.9E-08	2.6E-06	1.2E-06	3.8E-06	2.3E-08	3.9E-08	2.5E-06	1.2E-06	3.8E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	1.3E-07	3.2E-07	4.8E-06	6.5E-06	1.2E-05	1.3E-07	3.2E-07	4.8E-06	6.5E-06	1.2E-05	1.3E-07	3.2E-07	4.8E-06	6.5E-06	1.2E-05	1.3E-07	3.2E-07	4.8E-06	6.5E-06	1.2E-05
4,4-DDT	1.1E-07	NV	4.0E-06	5.4E-06	9.5E-06	1.1E-07	NV	4.0E-06	5.4E-06	9.5E-06	1.1E-07	NV	4.0E-06	5.4E-06	9.5E-06	1.1E-07	NV	4.0E-06	5.4E-06	9.5E-06
alpha-Chlordane	3.1E-07	NV	9.4E-07	1.3E-06	2.5E-06	2.4E-07	NV	7.2E-07	9.8E-07	1.9E-06	3.1E-07	NV	9.4E-07	1.3E-06	2.5E-06	3.1E-07	NV	9.4E-07	1.3E-06	2.5E-06
gamma-Chlordane	1.5E-07	NV	1.9E-06	2.5E-06	4.5E-06	1.5E-07	NV	1.9E-06	2.5E-06	4.5E-06	1.5E-07	NV	1.9E-06	2.5E-06	4.5E-06	1.5E-07	NV	1.9E-06	2.5E-06	4.5E-06
Polychlorinated Biphenyls																				
Total PCBs	3.8E-04	2.1E-03	4.1E-02	1.9E-02	6.3E-02	3.3E-04	2.1E-03	3.6E-02	1.7E-02	5.5E-02	2.9E-04	2.1E-03	3.1E-02	1.4E-02	4.8E-02	2.7E-04	2.1E-03	2.9E-02	1.3E-02	4.5E-02
Total Petroleum Hydrocarbons																				
TPH as diesel	1.2E-05	2.4E-01	1.5E-03	9.9E-04	2.4E-01	7.5E-05	2.4E-01	8.8E-03	6.0E-03	2.5E-01	1.2E-04	2.4E-01	1.4E-02	9.3E-03	2.6E-01	1.2E-04	2.4E-01	1.4E-02	9.3E-03	2.6E-01
TPH as motor oil	1.1E-05	NV	8.2E-04	5.6E-04	1.4E-03	1.1E-05	NV	7.9E-04	5.4E-04	1.3E-03	6.8E-05	NV	4.9E-03	3.4E-03	8.3E-03	6.7E-05	NV	4.8E-03	3.3E-03	8.2E-03
Dioxins/Furans																				
TEQ Human	1.8E-04	1.9E-04	1.9E-03	4.3E-03	6.6E-03	1.5E-04	1.9E-04	1.6E-03	3.6E-03	5.5E-03	1.0E-04	1.9E-04	1.1E-03	2.6E-03	4.0E-03	8.9E-05	1.9E-04	9.7E-04	2.2E-03	3.4E-03
Total Hazard Index	9E-03	2E-01	7E-02	2E-01	5E-01	5E-03	2E-01	5E-02	5E-02	4E-01	5E-03	2E-01	6E-02	6E-02	4E-01	4E-03	2E-01	5E-02	5E-02	4E-01

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B1.4c
Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	1.8E-05	NV	2.6E-04	9.0E-04	1.2E-03	3.5E-06	NV	5.1E-05	1.7E-04	2.3E-04	2.9E-06	NV	4.2E-05	1.4E-04	1.9E-04	2.6E-06	NV	3.7E-05	1.3E-04	1.7E-04
Chromium, Hexavalent	6.3E-04	NV	NA	2.6E-04	8.9E-04	4.9E-04	NV	NA	2.0E-04	6.9E-04	3.4E-04	NV	NA	1.4E-04	4.8E-04	2.8E-04	NV	NA	1.2E-04	3.9E-04
Chromium, total	2.4E-07	NV	3.5E-06	1.2E-05	1.6E-05	2.0E-07	NV	2.9E-06	1.0E-05	1.3E-05	1.6E-07	NV	2.3E-06	7.8E-06	1.0E-05	1.4E-07	NV	2.0E-06	6.8E-06	8.9E-06
Copper	3.4E-06	NV	4.9E-05	1.7E-04	2.2E-04	3.2E-06	NV	4.7E-05	1.6E-04	2.1E-04	2.8E-06	NV	4.1E-05	1.4E-04	1.8E-04	2.7E-06	NV	3.9E-05	1.3E-04	1.8E-04
Cyanide	5.5E-06	NV	2.5E-05	8.6E-05	1.2E-04	5.1E-06	NV	2.4E-05	8.1E-05	1.1E-04	4.6E-06	NV	2.1E-05	7.3E-05	9.9E-05	4.6E-06	NV	2.1E-05	7.3E-05	9.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	5.2E-05	NV	3.5E-05	1.2E-04	2.1E-04	6.8E-05	NV	4.6E-05	1.6E-04	2.7E-04	6.0E-05	NV	4.1E-05	1.4E-04	2.4E-04	5.7E-05	NV	3.8E-05	1.3E-04	2.3E-04
Molybdenum	3.4E-05	NV	4.9E-04	1.7E-03	2.2E-03	2.6E-05	NV	3.8E-04	1.3E-03	1.7E-03	1.9E-05	NV	2.8E-04	9.5E-04	1.2E-03	1.6E-05	NV	2.3E-04	7.9E-04	1.0E-03
Silver	ND	NV	ND	ND	--	7.1E-08	NV	1.0E-06	3.5E-06	4.6E-06	7.9E-08	NV	1.2E-06	3.9E-06	5.2E-06	8.1E-08	NV	1.2E-06	4.0E-06	5.3E-06
Thallium	5.5E-04	NV	7.9E-03	2.7E-02	3.6E-02	5.8E-05	NV	8.4E-04	2.9E-03	3.8E-03	7.1E-05	NV	1.0E-03	3.5E-03	4.6E-03	7.9E-05	NV	1.1E-03	3.9E-03	5.1E-03
Zinc	1.1E-06	NV	1.6E-05	5.5E-05	7.2E-05	9.5E-07	NV	1.4E-05	4.7E-05	6.2E-05	7.9E-07	NV	1.1E-05	3.9E-05	5.1E-05	7.2E-07	NV	1.0E-05	3.6E-05	4.7E-05
Volatile Organic Compounds																				
Acetone	1.9E-10	1.4E-09	2.4E-07	8.2E-08	3.2E-07	6.5E-10	1.4E-09	8.1E-07	2.8E-07	1.1E-06	2.5E-11	1.4E-09	3.2E-08	1.1E-08	4.4E-08	2.5E-11	1.4E-09	3.1E-08	1.1E-08	4.3E-08
Chloroform	ND	3.2E-07	ND	ND	3.2E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07
Methyl acetate	6.4E-11	3.7E-07	9.3E-09	3.2E-09	3.9E-07	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06
Methylene chloride	ND	3.5E-08	ND	ND	3.5E-08	ND	3.5E-08	ND	ND	3.5E-08	8.5E-11	3.5E-08	2.1E-07	7.0E-08	3.1E-07	1.0E-10	3.5E-08	2.5E-07	8.4E-08	3.7E-07
Toluene	1.8E-10	1.9E-08	2.4E-08	8.3E-09	5.2E-08	1.6E-10	1.9E-08	2.2E-08	7.6E-09	4.9E-08	1.3E-10	1.9E-08	1.8E-08	6.0E-09	4.3E-08	1.1E-10	1.9E-08	1.5E-08	5.1E-09	3.9E-08
Xylenes, total	1.6E-09	6.9E-08	2.8E-08	9.6E-09	1.1E-07	1.1E-09	6.9E-08	2.0E-08	7.0E-09	9.8E-08	7.2E-10	6.9E-08	1.3E-08	4.4E-09	8.8E-08	5.4E-10	6.9E-08	9.8E-09	3.4E-09	8.3E-08
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	4.1E-08	NV	5.9E-06	2.0E-06	8.0E-06	3.4E-08	NV	4.9E-06	1.7E-06	6.6E-06	5.3E-08	NV	7.6E-06	2.6E-06	1.0E-05	5.3E-08	NV	7.6E-06	2.6E-06	1.0E-05
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	2.2E-09	3.1E-08	4.9E-07	1.1E-07	6.3E-07	2.5E-09	3.1E-08	5.4E-07	1.2E-07	7.0E-07	2.4E-09	3.1E-08	5.2E-07	1.2E-07	6.7E-07	2.4E-09	3.1E-08	5.2E-07	1.2E-07	6.7E-07
2-Methyl naphthalene	4.6E-08	6.3E-07	1.0E-05	2.3E-06	1.3E-05	4.9E-08	6.3E-07	1.1E-05	2.4E-06	1.4E-05	4.8E-08	6.3E-07	1.0E-05	2.4E-06	1.4E-05	5.0E-08	6.3E-07	1.1E-05	2.5E-06	1.4E-05
Acenaphthene	1.2E-10	3.5E-09	2.7E-08	6.1E-09	3.6E-08	5.3E-10	3.5E-09	1.1E-07	2.6E-08	1.5E-07	1.3E-10	3.5E-09	2.9E-08	6.5E-09	3.9E-08	6.7E-10	3.5E-09	1.5E-07	3.3E-08	1.8E-07
Acenaphthylene	2.9E-09	NV	6.3E-07	1.4E-07	7.7E-07	2.1E-09	NV	4.6E-07	1.0E-07	5.7E-07	2.0E-09	NV	4.4E-07	1.0E-07	5.4E-07	2.0E-09	NV	4.3E-07	9.9E-08	5.3E-07
Anthracene	1.1E-10	2.0E-10	2.3E-08	5.3E-09	2.9E-08	3.5E-11	2.0E-10	7.7E-09	1.7E-09	9.6E-09	1.0E-10	2.0E-10	2.2E-08	5.1E-09	2.8E-08	1.4E-10	2.0E-10	3.1E-08	7.0E-09	3.8E-08
Benzo (a) anthracene	1.6E-08	1.9E-09	3.5E-06	7.9E-07	4.3E-06	1.2E-08	1.9E-09	2.6E-06	6.0E-07	3.2E-06	1.1E-08	1.9E-09	2.3E-06	5.3E-07	2.9E-06	1.1E-08	1.9E-09	2.4E-06	5.4E-07	2.9E-06
Benzo (a) pyrene	5.7E-04	NV	2.0E-04	4.7E-05	8.2E-04	5.1E-04	NV	1.8E-04	4.2E-05	7.3E-04	4.7E-04	NV	1.7E-04	3.9E-05	6.8E-04	4.7E-04	NV	1.7E-04	3.9E-05	6.9E-04
Benzo (b) fluoranthene	1.1E-08	NV	2.4E-06	5.4E-07	2.9E-06	9.6E-09	NV	2.1E-06	4.7E-07	2.6E-06	1.5E-08	NV	3.3E-06	7.6E-07	4.1E-06	1.5E-08	NV	3.3E-06	7.4E-07	4.0E-06
Benzo (ghi) perylene	6.0E-09	NV	1.3E-06	3.0E-07	1.6E-06	4.6E-09	NV	1.0E-06	2.3E-07	1.2E-06	4.4E-09	NV	9.5E-07	2.2E-07	1.2E-06	4.4E-09	NV	9.5E-07	2.2E-07	1.2E-06
Benzo (k) fluoranthene	6.8E-09	NV	1.5E-06	3.3E-07	1.8E-06	5.5E-09	NV	1.2E-06	2.7E-07	1.5E-06	4.9E-09	NV	1.1E-06	2.4E-07	1.3E-06	4.9E-09	NV	1.1E-06	2.4E-07	1.3E-06
Chrysene	1.2E-08	NV	2.6E-06	5.8E-07	3.2E-06	1.1E-08	NV	2.3E-06	5.3E-07	2.9E-06	1.0E-08	NV	2.2E-06	4.9E-07	2.7E-06	1.0E-08	NV	2.2E-06	5.0E-07	2.7E-06
Dibenzo (a,h) anthracene	3.2E-05	NV	1.1E-05	2.6E-06	4.6E-05	1.9E-05	NV	6.9E-06	1.6E-06	2.7E-05	4.8E-05	NV	1.7E-05	4.0E-06	6.9E-05	1.9E-05	NV	6.8E-06	1.5E-06	2.7E-05
Fluoranthene	2.5E-08	NV	5.3E-06	1.2E-06	6.6E-06	1.7E-08	NV	3.7E-06	8.5E-07	4.6E-06	1.5E-08	NV	3.3E-06	7.6E-07	4.1E-06	1.6E-08	NV	3.4E-06	7.9E-07	4.2E-06
Fluorene	1.8E-10	1.9E-09	3.8E-08	8.7E-09	4.9E-08	1.7E-10	1.9E-09	3.7E-08	8.5E-09	4.8E-08	4.3E-10	1.9E-09	9.3E-08	2.1E-08	1.2E-07	7.5E-10	1.9E-09	1.6E-07	3.7E-08	2.0E-07
Indeno (1,2,3-cd) pyrene	5.2E-09	NV	1.1E-06	2.6E-07	1.4E-06	4.1E-09	NV	8.8E-07	2.0E-07	1.1E-06	3.8E-09	NV	8.3E-07	1.9E-07	1.0E-06	3.8E-09	NV	8.3E-07	1.9E-07	1.0E-06

Table ICS-B1.4c
Baseline Scenario HIs for COPCs in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Naphthalene	9.0E-08	1.6E-06	7.3E-07	1.7E-07	2.6E-06	8.3E-08	1.6E-06	6.7E-07	1.5E-07	2.5E-06	8.4E-08	1.6E-06	6.9E-07	1.6E-07	2.5E-06	1.0E-07	1.6E-06	8.1E-07	1.8E-07	2.7E-06
Phenanthrene	1.4E-09	NV	3.1E-07	7.0E-08	3.8E-07	5.6E-09	NV	1.2E-06	2.8E-07	1.5E-06	5.4E-09	NV	1.2E-06	2.7E-07	1.4E-06	5.4E-09	NV	1.2E-06	2.7E-07	1.4E-06
Pyrene	2.8E-08	1.8E-08	6.1E-06	1.4E-06	7.6E-06	6.1E-08	1.8E-08	1.3E-05	3.0E-06	1.6E-05	5.9E-08	1.8E-08	1.3E-05	2.9E-06	1.6E-05	5.9E-08	1.8E-08	1.3E-05	2.9E-06	1.6E-05
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06
4,4-DDT	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06
alpha-Chlordane	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07	1.7E-08	NV	4.3E-07	2.9E-07	7.4E-07	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07
gamma-Chlordane	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06
Polychlorinated Biphenyls																				
Total PCBs	9.6E-05	9.6E-05	2.1E-02	4.7E-03	2.6E-02	8.3E-05	9.6E-05	1.8E-02	4.1E-03	2.2E-02	7.2E-05	9.6E-05	1.6E-02	3.6E-03	1.9E-02	6.7E-05	9.6E-05	1.5E-02	3.3E-03	1.8E-02
Total Petroleum Hydrocarbons																				
TPH as diesel	3.1E-06	1.1E-02	7.3E-04	2.5E-04	1.2E-02	1.9E-05	1.1E-02	4.4E-03	1.5E-03	1.7E-02	2.9E-05	1.1E-02	6.8E-03	2.3E-03	2.0E-02	2.9E-05	1.1E-02	6.8E-03	2.3E-03	2.0E-02
TPH as motor oil	2.8E-06	NV	4.1E-04	1.4E-04	5.6E-04	2.7E-06	NV	3.9E-04	1.3E-04	5.3E-04	1.7E-05	NV	2.5E-03	8.4E-04	3.3E-03	1.7E-05	NV	2.4E-03	8.3E-04	3.3E-03
Dioxins/Furans																				
TEQ Human	4.4E-05	8.6E-06	2.7E-02	3.1E-02	5.8E-02	3.6E-05	8.6E-06	2.3E-02	2.6E-02	4.8E-02	2.6E-05	8.6E-06	1.6E-02	1.8E-02	3.5E-02	2.2E-05	8.6E-06	1.4E-02	1.6E-02	3.0E-02
Total Hazard Index	2E-03	1E-02	6E-02	7E-02	1E-01	1E-03	1E-02	5E-02	4E-02	1E-01	1E-03	1E-02	4E-02	3E-02	9E-02	1E-03	1E-02	4E-02	3E-02	8E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Soil Gas Sample Location ^a	Sampling Depth (feet bgs)	Chemical	Soil Gas Concentration (mg/m ³) ^b	Attenuation Factor [(mg/m ³)/ (mg/m ³)] ^c	Exposure Point Concentration (EPC) in Indoor Air (mg/m ³) ^d	Exposure Concentration (EC) in Indoor Air – Cancer Effects (mg/m ³) ^e	Exposure Concentration (EC) in Indoor Air – Noncancer Effects (mg/m ³) ^e	ILCR from Vapor Intrusion (unitless) ^f	Noncancer HQ from Vapor Intrusion (unitless) ^f	Cumulative ILCR	Noncancer HI
AOC13-11-SG04	1/13/2016	AOC13-11	2	1,1-Dichloroethene	0.0014	7.8E-04	1.1E-06	NC	2.5E-07	NC	3.6E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	1,3-Dichlorobenzene	0.0022	6.5E-04	1.4E-06	NC	3.3E-07	NC	2.7E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Acetone	0.039	8.4E-04	3.3E-05	NC	7.5E-06	NC	2.4E-07		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Benzene	0.0012	7.9E-04	9.5E-07	7.8E-08	2.2E-07	2.3E-09	7.3E-05		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Carbon disulfide	0.0011	8.4E-04	9.3E-07	NC	2.1E-07	NC	3.0E-07		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Carbon tetrachloride	0.0023	6.6E-04	1.5E-06	1.2E-07	3.5E-07	5.2E-09	8.7E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Chloro methane	0.00075	8.8E-04	6.6E-07	NC	1.5E-07	NC	1.7E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Chloroform	0.0018	7.5E-04	1.4E-06	1.1E-07	3.1E-07	2.5E-09	3.1E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Ethyl-benzene	0.0016	7.2E-04	1.1E-06	9.3E-08	2.6E-07	2.3E-10	2.6E-07		
AOC13-11-SG04	1/13/2016	AOC13-11	2	m,p-Xylenes	0.0031	7.2E-04	2.2E-06	NC	5.1E-07	NC	5.1E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Methyl ethyl ketone	0.0051	8.0E-04	4.1E-06	NC	9.3E-07	NC	1.9E-07		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Methylene chloride	0.0025	8.2E-04	2.1E-06	1.7E-07	4.7E-07	1.7E-10	1.2E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	o-Xylene	0.0016	7.2E-04	1.1E-06	NC	2.6E-07	NC	2.6E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Tetrachloroethene	0.0025	6.2E-04	1.6E-06	1.3E-07	3.6E-07	7.7E-10	8.9E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Toluene	0.0093	7.5E-04	7.0E-06	NC	1.6E-06	NC	5.3E-06		
AOC13-11-SG04	1/13/2016	AOC13-11	2	Trichloroethene	0.0020	7.2E-04	1.4E-06	1.2E-07	3.3E-07	4.8E-10	1.6E-04	1.2E-08	2.8E-04
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	1,1-Dichloroethene	0.0013	7.8E-04	1.0E-06	NC	2.3E-07	NC	3.3E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	1,3-Dichlorobenzene	0.0020	6.5E-04	1.3E-06	NC	3.0E-07	NC	2.5E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Acetone	0.033	8.4E-04	2.8E-05	NC	6.3E-06	NC	2.0E-07		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Benzene	0.0011	7.9E-04	8.7E-07	7.1E-08	2.0E-07	2.1E-09	6.6E-05		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Carbon disulfide	0.0044	8.4E-04	3.7E-06	NC	8.5E-07	NC	1.2E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Carbon tetrachloride	0.0021	6.6E-04	1.4E-06	1.1E-07	3.2E-07	4.8E-09	7.9E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Chloro methane	0.00069	8.8E-04	6.1E-07	NC	1.4E-07	NC	1.5E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Chloroform	0.0016	7.5E-04	1.2E-06	9.8E-08	2.7E-07	2.3E-09	2.8E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Ethyl-benzene	0.0015	7.2E-04	1.1E-06	8.8E-08	2.5E-07	2.2E-10	2.5E-07		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	m,p-Xylenes	0.0029	7.2E-04	2.1E-06	NC	4.7E-07	NC	4.7E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Methyl ethyl ketone	0.013	8.0E-04	1.0E-05	NC	2.4E-06	NC	4.8E-07		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Methylene chloride	0.0023	8.2E-04	1.9E-06	1.5E-07	4.3E-07	1.5E-10	1.1E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	o-Xylene	0.0015	7.2E-04	1.1E-06	NC	2.5E-07	NC	2.5E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Tetrachloroethene	0.0023	6.2E-04	1.4E-06	1.2E-07	3.3E-07	7.1E-10	8.2E-06		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Toluene	0.0013	7.5E-04	9.8E-07	NC	2.2E-07	NC	7.5E-07		
AOC13-11-SG04_021117	2/11/2017	AOC13-11	2	Trichloroethene	0.0018	7.2E-04	1.3E-06	1.1E-07	2.9E-07	4.3E-10	1.5E-04	1.1E-08	2.5E-04
AOC13-16-SG04	1/14/2016	AOC13-16	5	1,1-Dichloroethene	0.0018	4.6E-04	8.2E-07	NC	1.9E-07	NC	2.7E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	1,3-Dichlorobenzene	0.0027	3.4E-04	9.1E-07	NC	2.1E-07	NC	1.7E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Acetone	0.055	5.2E-04	2.9E-05	NC	6.5E-06	NC	2.1E-07		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Benzene	0.0014	4.7E-04	6.5E-07	5.3E-08	1.5E-07	1.5E-09	5.0E-05		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Carbon disulfide	0.0014	5.2E-04	7.2E-07	NC	1.7E-07	NC	2.4E-07		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Carbon tetrachloride	0.0028	3.4E-04	9.6E-07	7.9E-08	2.2E-07	3.3E-09	5.5E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Chloro methane	0.00091	5.6E-04	5.1E-07	NC	1.2E-07	NC	1.3E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Chloroform	0.0022	4.2E-04	9.3E-07	7.6E-08	2.1E-07	1.7E-09	2.2E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Ethyl-benzene	0.0019	3.9E-04	7.4E-07	6.1E-08	1.7E-07	1.5E-10	1.7E-07		
AOC13-16-SG04	1/14/2016	AOC13-16	5	m,p-Xylenes	0.0038	3.9E-04	1.5E-06	NC	3.4E-07	NC	3.4E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Methyl ethyl ketone	0.0071	4.7E-04	3.4E-06	NC	7.7E-07	NC	1.5E-07		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Methylene chloride	0.0031	5.0E-04	1.5E-06	1.3E-07	3.5E-07	1.3E-10	8.8E-07		
AOC13-16-SG04	1/14/2016	AOC13-16	5	o-Xylene	0.0019	3.9E-04	7.5E-07	NC	1.7E-07	NC	1.7E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Tetrachloroethene	0.0030	3.1E-04	9.4E-07	7.7E-08	2.2E-07	4.7E-10	5.4E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Toluene	0.016	4.3E-04	6.8E-06	NC	1.6E-06	NC	5.2E-06		
AOC13-16-SG04	1/14/2016	AOC13-16	5	Trichloroethene	0.0024	3.9E-04	9.4E-07	7.7E-08	2.1E-07	3.1E-10	1.1E-04	7.7E-09	1.9E-04

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

Sample ID	Sample Date	Soil Gas Sample Location ^a	Sampling Depth (feet bgs)	Chemical	Soil Gas Concentration (mg/m ³) ^b	Attenuation Factor [(mg/m ³)/ (mg/m ³)] ^c	Exposure Point Concentration (EPC) in Indoor Air (mg/m ³) ^d	Exposure Concentration (EC) in Indoor Air – Cancer Effects (mg/m ³) ^e	Exposure Concentration (EC) in Indoor Air – Noncancer Effects (mg/m ³) ^e	ILCR from Vapor Intrusion (unitless) ^f	Noncancer HQ from Vapor Intrusion (unitless) ^f	Cumulative ILCR	Noncancer HI
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	1,1-Dichloroethene	0.0013	4.6E-04	5.9E-07	NC	1.4E-07	NC	1.9E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	1,3-Dichlorobenzene	0.0020	3.4E-04	6.8E-07	NC	1.5E-07	NC	1.3E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Acetone	0.064	5.2E-04	3.3E-05	NC	7.6E-06	NC	2.4E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Benzene	0.0011	4.7E-04	5.1E-07	4.2E-08	1.2E-07	1.2E-09	3.9E-05		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Carbon disulfide	0.0045	5.2E-04	2.3E-06	NC	5.3E-07	NC	7.6E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Carbon tetrachloride	0.0021	3.4E-04	7.2E-07	5.9E-08	1.7E-07	2.5E-09	4.1E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Chloro methane	0.00069	5.6E-04	3.9E-07	NC	8.9E-08	NC	9.9E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Chloroform	0.0016	4.2E-04	6.8E-07	5.5E-08	1.5E-07	1.3E-09	1.6E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Ethyl-benzene	0.0015	3.9E-04	5.9E-07	4.8E-08	1.3E-07	1.2E-10	1.3E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	m,p-Xylenes	0.0029	3.9E-04	1.1E-06	NC	2.6E-07	NC	2.6E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Methyl ethyl ketone	0.011	4.7E-04	5.2E-06	NC	1.2E-06	NC	2.4E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Methylene chloride	0.0088	5.0E-04	4.4E-06	3.6E-07	1.0E-06	3.6E-10	2.5E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	o-Xylene	0.0015	3.9E-04	5.9E-07	NC	1.3E-07	NC	1.3E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Tetrachloroethene	0.0023	3.1E-04	7.2E-07	5.9E-08	1.7E-07	3.6E-10	4.1E-06		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Toluene	0.0013	4.3E-04	5.5E-07	NC	1.3E-07	NC	4.2E-07		
AOC13-16-SG04_021117	2/11/2017	AOC13-16	5	Trichloroethene	0.0018	3.9E-04	7.1E-07	5.8E-08	1.6E-07	2.4E-10	8.1E-05	6.0E-09	1.4E-04
AOC13-5-SG04	1/13/2016	AOC13-5	2	1,1-Dichloroethene	0.0015	7.8E-04	1.2E-06	NC	2.7E-07	NC	3.8E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	1,3-Dichlorobenzene	0.0023	6.5E-04	1.5E-06	NC	3.4E-07	NC	2.9E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Acetone	0.042	8.4E-04	3.5E-05	NC	8.1E-06	NC	2.6E-07		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Benzene	0.0012	7.9E-04	9.5E-07	7.8E-08	2.2E-07	2.3E-09	7.3E-05		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Carbon disulfide	0.0012	8.4E-04	1.0E-06	NC	2.3E-07	NC	3.3E-07		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Carbon tetrachloride	0.0024	6.6E-04	1.6E-06	1.3E-07	3.6E-07	5.4E-09	9.1E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Chloro methane	0.00077	8.8E-04	6.8E-07	NC	1.5E-07	NC	1.7E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Chloroform	0.0018	7.5E-04	1.4E-06	1.1E-07	3.1E-07	2.5E-09	3.1E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Ethyl-benzene	0.0016	7.2E-04	1.1E-06	9.3E-08	2.6E-07	2.3E-10	2.6E-07		
AOC13-5-SG04	1/13/2016	AOC13-5	2	m,p-Xylenes	0.0033	7.2E-04	2.4E-06	NC	5.4E-07	NC	5.4E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Methyl ethyl ketone	0.0062	8.0E-04	5.0E-06	NC	1.1E-06	NC	2.3E-07		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Methylene chloride	0.0026	8.2E-04	2.1E-06	1.7E-07	4.9E-07	1.7E-10	1.2E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	o-Xylene	0.0016	7.2E-04	1.1E-06	NC	2.6E-07	NC	2.6E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Tetrachloroethene	0.0025	6.2E-04	1.6E-06	1.3E-07	3.6E-07	7.7E-10	8.9E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Toluene	0.015	7.5E-04	1.1E-05	NC	2.6E-06	NC	8.6E-06		
AOC13-5-SG04	1/13/2016	AOC13-5	2	Trichloroethene	0.0020	7.2E-04	1.4E-06	1.2E-07	3.3E-07	4.8E-10	1.6E-04	1.2E-08	2.8E-04
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	1,1-Dichloroethene	0.0013	7.8E-04	1.0E-06	NC	2.3E-07	NC	3.3E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	1,3-Dichlorobenzene	0.0020	6.5E-04	1.3E-06	NC	3.0E-07	NC	2.5E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Acetone	0.031	8.4E-04	2.6E-05	NC	6.0E-06	NC	1.9E-07		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Benzene	0.0011	7.9E-04	8.7E-07	7.1E-08	2.0E-07	2.1E-09	6.6E-05		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Carbon disulfide	0.0045	8.4E-04	3.8E-06	NC	8.6E-07	NC	1.2E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Carbon tetrachloride	0.0021	6.6E-04	1.4E-06	1.1E-07	3.2E-07	4.8E-09	7.9E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Chloro methane	0.00069	8.8E-04	6.1E-07	NC	1.4E-07	NC	1.5E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Chloroform	0.0050	7.5E-04	3.8E-06	3.1E-07	8.6E-07	7.0E-09	8.7E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Ethyl-benzene	0.0015	7.2E-04	1.1E-06	8.8E-08	2.5E-07	2.2E-10	2.5E-07		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	m,p-Xylenes	0.0029	7.2E-04	2.1E-06	NC	4.7E-07	NC	4.7E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Methyl ethyl ketone	0.0061	8.0E-04	4.9E-06	NC	1.1E-06	NC	2.2E-07		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Methylene chloride	0.0023	8.2E-04	1.9E-06	1.5E-07	4.3E-07	1.5E-10	1.1E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	o-Xylene	0.0015	7.2E-04	1.1E-06	NC	2.5E-07	NC	2.5E-06		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Tetrachloroethene	0.0082	6.2E-04	5.1E-06	4.2E-07	1.2E-06	2.5E-09	2.9E-05		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Toluene	0.0013	7.5E-04	9.8E-07	NC	2.2E-07	NC	7.5E-07		
AOC13-5-SG04_021017	2/10/2017	AOC13-5	2	Trichloroethene	0.0018	7.2E-04	1.3E-06	1.1E-07	2.9E-07	4.3E-10	1.5E-04	1.7E-08	2.8E-04

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

Sample ID	Sample Date	Soil Gas Sample Location ^a	Sampling Depth (feet bgs)	Chemical	Soil Gas Concentration (mg/m ³) ^b	Attenuation Factor [(mg/m ³)/ (mg/m ³)] ^c	Exposure Point Concentration (EPC) in Indoor Air (mg/m ³) ^d	Exposure Concentration (EC) in Indoor Air – Cancer Effects (mg/m ³) ^e	Exposure Concentration (EC) in Indoor Air – Noncancer Effects (mg/m ³) ^e	ILCR from Vapor Intrusion (unitless) ^f	Noncancer HQ from Vapor Intrusion (unitless) ^f	Cumulative ILCR	Noncancer HI
AOC13-6-SG04	1/13/2016	AOC13-6	2	1,1-Dichloroethene	0.0014	7.8E-04	1.1E-06	NC	2.5E-07	NC	3.6E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	1,3-Dichlorobenzene	0.0022	6.5E-04	1.4E-06	NC	3.3E-07	NC	2.7E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Acetone	0.028	8.4E-04	2.4E-05	NC	5.4E-06	NC	1.7E-07		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Benzene	0.0011	7.9E-04	8.7E-07	7.1E-08	2.0E-07	2.1E-09	6.6E-05		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Carbon disulfide	0.0011	8.4E-04	9.3E-07	NC	2.1E-07	NC	3.0E-07		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Carbon tetrachloride	0.0023	6.6E-04	1.5E-06	1.2E-07	3.5E-07	5.2E-09	8.7E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Chloro methane	0.00074	8.8E-04	6.5E-07	NC	1.5E-07	NC	1.7E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Chloroform	0.0017	7.5E-04	1.3E-06	1.0E-07	2.9E-07	2.4E-09	3.0E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Ethyl-benzene	0.0016	7.2E-04	1.1E-06	9.3E-08	2.6E-07	2.3E-10	2.6E-07		
AOC13-6-SG04	1/13/2016	AOC13-6	2	m,p-Xylenes	0.0031	7.2E-04	2.2E-06	NC	5.1E-07	NC	5.1E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Methyl ethyl ketone	0.0021	8.0E-04	1.7E-06	NC	3.8E-07	NC	7.7E-08		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Methylene chloride	0.0025	8.2E-04	2.1E-06	1.7E-07	4.7E-07	1.7E-10	1.2E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	o-Xylene	0.0016	7.2E-04	1.1E-06	NC	2.6E-07	NC	2.6E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Tetrachloroethene	0.0024	6.2E-04	1.5E-06	1.2E-07	3.4E-07	7.4E-10	8.5E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Toluene	0.0067	7.5E-04	5.1E-06	NC	1.2E-06	NC	3.8E-06		
AOC13-6-SG04	1/13/2016	AOC13-6	2	Trichloroethene	0.0019	7.2E-04	1.4E-06	1.1E-07	3.1E-07	4.6E-10	1.6E-04	1.1E-08	2.6E-04
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	1,1-Dichloroethene	0.0015	7.8E-04	1.2E-06	NC	2.7E-07	NC	3.8E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	1,3-Dichlorobenzene	0.0023	6.5E-04	1.5E-06	NC	3.4E-07	NC	2.9E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Acetone	0.018	8.4E-04	1.5E-05	NC	3.5E-06	NC	1.1E-07		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Benzene	0.0012	7.9E-04	9.5E-07	7.8E-08	2.2E-07	2.3E-09	7.3E-05		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Carbon disulfide	0.0051	8.4E-04	4.3E-06	NC	9.8E-07	NC	1.4E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Carbon tetrachloride	0.0024	6.6E-04	1.6E-06	1.3E-07	3.6E-07	5.4E-09	9.1E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Chloro methane	0.00079	8.8E-04	7.0E-07	NC	1.6E-07	NC	1.8E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Chloroform	0.0019	7.5E-04	1.4E-06	1.2E-07	3.3E-07	2.7E-09	3.3E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Ethyl-benzene	0.0017	7.2E-04	1.2E-06	9.9E-08	2.8E-07	2.5E-10	2.8E-07		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	m,p-Xylenes	0.0033	7.2E-04	2.4E-06	NC	5.4E-07	NC	5.4E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Methyl ethyl ketone	0.0022	8.0E-04	1.8E-06	NC	4.0E-07	NC	8.1E-08		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Methylene chloride	0.0026	8.2E-04	2.1E-06	1.7E-07	4.9E-07	1.7E-10	1.2E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	o-Xylene	0.0017	7.2E-04	1.2E-06	NC	2.8E-07	NC	2.8E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Tetrachloroethene	0.0026	6.2E-04	1.6E-06	1.3E-07	3.7E-07	8.1E-10	9.2E-06		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Toluene	0.0014	7.5E-04	1.1E-06	NC	2.4E-07	NC	8.0E-07		
AOC13-6-SG04_021017	2/10/2017	AOC13-6	2	Trichloroethene	0.0020	7.2E-04	1.4E-06	1.2E-07	3.3E-07	4.8E-10	1.6E-04	1.2E-08	2.8E-04
AOC26-1-SG05	1/14/2016	AOC26-1	5	1,1-Dichloroethene	0.0015	4.6E-04	6.8E-07	NC	1.6E-07	NC	2.2E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	1,3-Dichlorobenzene	0.0064	3.4E-04	2.2E-06	NC	4.9E-07	NC	4.1E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Acetone	0.052	5.2E-04	2.7E-05	NC	6.2E-06	NC	2.0E-07		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Benzene	0.0034	4.7E-04	1.6E-06	1.3E-07	3.6E-07	3.7E-09	1.2E-04		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Carbon disulfide	0.0041	5.2E-04	2.1E-06	NC	4.8E-07	NC	6.9E-07		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Carbon tetrachloride	0.0024	3.4E-04	8.3E-07	6.7E-08	1.9E-07	2.8E-09	4.7E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Chloro methane	0.0028	5.6E-04	1.6E-06	NC	3.6E-07	NC	4.0E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Chloroform	0.0018	4.2E-04	7.6E-07	6.2E-08	1.7E-07	1.4E-09	1.8E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Ethyl-benzene	0.0016	3.9E-04	6.3E-07	5.1E-08	1.4E-07	1.3E-10	1.4E-07		
AOC26-1-SG05	1/14/2016	AOC26-1	5	m,p-Xylenes	0.0033	3.9E-04	1.3E-06	NC	2.9E-07	NC	2.9E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Methyl ethyl ketone	0.0022	4.7E-04	1.0E-06	NC	2.4E-07	NC	4.8E-08		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Methylene chloride	0.0026	5.0E-04	1.3E-06	1.1E-07	3.0E-07	1.1E-10	7.4E-07		
AOC26-1-SG05	1/14/2016	AOC26-1	5	o-Xylene	0.0016	3.9E-04	6.3E-07	NC	1.4E-07	NC	1.4E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Tetrachloroethene	0.0025	3.1E-04	7.9E-07	6.4E-08	1.8E-07	3.9E-10	4.5E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Toluene	0.011	4.3E-04	4.7E-06	NC	1.1E-06	NC	3.6E-06		
AOC26-1-SG05	1/14/2016	AOC26-1	5	Trichloroethene	0.0020	3.9E-04	7.8E-07	6.4E-08	1.8E-07	2.6E-10	8.9E-05	8.9E-09	2.4E-04

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

Sample ID	Sample Date	Soil Gas Sample Location ^a	Sampling Depth (feet bgs)	Chemical	Soil Gas Concentration (mg/m ³) ^b	Attenuation Factor [(mg/m ³)/ (mg/m ³)] ^c	Exposure Point Concentration (EPC) in Indoor Air (mg/m ³) ^d	Exposure Concentration (EC) in Indoor Air – Cancer Effects (mg/m ³) ^e	Exposure Concentration (EC) in Indoor Air – Noncancer Effects (mg/m ³) ^e	ILCR from Vapor Intrusion (unitless) ^f	Noncancer HQ from Vapor Intrusion (unitless) ^f	Cumulative ILCR	Noncancer HI
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	1,1-Dichloroethene	0.0014	4.6E-04	6.4E-07	NC	1.5E-07	NC	2.1E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	1,3-Dichlorobenzene	0.0021	3.4E-04	7.1E-07	NC	1.6E-07	NC	1.3E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Acetone	0.088	5.2E-04	4.6E-05	NC	1.0E-05	NC	3.4E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Benzene	0.0011	4.7E-04	5.1E-07	4.2E-08	1.2E-07	1.2E-09	3.9E-05		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Carbon disulfide	0.0047	5.2E-04	2.4E-06	NC	5.5E-07	NC	7.9E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Carbon tetrachloride	0.0022	3.4E-04	7.6E-07	6.2E-08	1.7E-07	2.6E-09	4.3E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Chloro methane	0.00071	5.6E-04	4.0E-07	NC	9.1E-08	NC	1.0E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Chloroform	0.0017	4.2E-04	7.2E-07	5.9E-08	1.6E-07	1.3E-09	1.7E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Ethyl-benzene	0.0015	3.9E-04	5.9E-07	4.8E-08	1.3E-07	1.2E-10	1.3E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	m,p-Xylenes	0.0030	3.9E-04	1.2E-06	NC	2.7E-07	NC	2.7E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Methyl ethyl ketone	0.026	4.7E-04	1.2E-05	NC	2.8E-06	NC	5.6E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Methylene chloride	0.0024	5.0E-04	1.2E-06	9.7E-08	2.7E-07	9.7E-11	6.8E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	o-Xylene	0.0015	3.9E-04	5.9E-07	NC	1.3E-07	NC	1.3E-06		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Tetrachloroethene	0.010	3.1E-04	3.1E-06	2.6E-07	7.2E-07	1.6E-09	1.8E-05		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Toluene	0.0013	4.3E-04	5.5E-07	NC	1.3E-07	NC	4.2E-07		
AOC26-1-SG05_021217	2/12/2017	AOC26-1	5	Trichloroethene	0.0018	3.9E-04	7.1E-07	5.8E-08	1.6E-07	2.4E-10	8.1E-05	7.2E-09	1.5E-04
AOC26-1-SG25	1/14/2016	AOC26-1	24	1,1-Dichloroethene	0.0015	1.2E-04	1.9E-07	NC	4.3E-08	NC	6.1E-07		
AOC26-1-SG25	1/14/2016	AOC26-1	24	1,3-Dichlorobenzene	0.0087	8.3E-05	7.2E-07	NC	1.7E-07	NC	1.4E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Acetone	0.052	1.5E-04	7.8E-06	NC	1.8E-06	NC	5.8E-08		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Benzene	0.060	1.3E-04	7.7E-06	6.3E-07	1.8E-06	1.8E-08	5.9E-04		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Carbon disulfide	0.071	1.5E-04	1.1E-05	NC	2.4E-06	NC	3.5E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Carbon tetrachloride	0.0023	8.5E-05	2.0E-07	1.6E-08	4.5E-08	6.7E-10	1.1E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Chloro methane	0.0042	1.7E-04	7.2E-07	NC	1.6E-07	NC	1.8E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Chloroform	0.0018	1.1E-04	2.0E-07	1.6E-08	4.6E-08	3.8E-10	4.7E-07		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Ethyl-benzene	0.0033	1.0E-04	3.3E-07	2.7E-08	7.6E-08	6.8E-11	7.6E-08		
AOC26-1-SG25	1/14/2016	AOC26-1	24	m,p-Xylenes	0.0032	1.0E-04	3.2E-07	NC	7.4E-08	NC	7.4E-07		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Methyl ethyl ketone	0.0022	1.3E-04	2.9E-07	NC	6.6E-08	NC	1.3E-08		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Methylene chloride	0.0026	1.4E-04	3.7E-07	3.0E-08	8.4E-08	3.0E-11	2.1E-07		
AOC26-1-SG25	1/14/2016	AOC26-1	24	o-Xylene	0.0016	1.0E-04	1.6E-07	NC	3.7E-08	NC	3.7E-07		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Tetrachloroethene	0.011	7.6E-05	8.4E-07	6.8E-08	1.9E-07	4.2E-10	4.8E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Toluene	0.084	1.1E-04	9.5E-06	NC	2.2E-06	NC	7.3E-06		
AOC26-1-SG25	1/14/2016	AOC26-1	24	Trichloroethene	0.0020	1.0E-04	2.0E-07	1.7E-08	4.6E-08	6.8E-11	2.3E-05	2.0E-08	6.3E-04
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	1,1-Dichloroethene	0.013	1.2E-04	1.6E-06	NC	3.7E-07	NC	5.3E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	1,3-Dichlorobenzene	0.020	8.3E-05	1.7E-06	NC	3.8E-07	NC	3.2E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Acetone	0.21	1.5E-04	3.2E-05	NC	7.2E-06	NC	2.3E-07		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Benzene	0.18	1.3E-04	2.3E-05	1.9E-06	5.3E-06	5.5E-08	1.8E-03		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Carbon disulfide	0.064	1.5E-04	9.6E-06	NC	2.2E-06	NC	3.1E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Carbon tetrachloride	0.021	8.5E-05	1.8E-06	1.5E-07	4.1E-07	6.1E-09	1.0E-05		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Chloro methane	0.0070	1.7E-04	1.2E-06	NC	2.7E-07	NC	3.0E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Chloroform	0.016	1.1E-04	1.8E-06	1.5E-07	4.1E-07	3.4E-09	4.2E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Ethyl-benzene	0.12	1.0E-04	1.2E-05	9.9E-07	2.8E-06	2.5E-09	2.8E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	m,p-Xylenes	0.20	1.0E-04	2.0E-05	NC	4.6E-06	NC	4.6E-05		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Methyl ethyl ketone	0.020	1.3E-04	2.6E-06	NC	6.0E-07	NC	1.2E-07		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Methylene chloride	0.023	1.4E-04	3.3E-06	2.7E-07	7.5E-07	2.7E-10	1.9E-06		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	o-Xylene	0.068	1.0E-04	6.9E-06	NC	1.6E-06	NC	1.6E-05		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Tetrachloroethene	0.12	7.6E-05	9.1E-06	7.4E-07	2.1E-06	4.5E-09	5.2E-05		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Toluene	0.62	1.1E-04	7.0E-05	NC	1.6E-05	NC	5.4E-05		
AOC26-1-SG25_022117	2/21/2017	AOC26-1	24	Trichloroethene	0.018	1.0E-04	1.8E-06	1.5E-07	4.2E-07	6.1E-10	2.1E-04	7.2E-08	2.2E-03

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment
 PG&E Topock Compressor Station
 Needles, California

Sample ID	Sample Date	Soil Gas Sample Location ^a	Sampling Depth (feet bgs)	Chemical	Soil Gas Concentration (mg/m ³) ^b	Attenuation Factor [(mg/m ³)/ (mg/m ³)] ^c	Exposure Point Concentration (EPC) in Indoor Air (mg/m ³) ^d	Exposure Concentration (EC) in Indoor Air – Cancer Effects (mg/m ³) ^e	Exposure Concentration (EC) in Indoor Air – Noncancer Effects (mg/m ³) ^e	ILCR from Vapor Intrusion (unitless) ^f	Noncancer HQ from Vapor Intrusion (unitless) ^f	Cumulative ILCR	Noncancer HI
AOC26-1-SG50	1/14/2016	AOC26-1	49	1,1-Dichloroethene	0.0015	6.4E-05	9.6E-08	NC	2.2E-08	NC	3.1E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	1,3-Dichlorobenzene	0.0069	4.2E-05	2.9E-07	NC	6.6E-08	NC	5.5E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Acetone	0.059	7.8E-05	4.6E-06	NC	1.1E-06	NC	3.4E-08		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Benzene	0.053	6.6E-05	3.5E-06	2.9E-07	8.0E-07	8.3E-09	2.7E-04		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Carbon disulfide	0.074	7.8E-05	5.7E-06	NC	1.3E-06	NC	1.9E-06		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Carbon tetrachloride	0.011	4.3E-05	4.7E-07	3.9E-08	1.1E-07	1.6E-09	2.7E-06		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Chloro methane	0.0042	8.9E-05	3.8E-07	NC	8.6E-08	NC	9.5E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Chloroform	0.0018	5.7E-05	1.0E-07	8.4E-09	2.3E-08	1.9E-10	2.4E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Ethyl-benzene	0.0016	5.1E-05	8.2E-08	6.7E-09	1.9E-08	1.7E-11	1.9E-08		
AOC26-1-SG50	1/14/2016	AOC26-1	49	m,p-Xylenes	0.0033	5.1E-05	1.7E-07	NC	3.8E-08	NC	3.8E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Methyl ethyl ketone	0.0062	6.8E-05	4.2E-07	NC	9.6E-08	NC	1.9E-08		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Methylene chloride	0.0026	7.3E-05	1.9E-07	1.6E-08	4.3E-08	1.6E-11	1.1E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	o-Xylene	0.0016	5.1E-05	8.2E-08	NC	1.9E-08	NC	1.9E-07		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Tetrachloroethene	0.0066	3.8E-05	2.5E-07	2.0E-08	5.7E-08	1.2E-10	1.4E-06		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Toluene	0.063	5.8E-05	3.6E-06	NC	8.3E-07	NC	2.8E-06		
AOC26-1-SG50	1/14/2016	AOC26-1	49	Trichloroethene	0.0020	5.1E-05	1.0E-07	8.4E-09	2.3E-08	3.4E-11	1.2E-05	1.0E-08	2.9E-04
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	1,1-Dichloroethene	0.0046	6.4E-05	2.9E-07	NC	6.7E-08	NC	9.6E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	1,3-Dichlorobenzene	0.0020	4.2E-05	8.4E-08	NC	1.9E-08	NC	1.6E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Acetone	0.10	7.8E-05	7.8E-06	NC	1.8E-06	NC	5.7E-08		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Benzene	0.0060	6.6E-05	4.0E-07	3.2E-08	9.0E-08	9.4E-10	3.0E-05		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Carbon disulfide	0.0051	7.8E-05	4.0E-07	NC	9.0E-08	NC	1.3E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Carbon tetrachloride	0.061	4.3E-05	2.6E-06	2.1E-07	6.0E-07	9.0E-09	1.5E-05		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Chloro methane	0.00069	8.9E-05	6.2E-08	NC	1.4E-08	NC	1.6E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Chloroform	0.047	5.7E-05	2.7E-06	2.2E-07	6.1E-07	5.0E-09	6.3E-06		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Ethyl-benzene	0.0015	5.1E-05	7.7E-08	6.2E-09	1.7E-08	1.6E-11	1.7E-08		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	m,p-Xylenes	0.0029	5.1E-05	1.5E-07	NC	3.4E-08	NC	3.4E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Methyl ethyl ketone	0.038	6.8E-05	2.6E-06	NC	5.9E-07	NC	1.2E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Methylene chloride	0.0023	7.3E-05	1.7E-07	1.4E-08	3.8E-08	1.4E-11	9.6E-08		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	o-Xylene	0.0015	5.1E-05	7.7E-08	NC	1.8E-08	NC	1.8E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Tetrachloroethene	0.34	3.8E-05	1.3E-05	1.1E-06	3.0E-06	6.4E-09	7.4E-05		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Toluene	0.010	5.8E-05	5.8E-07	NC	1.3E-07	NC	4.4E-07		
AOC26-1-SG50_021317	2/13/2017	AOC26-1	49	Trichloroethene	0.0076	5.1E-05	3.9E-07	3.2E-08	8.9E-08	1.3E-10	4.4E-05	2.2E-08	1.7E-04

TABLE ICS-B1.5

Estimated Vapor Intrusion ILCRs and Noncancer HQs/HIs for Chemicals of Potential Concern at ICS Subsurface Soil Gas: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Notes:

bgs = below ground surface

HI = hazard index

ILCR = incremental lifetime cancer risk

NC = Not considered to be a carcinogen.

mg/m³ = milligrams per cubic meter

^a Potential vapor intrusion for the commercial worker was evaluated for all subsurface soil gas samples collected at ICS.

^b Measured chemical concentration in subsurface soil gas. Detected results are presented in bold. Non-detect results are represented by one-half the laboratory reporting limit; non-detect results are included if the chemical was detected in at least one Site soil gas sample. In the case of non-detect results in both duplicate and primary samples, one-half of the lower of the two reporting limits was evaluated.

^c The attenuation factor represents the relationship between the chemical concentration in soil gas and the chemical concentration in indoor air (resulting from volatilization from soil gas, *i.e.*, vapor intrusion). The methodology used in the calculation of attenuation factors is presented in the Modeling Appendix.

^d The exposure point concentration (EPC) in indoor air is the predicted estimated indoor air concentration the receptor may be exposed to (EPC = soil gas concentration × attenuation factor).

^e Exposure concentrations (ECs) were calculated using equations presented in Table 5.3 and exposure parameters presented in Table 5.1.

^f Incremental lifetime cancer risks (ILCRs) and noncancer hazard quotients (HQs) calculated from ECs as follows:

ILCR = EC (cancer effects) × URF

HQ = EC (noncancer effects) / RfC

Unit risk factors (URFs) and reference concentrations (RfCs) presented in Table 5.5.

Table ICS-B1.6a

Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Depth-Weighted EPCs: Short-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	52.9	43.5	30.8	24.9
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	40	40	40	40
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.028	0.023	0.016	0.013
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.05	0.04	0.03	0.03
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

994

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (40 days/year) is a site-specific value for short-term maintenance workers as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Table ICS-B1.6b

Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Depth-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	52.9	43.5	30.8	24.9
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.007	0.006	0.004	0.003
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.01	0.01	0.01
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

Attachment ICS-B2

Dose, Exposure Concentration, Risk, and Hazard Calculations for Human Health Receptors at ICS Using Area-Weighted EPCs

Tables

ICS-B2.1	Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
ICS-B2.2	Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
ICS-B2.3a	Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker
ICS-B2.3b	Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
ICS-B2.4a	Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker
ICS-B2.4b	Baseline Scenario HIs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker
ICS-B2.5	Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Table ICS-B2.1
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium, Hexavalent	6.3E-09	NV	NA	7.7E-08	5.6E-09	NV	NA	6.9E-08	4.3E-09	NV	NA	5.4E-08	3.7E-09	NV	NA	4.6E-08
Chromium, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Copper	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Cyanide	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Molybdenum	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Silver	ND	NC	ND	ND	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Zinc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Volatile Organic Compounds																
Acetone	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	ND	1.3E-08	ND	ND	4.7E-11	1.3E-08	1.7E-09	5.8E-10	4.7E-11	1.3E-08	1.7E-09	5.8E-10	4.7E-11	1.3E-08	1.7E-09	5.8E-10
Methyl acetate	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methylene chloride	ND	5.9E-09	ND	ND	ND	5.9E-09	ND	ND	1.5E-11	5.9E-09	5.3E-10	1.8E-10	1.8E-11	5.9E-09	6.3E-10	2.2E-10
Toluene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Xylenes, total	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	1.4E-09	NV	5.1E-08	1.7E-08	1.2E-09	NV	4.2E-08	1.4E-08	1.8E-09	NV	6.5E-08	2.2E-08	1.8E-09	NV	6.5E-08	2.2E-08
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	1.6E-10	1.9E-09	8.5E-09	1.9E-09	2.1E-10	1.9E-09	1.2E-08	2.7E-09	1.5E-10	1.9E-09	8.1E-09	1.8E-09	1.5E-10	1.9E-09	8.0E-09	1.8E-09
2-Methyl naphthalene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acenaphthylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (a) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (a) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (b) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Benzo (ghi) perylene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo (k) fluoranthene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Chrysene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Dibenzo (a,h) anthracene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Fluoranthene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluorene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno (1,2,3-cd) pyrene	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA

Table ICS-B2.1
Baseline Scenario Exposure Concentration and Dose Calculations for Carcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	8.8E-11	1.8E-09	4.8E-09	1.1E-09	9.3E-11	1.8E-09	5.0E-09	1.1E-09	1.0E-10	1.8E-09	5.4E-09	1.2E-09	1.1E-10	1.8E-09	6.2E-09	1.4E-09
Phenanthrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Pyrene	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
B(a)P Equivalent	1.0E-09	NV	5.5E-08	1.3E-08	8.8E-10	NV	4.8E-08	1.1E-08	8.2E-10	NV	4.5E-08	1.0E-08	8.0E-10	NV	4.4E-08	9.9E-09
Pesticides																
4,4-DDE	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10	2.8E-11	1.3E-11	5.1E-10	3.5E-10
4,4-DDT	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10	2.3E-11	NV	4.2E-10	2.9E-10
alpha-Chlordane	6.7E-12	NV	1.2E-10	8.2E-11	5.1E-12	NV	9.2E-11	6.3E-11	6.7E-12	NV	1.2E-10	8.2E-11	6.7E-12	NV	1.2E-10	8.2E-11
gamma-Chlordane	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10	1.1E-11	NV	2.0E-10	1.4E-10
Polychlorinated Biphenyls																
Total PCBs	3.5E-09	3.9E-09	1.9E-07	4.3E-08	3.2E-09	3.9E-09	1.7E-07	3.9E-08	2.9E-09	3.9E-09	1.6E-07	3.6E-08	2.7E-09	3.9E-09	1.5E-07	3.4E-08
Total Petroleum Hydrocarbons																
TPH as diesel	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TPH as motor oil	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dioxins/Furans																
TEQ Human	6.1E-13	1.6E-13	6.6E-12	7.6E-12	5.0E-13	1.6E-13	5.4E-12	6.2E-12	4.2E-13	1.6E-13	4.6E-12	5.2E-12	4.1E-13	1.6E-13	4.5E-12	5.1E-12

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B2.2
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Inorganics																
Antimony	2.9E-08	NV	1.1E-07	3.6E-07	1.1E-08	NV	3.8E-08	1.3E-07	1.0E-08	NV	3.8E-08	1.3E-07	1.0E-08	NV	3.8E-08	1.3E-07
Chromium, Hexavalent	1.5E-08	NV	NA	1.8E-07	1.3E-08	NV	NA	1.6E-07	1.0E-08	NV	NA	1.3E-07	8.6E-09	NV	NA	1.1E-07
Chromium, total	5.5E-07	NV	2.0E-06	6.8E-06	4.8E-07	NV	1.7E-06	6.0E-06	4.2E-07	NV	1.5E-06	5.2E-06	3.8E-07	NV	1.4E-06	4.7E-06
Copper	2.9E-07	NV	1.1E-06	3.6E-06	2.6E-07	NV	9.4E-07	3.2E-06	2.3E-07	NV	8.2E-07	2.8E-06	2.2E-07	NV	7.9E-07	2.7E-06
Cyanide	4.3E-09	NV	1.5E-08	5.3E-08	4.1E-09	NV	1.5E-08	5.1E-08	3.7E-09	NV	1.3E-08	4.6E-08	3.7E-09	NV	1.3E-08	4.6E-08
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	1.1E-09	NV	4.1E-09	1.4E-08	1.2E-09	NV	4.2E-09	1.4E-08	1.2E-09	NV	4.2E-09	1.4E-08	1.2E-09	NV	4.5E-09	1.5E-08
Molybdenum	2.4E-07	NV	8.8E-07	3.0E-06	1.8E-07	NV	6.6E-07	2.2E-06	1.3E-07	NV	4.8E-07	1.6E-06	1.1E-07	NV	4.0E-07	1.4E-06
Silver	ND	NV	ND	ND	4.8E-09	NV	1.7E-08	5.9E-08	4.8E-09	NV	1.7E-08	6.0E-08	4.8E-09	NV	1.7E-08	6.0E-08
Thallium	2.2E-08	NV	7.9E-08	2.7E-07	9.5E-09	NV	3.4E-08	1.2E-07	9.6E-09	NV	3.5E-08	1.2E-07	9.7E-09	NV	3.5E-08	1.2E-07
Zinc	1.5E-06	NV	5.4E-06	1.8E-05	1.2E-06	NV	4.2E-06	1.4E-05	8.1E-07	NV	2.9E-06	1.0E-05	6.7E-07	NV	2.4E-06	8.3E-06
Volatile Organic Compounds																
Acetone	5.9E-09	6.2E-08	2.1E-07	7.3E-08	2.0E-08	6.2E-08	7.3E-07	2.5E-07	1.2E-09	6.2E-08	4.3E-08	1.5E-08	1.2E-09	6.2E-08	4.2E-08	1.4E-08
Chloroform	ND	3.1E-08	ND	ND	1.1E-10	3.1E-08	4.0E-09	1.4E-09	1.1E-10	3.1E-08	4.0E-09	1.4E-09	1.1E-10	3.1E-08	4.0E-09	1.4E-09
Methyl acetate	2.6E-10	1.5E-06	9.3E-09	3.2E-09	1.6E-08	1.5E-06	5.9E-07	2.0E-07	1.6E-08	1.5E-06	5.9E-07	2.0E-07	1.6E-08	1.5E-06	5.9E-07	2.0E-07
Methylene chloride	ND	1.4E-08	ND	ND	ND	1.4E-08	ND	ND	3.4E-11	1.4E-08	1.2E-09	4.2E-10	4.1E-11	1.4E-08	1.5E-09	5.1E-10
Toluene	5.4E-11	5.7E-09	2.0E-09	6.7E-10	4.9E-11	5.7E-09	1.8E-09	6.1E-10	3.9E-11	5.7E-09	1.4E-09	4.8E-10	3.3E-11	5.7E-09	1.2E-09	4.1E-10
Xylenes, total	1.6E-10	6.9E-09	5.6E-09	1.9E-09	1.1E-10	6.9E-09	4.1E-09	1.4E-09	7.2E-11	6.9E-09	2.6E-09	8.9E-10	5.4E-11	6.9E-09	2.0E-09	6.7E-10
Semi-Volatile Organic Compounds																
bis (2-ethylhexyl) phthalate	3.3E-09	NV	1.2E-07	4.1E-08	2.7E-09	NV	9.8E-08	3.3E-08	4.2E-09	NV	1.5E-07	5.2E-08	4.2E-09	NV	1.5E-07	5.2E-08
Polycyclic Aromatic Hydrocarbons																
1-Methyl naphthalene	3.7E-10	4.5E-09	2.0E-08	4.5E-09	5.0E-10	4.5E-09	2.7E-08	6.2E-09	3.5E-10	4.5E-09	1.9E-08	4.3E-09	3.5E-10	4.5E-09	1.9E-08	4.3E-09
2-Methyl naphthalene	4.4E-10	7.4E-09	2.4E-08	5.4E-09	6.0E-10	7.4E-09	3.3E-08	7.5E-09	5.6E-10	7.4E-09	3.0E-08	6.9E-09	6.0E-10	7.4E-09	3.2E-08	7.4E-09
Acenaphthene	1.3E-10	8.8E-10	6.9E-09	1.6E-09	1.3E-10	8.8E-10	7.1E-09	1.6E-09	1.5E-10	8.8E-10	8.2E-09	1.9E-09	1.7E-10	8.8E-10	9.3E-09	2.1E-09
Acenaphthylene	6.9E-10	NV	3.8E-08	8.6E-09	2.9E-10	NV	1.6E-08	3.6E-09	1.8E-10	NV	9.8E-09	2.2E-09	1.8E-10	NV	9.8E-09	2.2E-09
Anthracene	1.3E-10	2.6E-10	7.3E-09	1.7E-09	1.3E-10	2.6E-10	7.2E-09	1.7E-09	1.5E-10	2.6E-10	7.9E-09	1.8E-09	1.8E-10	2.6E-10	9.8E-09	2.2E-09
Benzo (a) anthracene	2.5E-09	3.0E-10	1.3E-07	3.1E-08	1.9E-09	3.0E-10	1.0E-07	2.3E-08	1.8E-09	3.0E-10	9.5E-08	2.2E-08	1.8E-09	3.0E-10	9.5E-08	2.2E-08
Benzo (a) pyrene	1.3E-09	NV	6.9E-08	1.6E-08	1.3E-09	NV	7.2E-08	1.6E-08	1.3E-09	NV	7.0E-08	1.6E-08	1.3E-09	NV	6.8E-08	1.6E-08
Benzo (b) fluoranthene	3.3E-09	NV	1.8E-07	4.1E-08	2.7E-09	NV	1.5E-07	3.3E-08	2.5E-09	NV	1.4E-07	3.1E-08	2.4E-09	NV	1.3E-07	3.0E-08
Benzo (ghi) perylene	8.0E-10	NV	4.3E-08	9.9E-09	6.3E-10	NV	3.4E-08	7.8E-09	6.0E-10	NV	3.3E-08	7.5E-09	6.1E-10	NV	3.3E-08	7.5E-09
Benzo (k) fluoranthene	1.0E-09	NV	5.5E-08	1.2E-08	8.8E-10	NV	4.8E-08	1.1E-08	8.0E-10	NV	4.3E-08	9.9E-09	7.8E-10	NV	4.2E-08	9.6E-09
Chrysene	1.5E-09	NV	8.4E-08	1.9E-08	1.6E-09	NV	8.9E-08	2.0E-08	1.6E-09	NV	8.7E-08	2.0E-08	1.6E-09	NV	8.8E-08	2.0E-08
Dibenzo (a,h) anthracene	1.8E-10	NV	9.8E-09	2.2E-09	2.1E-10	NV	1.1E-08	2.5E-09	2.0E-10	NV	1.1E-08	2.5E-09	2.1E-10	NV	1.1E-08	2.6E-09
Fluoranthene	5.1E-09	NV	2.8E-07	6.3E-08	3.5E-09	NV	1.9E-07	4.4E-08	3.3E-09	NV	1.8E-07	4.1E-08	3.3E-09	NV	1.8E-07	4.1E-08
Fluorene	9.2E-11	3.7E-10	5.0E-09	1.1E-09	1.1E-10	3.7E-10	5.7E-09	1.3E-09	1.3E-10	3.7E-10	7.0E-09	1.6E-09	1.4E-10	3.7E-10	7.8E-09	1.8E-09
Indeno (1,2,3-cd) pyrene	7.0E-10	NV	3.8E-08	8.7E-09	5.8E-10	NV	3.2E-08	7.2E-09	5.7E-10	NV	3.1E-08	7.0E-09	5.5E-10	NV	3.0E-08	6.9E-09

Table ICS-B2.2
Baseline Scenario Exposure Concentration and Dose Calculations for Noncarcinogenic Effects for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a				Long Term Maintenance Worker (0 to 3 feet bgs) ^a				Long Term Maintenance Worker (0 to 6 feet bgs) ^a				Long Term Maintenance Worker (0 to 10 feet bgs)			
	Soil Pathway				Soil Pathway				Soil Pathway				Soil Pathway			
	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)	EC: Particulate Inhalation (mg/m ³)	EC: Outdoor Vapor Inhalation (mg/m ³)	CDI: Dermal Contact (mg/kg-day)	CDI: Ingestion (mg/kg-day)
Naphthalene	2.1E-10	4.2E-09	1.1E-08	2.6E-09	2.2E-10	4.2E-09	1.2E-08	2.7E-09	2.3E-10	4.2E-09	1.3E-08	2.9E-09	2.7E-10	4.2E-09	1.4E-08	3.3E-09
Phenanthrene	1.6E-09	NV	8.8E-08	2.0E-08	5.2E-09	NV	2.8E-07	6.4E-08	2.0E-09	NV	1.1E-07	2.5E-08	2.0E-09	NV	1.1E-07	2.5E-08
Pyrene	4.4E-09	1.1E-09	2.4E-07	5.4E-08	6.6E-09	1.1E-09	3.6E-07	8.1E-08	3.6E-09	1.1E-09	1.9E-07	4.4E-08	3.6E-09	1.1E-09	2.0E-07	4.5E-08
B(a)P Equivalent	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA	NA	NV	NA	NA
Pesticides																
4,4-DDE	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10	6.6E-11	2.9E-11	1.2E-09	8.1E-10
4,4-DDT	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10	5.5E-11	NV	9.9E-10	6.8E-10
alpha-Chlordane	1.6E-11	NV	2.8E-10	1.9E-10	1.2E-11	NV	2.1E-10	1.5E-10	1.6E-11	NV	2.8E-10	1.9E-10	1.6E-11	NV	2.8E-10	1.9E-10
gamma-Chlordane	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10	2.6E-11	NV	4.6E-10	3.2E-10
Polychlorinated Biphenyls																
Total PCBs	8.1E-09	9.0E-09	4.4E-07	1.0E-07	7.4E-09	9.0E-09	4.0E-07	9.2E-08	6.7E-09	9.0E-09	3.7E-07	8.4E-08	6.4E-09	9.0E-09	3.5E-07	7.9E-08
Total Petroleum Hydrocarbons																
TPH as diesel	3.4E-07	3.7E-04	1.2E-05	4.2E-06	1.5E-06	3.7E-04	5.4E-05	1.8E-05	9.8E-07	3.7E-04	3.5E-05	1.2E-05	9.8E-07	3.7E-04	3.5E-05	1.2E-05
TPH as motor oil	1.5E-06	NV	5.5E-05	1.9E-05	4.8E-06	NV	1.7E-04	5.9E-05	3.7E-06	NV	1.3E-04	4.6E-05	3.7E-06	NV	1.3E-04	4.5E-05
Dioxins/Furans																
TEQ Human	1.4E-12	3.7E-13	1.5E-11	1.8E-11	1.2E-12	3.7E-13	1.3E-11	1.4E-11	9.9E-13	3.7E-13	1.1E-11	1.2E-11	9.6E-13	3.7E-13	1.0E-11	1.2E-11

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
CDI = Chronic Daily Intake.
COPC = Constituent of Potential Concern.
EC = Exposure Concentration.
mg/kg-day = milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene).
Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B2.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Inorganics						
Antimony	3.2E+00	1.2E+00	NC	NC	--	--
Chromium, Hexavalent	1.6E+00	1.4E+00	6.3E+00	USEPA	2.5E-07	2.3E-07
Chromium, total	6.0E+01	5.3E+01	NC	NC	--	--
Copper	3.2E+01	2.9E+01	NC	NC	--	--
Cyanide	4.7E-01	4.5E-01	NC	NC	--	--
Lead	2.9E+01	2.9E+01	NC	NC	na	na
Mercury (inorganic)	1.2E-01	1.3E-01	NC	NC	--	--
Molybdenum	2.7E+01	2.0E+01	NC	NC	--	--
Silver	ND	5.2E-01	NC	NC	--	--
Thallium	2.4E+00	1.0E+00	NC	NC	--	--
Zinc	1.6E+02	1.3E+02	NC	NC	--	--
Volatile Organic Compounds						
Acetone	6.5E-01	2.2E+00	NC	NC	--	--
Chloroform	ND	1.2E-02	1.4E+00	USEPA	--	8.6E-09
Methyl acetate	2.8E-02	1.8E+00	NC	NC	--	--
Toluene	5.9E-03	5.4E-03	NC	NC	--	--
Xylenes, total	1.7E-02	1.2E-02	NC	NC	--	--
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.6E-01	3.0E-01	1.6E+02	USEPA	2.3E-09	1.8E-09
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	4.0E-02	5.5E-02	7.3E+01	USEPA	5.5E-10	7.5E-10
2-Methyl naphthalene	4.8E-02	6.6E-02	NC	NC	--	--
Acenaphthene	1.4E-02	1.4E-02	NC	NC	--	--

Table ICS-B2.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Acenaphthylene	7.6E-02	3.2E-02	NC	NC	--	--
Anthracene	1.5E-02	1.5E-02	NC	NC	--	--
Benzo (a) anthracene	2.7E-01	2.1E-01	NA	NA	NA	NA
Benzo (a) pyrene	1.4E-01	1.5E-01	NA	NA	NA	NA
Benzo (b) fluoranthene	3.6E-01	3.0E-01	NA	NA	NA	NA
Benzo (ghi) perylene	8.7E-02	6.9E-02	NC	NC	--	--
Benzo (k) fluoranthene	1.1E-01	9.6E-02	NA	NA	NA	NA
Chrysene	1.7E-01	1.8E-01	NA	NA	NA	NA
Dibenzo (a,h) anthracene	2.0E-02	2.3E-02	NA	NA	NA	NA
Fluoranthene	5.6E-01	3.9E-01	NC	NC	--	--
Fluorene	1.0E-02	1.2E-02	NC	NC	--	--
Indeno (1,2,3-cd) pyrene	7.7E-02	6.4E-02	NA	NA	NA	NA
Naphthalene	2.3E-02	2.4E-02	1.7E+01	USEPA	1.3E-09	1.4E-09
Phenanthrene	1.8E-01	5.6E-01	NC	NC	--	--
Pyrene	4.8E-01	7.2E-01	NC	NC	--	--
B(a)P Equivalent	2.6E-01	2.3E-01	2.1E+00	Surrogate (USEPA)	1.2E-07	1.1E-07
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	9.3E+00	USEPA	7.7E-10	7.7E-10
4,4-DDT	6.0E-03	6.0E-03	8.5E+00	USEPA	7.1E-10	7.1E-10
alpha-Chlordane	1.7E-03	1.3E-03	1.5E+00	Surrogate (DTSC Note 3)	1.1E-09	8.7E-10
gamma-Chlordane	2.8E-03	2.8E-03	1.5E+00	Surrogate (DTSC Note 3)	1.9E-09	1.9E-09
Polychlorinated Biphenyls						
Total PCBs	8.9E-01	8.1E-01	9.4E-01	USEPA	9.5E-07	8.6E-07
Total Petroleum Hydrocarbons						
TPH as diesel	3.7E+01	1.6E+02	NC	NC	--	--
TPH as motor oil	1.7E+02	5.2E+02	NC	NC	--	--

Table ICS-B2.3a

Risk-based Screening Concentrations and Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Cancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		ILCR ^b	ILCR ^b
Dioxins/Furans						
TEQ Human	1.6E-04	1.3E-04	2.2E-05	Surrogate (USEPA)	7.1E-06	5.8E-06
Cumulative ILCR					8E-06	7E-06

Notes:

^a Risk-based screening concentrations (RBSCs) for carcinogenic effects correspond to a target incremental lifetime cancer risk (ILCR) of 1×10^{-6} . In the absence of available screening concentrations for chemicals of potential concern, surrogate chemicals were chosen based on structural similarity to avoid underestimating potential carcinogenic risks:

- Alpha- and gamma-chlordane were represented by technical chlordane.
- Potential carcinogenic effects of B(a)P Equivalent were represented by benzo(a)pyrene.
- TEQ human was represented by 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

^b Chemical-specific cancer risks calculated as: $[EPC/Cancer\ RBSC] \times 1 \times 10^{-6}$. Chemicals contributing a cancer risk of greater than 1×10^{-6} are in bold.

Abbreviations:

-- = not calculated

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

ILCR = Incremental Lifetime Cancer Risk.

mg/kg = milligrams per kilogram.

na = Not applicable. Potential exposure to lead is evaluated using the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) health-based screening levels (DTSC-SLs) for commercial/industrial soil. Please see Section 5.4.3 of the human health risk assessment for discussion.

NA = Not applicable. Potential carcinogenic effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Please see text for discussion.

NC = Not considered a carcinogen

ND = Not detected.

PCB = Polychlorinated biphenyls.

TEQ = Toxic Equivalent.

TPH = Total Petroleum Hydrocarbons.

References:

Department of Toxic Substances Control (DTSC). 2018. DTSC Recommended Methodology for Use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment Process at Hazardous Waste Sites and Permitted Facilities. Human Health Risk Assessment (HHRA) Note Number: 3. Human and Ecological Risk Office (HERO). January.

United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels, Screening Levels for Chemical Contaminants. November. Available at <https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-B2.3b
Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Inorganics																				
Antimony	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chromium, Hexavalent	9.4E-07	NV	NA	3.9E-08	9.8E-07	8.4E-07	NV	NA	3.5E-08	8.7E-07	6.5E-07	NV	NA	2.7E-08	6.8E-07	5.5E-07	NV	NA	2.3E-08	5.7E-07
Chromium, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Copper	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Cyanide	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Molybdenum	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Silver	ND	NC	ND	ND	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Thallium	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Zinc	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Volatile Organic Compounds																				
Acetone	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Chloroform	ND	3.0E-10	ND	ND	3.0E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10	1.1E-12	3.0E-10	5.3E-11	1.8E-11	3.8E-10
Methyl acetate	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Methylene chloride	ND	5.9E-12	ND	ND	5.9E-12	ND	5.9E-12	ND	ND	5.9E-12	1.5E-14	5.9E-12	7.4E-12	2.5E-12	1.6E-11	1.8E-14	5.9E-12	8.9E-12	3.0E-12	1.8E-11
Toluene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Xylenes, total	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	3.4E-12	NV	7.1E-10	2.4E-10	9.6E-10	2.8E-12	NV	5.9E-10	2.0E-10	7.9E-10	4.3E-12	NV	9.1E-10	3.1E-10	1.2E-09	4.3E-12	NV	9.1E-10	3.1E-10	1.2E-09
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	1.1E-12	1.4E-11	2.5E-10	5.6E-11	3.2E-10	1.6E-12	1.4E-11	3.4E-10	7.7E-11	4.3E-10	1.1E-12	1.4E-11	2.3E-10	5.3E-11	3.0E-10	1.1E-12	1.4E-11	2.3E-10	5.3E-11	3.0E-10
2-Methyl naphthalene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Acenaphthylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Anthracene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (a) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (a) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (b) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Benzo (ghi) perylene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Benzo (k) fluoranthene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Chrysene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Dibenzo (a,h) anthracene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--
Fluoranthene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Fluorene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Indeno (1,2,3-cd) pyrene	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--	NA	NC	NA	NA	--

Table ICS-B2.3b
Baseline Scenario ILCRs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Cancer Risk
Naphthalene	3.0E-12	6.1E-11	5.8E-10	1.3E-10	7.7E-10	3.2E-12	6.1E-11	6.0E-10	1.4E-10	8.1E-10	3.4E-12	6.1E-11	6.5E-10	1.5E-10	8.7E-10	3.9E-12	6.1E-11	7.4E-10	1.7E-10	9.8E-10
Phenanthrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Pyrene	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
B(a)P Equivalent	1.1E-09	NV	5.5E-08	1.3E-08	6.9E-08	9.7E-10	NV	4.8E-08	1.1E-08	6.0E-08	9.0E-10	NV	4.5E-08	1.0E-08	5.6E-08	8.8E-10	NV	4.4E-08	9.9E-09	5.4E-08
Pesticides																				
4,4-DDE	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10	2.7E-12	1.2E-12	1.7E-10	1.2E-10	3.0E-10
4,4-DDT	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10	2.3E-12	NV	1.4E-10	9.9E-11	2.5E-10
alpha-Chlordane	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10	1.7E-12	NV	1.2E-10	8.2E-11	2.0E-10	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10	2.3E-12	NV	1.6E-10	1.1E-10	2.7E-10
gamma-Chlordane	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10	3.7E-12	NV	2.6E-10	1.8E-10	4.4E-10
Polychlorinated Biphenyls																				
Total PCBs	2.0E-09	2.2E-09	3.8E-07	8.6E-08	4.7E-07	1.8E-09	2.2E-09	3.5E-07	7.9E-08	4.3E-07	1.6E-09	2.2E-09	3.1E-07	7.2E-08	3.9E-07	1.6E-09	2.2E-09	3.0E-07	6.8E-08	3.7E-07
Total Petroleum Hydrocarbons																				
TPH as diesel	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
TPH as motor oil	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--	NC	NC	NC	NC	--
Dioxins/Furans																				
TEQ Human	2.3E-08	6.0E-09	8.6E-07	9.8E-07	1.9E-06	1.9E-08	6.0E-09	7.0E-07	8.0E-07	1.5E-06	1.6E-08	6.0E-09	6.0E-07	6.8E-07	1.3E-06	1.6E-08	6.0E-09	5.8E-07	6.6E-07	1.3E-06
Cumulative ILCR	1E-06	9E-09	1E-06	1E-06	3E-06	9E-07	9E-09	1E-06	9E-07	3E-06	7E-07	9E-09	1E-06	8E-07	2E-06	6E-07	9E-09	9E-07	8E-07	2E-06

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
ILCR = Incremental Lifetime Cancer Risk.
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated using benzo(a)pyrene equivalents. Hexavalent chromium is not absorbed via dermal contact.
NC = Not considered a carcinogen.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B2.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Inorganics						
Antimony	3.2E+00	1.2E+00	4.7E+02	USEPA	6.8E-03	2.4E-03
Chromium, Hexavalent	1.6E+00	1.4E+00	3.5E+03	USEPA	4.6E-04	4.1E-04
Chromium, total	6.0E+01	5.3E+01	1.7E+05	Surrogate (DTSC Note 3)	3.5E-04	3.1E-04
Copper	3.2E+01	2.9E+01	4.7E+04	USEPA	6.8E-04	6.1E-04
Cyanide	4.7E-01	4.5E-01	1.5E+02	USEPA	3.1E-03	3.0E-03
Lead	2.9E+01	2.9E+01	3.2E+02	DTSC Note 3	na	na
Mercury (inorganic)	1.2E-01	1.3E-01	4.5E+00	Surrogate (DTSC Note 3)	2.7E-02	2.8E-02
Molybdenum	2.7E+01	2.0E+01	5.8E+03	USEPA	4.6E-03	3.4E-03
Silver	ND	5.2E-01	1.5E+03	DTSC Note 3	--	3.5E-04
Thallium	2.4E+00	1.0E+00	1.2E+01	USEPA	2.0E-01	8.7E-02
Zinc	1.6E+02	1.3E+02	3.5E+05	USEPA	4.7E-04	3.6E-04
Volatile Organic Compounds						
Acetone	6.5E-01	2.2E+00	6.7E+05	USEPA	9.7E-07	3.3E-06
Chloroform	ND	1.2E-02	1.0E+03	USEPA	--	1.2E-05
Methyl acetate	2.8E-02	1.8E+00	1.3E+05	DTSC Note 3	2.2E-07	1.4E-05
Toluene	5.9E-03	5.4E-03	5.4E+03	DTSC Note 3	1.1E-06	9.9E-07
Xylenes, total	1.7E-02	1.2E-02	2.5E+03	USEPA	6.8E-06	5.0E-06
Semi-Volatile Organic Compounds						
bis (2-ethylhexyl) phthalate	3.6E-01	3.0E-01	1.6E+04	USEPA	2.3E-05	1.8E-05
Polycyclic Aromatic Hydrocarbons						
1-Methyl naphthalene	4.0E-02	5.5E-02	5.3E+04	USEPA	7.5E-07	1.0E-06
2-Methyl naphthalene	4.8E-02	6.6E-02	3.0E+03	USEPA	1.6E-05	2.2E-05
Acenaphthene	1.4E-02	1.4E-02	4.5E+04	USEPA	3.1E-07	3.2E-07

Table ICS-B2.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Acenaphthylene	7.6E-02	3.2E-02	4.5E+04	Surrogate (USEPA)	1.7E-06	7.1E-07
Anthracene	1.5E-02	1.5E-02	2.3E+05	USEPA	6.4E-08	6.3E-08
Benzo (a) anthracene	2.7E-01	2.1E-01	2.3E+04	Surrogate (USEPA)	1.2E-05	9.0E-06
Benzo (a) pyrene	1.4E-01	1.5E-01	2.2E+02	USEPA	6.4E-04	6.6E-04
Benzo (b) fluoranthene	3.6E-01	3.0E-01	2.3E+04	Surrogate (USEPA)	1.6E-05	1.3E-05
Benzo (ghi) perylene	8.7E-02	6.9E-02	2.3E+04	Surrogate (USEPA)	3.8E-06	3.0E-06
Benzo (k) fluoranthene	1.1E-01	9.6E-02	2.3E+04	Surrogate (USEPA)	4.8E-06	4.2E-06
Chrysene	1.7E-01	1.8E-01	2.3E+04	Surrogate (USEPA)	7.3E-06	7.8E-06
Dibenzo (a,h) anthracene	2.0E-02	2.3E-02	2.2E+02	Surrogate (USEPA)	9.0E-05	1.0E-04
Fluoranthene	5.6E-01	3.9E-01	3.0E+04	USEPA	1.9E-05	1.3E-05
Fluorene	1.0E-02	1.2E-02	3.0E+04	USEPA	3.4E-07	3.8E-07
Indeno (1,2,3-cd) pyrene	7.7E-02	6.4E-02	2.3E+04	Surrogate (USEPA)	3.3E-06	2.8E-06
Naphthalene	2.3E-02	2.4E-02	5.9E+02	USEPA	3.8E-05	4.0E-05
Phenanthrene	1.8E-01	5.6E-01	2.3E+05	Surrogate (USEPA)	7.7E-07	2.5E-06
Pyrene	4.8E-01	7.2E-01	2.3E+04	USEPA	2.1E-05	3.1E-05
B(a)P Equivalent	2.6E-01	2.3E-01	NA	NA	NA	NA
Pesticides						
4,4-DDE	7.2E-03	7.2E-03	3.5E+02	USEPA	2.1E-05	2.1E-05
4,4-DDT	6.0E-03	6.0E-03	5.2E+02	USEPA	1.2E-05	1.2E-05
alpha-Chlordane	1.7E-03	1.3E-03	4.5E+02	Surrogate (DTSC Note 3)	3.8E-06	2.9E-06
gamma-Chlordane	2.8E-03	2.8E-03	4.5E+02	Surrogate (DTSC Note 3)	6.2E-06	6.2E-06
Polychlorinated Biphenyls						
Total PCBs	8.9E-01	8.1E-01	1.5E+01	Surrogate (USEPA)	5.9E-02	5.4E-02
Total Petroleum Hydrocarbons						
TPH as diesel	3.7E+01	1.6E+02	5.5E+04	SFBRWQCB	6.7E-04	2.9E-03
TPH as motor oil	1.7E+02	5.2E+02	4.7E+05	SFBRWQCB	3.5E-04	1.1E-03

Table ICS-B2.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Area-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Chemical	Exposure Point Concentration for Surface Soil: 0 to 0.5 feet bgs	Exposure Point Concentration for Shallow Soil: 0 to 3 feet bgs	Noncancer RBSC ^a	Source	Commercial Worker (0 to 0.5 feet bgs)	Commercial Worker (0 to 3 feet bgs)
	(mg/kg)	(mg/kg)	(mg/kg)		HQ ^b	HQ ^b
Dioxins/Furans						
TEQ Human	1.6E-04	1.3E-04	7.2E-04	Surrogate (USEPA)	2.2E-01	1.8E-01
Total Hazard Index					5E-01	4E-01

Notes:

- ^a Risk-based screening concentrations (RBSCs) for noncarcinogenic effects correspond to a target noncancer hazard quotient (HQ) of 1. In the absence of available screening concentrations for chemicals of potential concern, surrogate chemicals were chosen based on structural similarity to avoid underestimating potential noncarcinogenic hazards:
- Total chromium was represented by chromium (III).
 - Mercury (inorganic) was represented by mercury.
 - Acenaphthylene was represented by acenaphthene.
 - Potential noncarcinogenic effects of CPAHs, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene, were represented by pyrene.
 - Potential noncarcinogenic effects of CPAH dibenzo(a,h)anthracene were represented by benzo(a)pyrene.
 - Benzo(g,h,i)perylene was represented by pyrene.
 - Phenanthrene was represented by anthracene.
 - Alpha- and gamma-chlordane was represented by technical chlordane.
 - Potential noncarcinogenic effects of Total PCBs was represented by Aroclor 1254.
 - TEQ human was represented by 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

- ^b Chemical-specific hazard quotients calculated as: [EPC/Noncancer RBSC].

Table ICS-B2.4a

Risk-based Screening Concentrations and Baseline Scenario HQs for COPCs in ICS Soil Using Depth-Weighted EPCs: Commercial Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

Abbreviations:

-- = not calculated

B(a)P equivalent = Benzo(a)pyrene equivalent.

bgs = below ground surface.

COPC = Constituent of Potential Concern.

HQ = Hazard Quotient

mg/kg = milligrams per kilogram.

na = Not applicable. Potential exposure to lead is evaluated using the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC) health-based screening levels (DTSC-SLs) for commercial/industrial soil. Please see Section 5.4.3 of the human health risk assessment for discussion.

NA = Not applicable. Potential noncarcinogenic effects of CPAHs are evaluated for each of the CPAHs individually. Please see text for discussion.

ND = Not detected.

PCB = Polychlorinated biphenyls.

TEQ = Toxic Equivalent.

TPH = Total Petroleum Hydrocarbons.

References:

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http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.html.

United States Environmental Protection Agency (USEPA). 2017. Regional Screening Levels, Screening Levels for Chemical Contaminants. November. Available at

<https://www.epa.gov/risk/regional-screening-levels-rsls>.

Table ICS-B2.4b
Baseline Scenario HIs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Inorganics																				
Antimony	1.8E-05	NV	2.6E-04	9.0E-04	1.2E-03	6.6E-06	NV	9.5E-05	3.2E-04	4.3E-04	6.5E-06	NV	9.4E-05	3.2E-04	4.2E-04	6.5E-06	NV	9.4E-05	3.2E-04	4.2E-04
Chromium, Hexavalent	1.5E-04	NV	NA	6.0E-05	2.1E-04	1.3E-04	NV	NA	5.4E-05	1.8E-04	1.0E-04	NV	NA	4.2E-05	1.4E-04	8.6E-05	NV	NA	3.5E-05	1.2E-04
Chromium, total	9.1E-08	NV	1.3E-06	4.5E-06	5.9E-06	8.0E-08	NV	1.2E-06	4.0E-06	5.2E-06	7.0E-08	NV	1.0E-06	3.4E-06	4.5E-06	6.4E-08	NV	9.2E-07	3.2E-06	4.1E-06
Copper	1.8E-06	NV	2.6E-05	9.0E-05	1.2E-04	1.6E-06	NV	2.4E-05	8.1E-05	1.1E-04	1.4E-06	NV	2.1E-05	7.0E-05	9.2E-05	1.4E-06	NV	2.0E-05	6.8E-05	8.9E-05
Cyanide	5.3E-06	NV	2.5E-05	8.4E-05	1.1E-04	5.1E-06	NV	2.4E-05	8.0E-05	1.1E-04	4.6E-06	NV	2.1E-05	7.2E-05	9.8E-05	4.6E-06	NV	2.1E-05	7.3E-05	9.9E-05
Lead	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Mercury (inorganic)	3.7E-05	NV	2.5E-05	8.7E-05	1.5E-04	3.9E-05	NV	2.6E-05	9.0E-05	1.6E-04	3.9E-05	NV	2.6E-05	9.0E-05	1.6E-04	4.1E-05	NV	2.8E-05	9.5E-05	1.6E-04
Molybdenum	1.2E-05	NV	1.8E-04	6.0E-04	7.9E-04	9.1E-06	NV	1.3E-04	4.5E-04	5.9E-04	6.6E-06	NV	9.6E-05	3.3E-04	4.3E-04	5.5E-06	NV	8.0E-05	2.7E-04	3.6E-04
Silver	ND	NV	ND	ND	--	2.4E-07	NV	3.5E-06	1.2E-05	1.6E-05	2.4E-07	NV	3.5E-06	1.2E-05	1.6E-05	2.4E-07	NV	3.5E-06	1.2E-05	1.6E-05
Thallium	5.5E-04	NV	7.9E-03	2.7E-02	3.6E-02	2.4E-04	NV	3.4E-03	1.2E-02	1.5E-02	2.4E-04	NV	3.5E-03	1.2E-02	1.6E-02	2.4E-04	NV	3.5E-03	1.2E-02	1.6E-02
Zinc	1.2E-06	NV	1.8E-05	6.1E-05	8.1E-05	9.7E-07	NV	1.4E-05	4.8E-05	6.3E-05	6.8E-07	NV	9.8E-06	3.3E-05	4.4E-05	5.6E-07	NV	8.1E-06	2.8E-05	3.6E-05
Volatile Organic Compounds																				
Acetone	1.9E-10	2.0E-09	2.4E-07	8.2E-08	3.2E-07	6.5E-10	2.0E-09	8.1E-07	2.8E-07	1.1E-06	3.8E-11	2.0E-09	4.7E-08	1.6E-08	6.6E-08	3.7E-11	2.0E-09	4.6E-08	1.6E-08	6.4E-08
Chloroform	ND	3.2E-07	ND	ND	3.2E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07	1.1E-09	3.2E-07	4.0E-07	1.4E-07	8.5E-07
Methyl acetate	6.4E-11	3.7E-07	9.3E-09	3.2E-09	3.9E-07	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06	4.1E-09	3.7E-07	5.9E-07	2.0E-07	1.2E-06
Methylene chloride	ND	3.5E-08	ND	ND	3.5E-08	ND	3.5E-08	ND	ND	3.5E-08	8.5E-11	3.5E-08	2.1E-07	7.0E-08	3.1E-07	1.0E-10	3.5E-08	2.5E-07	8.4E-08	3.7E-07
Toluene	1.8E-10	1.9E-08	2.4E-08	8.3E-09	5.2E-08	1.6E-10	1.9E-08	2.2E-08	7.6E-09	4.9E-08	1.3E-10	1.9E-08	1.8E-08	6.0E-09	4.3E-08	1.1E-10	1.9E-08	1.5E-08	5.1E-09	3.9E-08
Xylenes, total	1.6E-09	6.9E-08	2.8E-08	9.6E-09	1.1E-07	1.1E-09	6.9E-08	2.0E-08	7.0E-09	9.8E-08	7.2E-10	6.9E-08	1.3E-08	4.4E-09	8.8E-08	5.4E-10	6.9E-08	9.8E-09	3.4E-09	8.3E-08
Semi-Volatile Organic Compounds																				
bis (2-ethylhexyl) phthalate	4.1E-08	NV	5.9E-06	2.0E-06	8.0E-06	3.4E-08	NV	4.9E-06	1.7E-06	6.6E-06	5.3E-08	NV	7.6E-06	2.6E-06	1.0E-05	5.3E-08	NV	7.6E-06	2.6E-06	1.0E-05
Polycyclic Aromatic Hydrocarbons																				
1-Methyl naphthalene	1.3E-09	1.6E-08	2.8E-07	6.5E-08	3.7E-07	1.8E-09	1.6E-08	3.9E-07	8.9E-08	5.0E-07	1.2E-09	1.6E-08	2.7E-07	6.1E-08	3.5E-07	1.2E-09	1.6E-08	2.7E-07	6.1E-08	3.5E-07
2-Methyl naphthalene	2.7E-08	4.6E-07	5.9E-06	1.4E-06	7.8E-06	3.8E-08	4.6E-07	8.2E-06	1.9E-06	1.1E-05	3.5E-08	4.6E-07	7.5E-06	1.7E-06	9.8E-06	3.7E-08	4.6E-07	8.1E-06	1.8E-06	1.0E-05
Acenaphthene	5.3E-10	3.7E-09	1.2E-07	2.6E-08	1.5E-07	5.4E-10	3.7E-09	1.2E-07	2.7E-08	1.5E-07	6.3E-10	3.7E-09	1.4E-07	3.1E-08	1.7E-07	7.1E-10	3.7E-09	1.5E-07	3.5E-08	1.9E-07
Acenaphthylene	2.9E-09	NV	6.3E-07	1.4E-07	7.7E-07	1.2E-09	NV	2.7E-07	6.0E-08	3.3E-07	7.5E-10	NV	1.6E-07	3.7E-08	2.0E-07	7.5E-10	NV	1.6E-07	3.7E-08	2.0E-07
Anthracene	1.1E-10	2.2E-10	2.4E-08	5.5E-09	3.0E-08	1.1E-10	2.2E-10	2.4E-08	5.5E-09	3.0E-08	1.2E-10	2.2E-10	2.6E-08	6.0E-09	3.3E-08	1.5E-10	2.2E-10	3.3E-08	7.5E-09	4.1E-08
Benzo (a) anthracene	2.1E-08	2.5E-09	4.5E-06	1.0E-06	5.5E-06	1.6E-08	2.5E-09	3.4E-06	7.8E-07	4.2E-06	1.5E-08	2.5E-09	3.2E-06	7.2E-07	3.9E-06	1.5E-08	2.5E-09	3.2E-06	7.2E-07	3.9E-06
Benzo (a) pyrene	6.4E-04	NV	2.3E-04	5.3E-05	9.2E-04	6.6E-04	NV	2.4E-04	5.5E-05	9.6E-04	6.4E-04	NV	2.3E-04	5.3E-05	9.3E-04	6.3E-04	NV	2.3E-04	5.2E-05	9.1E-04
Benzo (b) fluoranthene	2.7E-08	NV	6.0E-06	1.4E-06	7.4E-06	2.2E-08	NV	4.9E-06	1.1E-06	6.0E-06	2.1E-08	NV	4.5E-06	1.0E-06	5.6E-06	2.0E-08	NV	4.4E-06	1.0E-06	5.4E-06
Benzo (ghi) perylene	6.7E-09	NV	1.4E-06	3.3E-07	1.8E-06	5.3E-09	NV	1.1E-06	2.6E-07	1.4E-06	5.0E-09	NV	1.1E-06	2.5E-07	1.3E-06	5.1E-09	NV	1.1E-06	2.5E-07	1.4E-06
Benzo (k) fluoranthene	8.4E-09	NV	1.8E-06	4.1E-07	2.2E-06	7.3E-09	NV	1.6E-06	3.6E-07	2.0E-06	6.7E-09	NV	1.4E-06	3.3E-07	1.8E-06	6.5E-09	NV	1.4E-06	3.2E-07	1.7E-06
Chrysene	1.3E-08	NV	2.8E-06	6.4E-07	3.4E-06	1.4E-08	NV	3.0E-06	6.8E-07	3.7E-06	1.3E-08	NV	2.9E-06	6.6E-07	3.6E-06	1.4E-08	NV	2.9E-06	6.7E-07	3.6E-06
Dibenzo (a,h) anthracene	9.0E-05	NV	3.3E-05	7.4E-06	1.3E-04	1.0E-04	NV	3.7E-05	8.5E-06	1.5E-04	1.0E-04	NV	3.7E-05	8.4E-06	1.5E-04	1.0E-04	NV	3.8E-05	8.6E-06	1.5E-04
Fluoranthene	3.2E-08	NV	6.9E-06	1.6E-06	8.5E-06	2.2E-08	NV	4.8E-06	1.1E-06	5.9E-06	2.1E-08	NV	4.5E-06	1.0E-06	5.5E-06	2.1E-08	NV	4.5E-06	1.0E-06	5.5E-06
Fluorene	5.8E-10	2.3E-09	1.3E-07	2.9E-08	1.6E-07	6.6E-10	2.3E-09	1.4E-07	3.2E-08	1.8E-07	8.1E-10	2.3E-09	1.8E-07	4.0E-08	2.2E-07	9.0E-10	2.3E-09	1.9E-07	4.4E-08	2.4E-07
Indeno (1,2,3-cd) pyrene	5.8E-09	NV	1.3E-06	2.9E-07	1.6E-06	4.9E-09	NV	1.1E-06	2.4E-07	1.3E-06	4.7E-09	NV	1.0E-06	2.3E-07	1.3E-06	4.6E-09	NV	1.0E-06	2.3E-07	1.2E-06

Table ICS-B2.4b
Baseline Scenario HIs for COPCs in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment
PG&E Topock Compressor Station
Needles, California

COPC	Long Term Maintenance Worker (0 to 0.5 feet bgs) ^a					Long Term Maintenance Worker (0 to 3 feet bgs) ^a					Long Term Maintenance Worker (0 to 6 feet bgs) ^a					Long Term Maintenance Worker (0 to 10 feet bgs)				
	Soil Pathway					Soil Pathway					Soil Pathway					Soil Pathway				
	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index	Particulate Inhalation	Vapor Inhalation	Dermal Contact	Ingestion	Total Hazard Index
Naphthalene	6.9E-08	1.4E-06	5.6E-07	1.3E-07	2.2E-06	7.2E-08	1.4E-06	5.9E-07	1.3E-07	2.2E-06	7.8E-08	1.4E-06	6.3E-07	1.4E-07	2.3E-06	8.9E-08	1.4E-06	7.2E-07	1.6E-07	2.4E-06
Phenanthrene	1.4E-09	NV	2.9E-07	6.7E-08	3.6E-07	4.3E-09	NV	9.3E-07	2.1E-07	1.1E-06	1.7E-09	NV	3.6E-07	8.3E-08	4.5E-07	1.7E-09	NV	3.6E-07	8.3E-08	4.5E-07
Pyrene	3.6E-08	9.1E-09	7.9E-06	1.8E-06	9.7E-06	5.5E-08	9.1E-09	1.2E-05	2.7E-06	1.5E-05	3.0E-08	9.1E-09	6.5E-06	1.5E-06	8.0E-06	3.0E-08	9.1E-09	6.6E-06	1.5E-06	8.1E-06
B(a)P Equivalent	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--	NA	NV	NA	NA	--
Pesticides																				
4,4-DDE	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06	3.3E-08	1.5E-08	2.4E-06	1.6E-06	4.1E-06
4,4-DDT	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06	2.7E-08	NV	2.0E-06	1.4E-06	3.4E-06
alpha-Chlordane	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07	1.7E-08	NV	4.3E-07	2.9E-07	7.4E-07	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07	2.2E-08	NV	5.6E-07	3.8E-07	9.7E-07
gamma-Chlordane	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06	3.7E-08	NV	9.3E-07	6.3E-07	1.6E-06
Polychlorinated Biphenyls																				
Total PCBs	1.0E-04	1.1E-04	2.2E-02	5.0E-03	2.7E-02	9.3E-05	1.1E-04	2.0E-02	4.6E-03	2.5E-02	8.4E-05	1.1E-04	1.8E-02	4.2E-03	2.3E-02	8.0E-05	1.1E-04	1.7E-02	3.9E-03	2.1E-02
Total Petroleum Hydrocarbons																				
TPH as diesel	2.6E-06	2.8E-03	6.1E-04	2.1E-04	3.6E-03	1.1E-05	2.8E-03	2.7E-03	9.2E-04	6.4E-03	7.5E-06	2.8E-03	1.8E-03	6.0E-04	5.2E-03	7.5E-06	2.8E-03	1.8E-03	6.0E-04	5.2E-03
TPH as motor oil	2.2E-06	NV	3.2E-04	1.1E-04	4.4E-04	7.0E-06	NV	1.0E-03	3.5E-04	1.4E-03	5.5E-06	NV	7.9E-04	2.7E-04	1.1E-03	5.4E-06	NV	7.8E-04	2.7E-04	1.1E-03
Dioxins/Furans																				
TEQ Human	3.6E-05	9.2E-06	2.2E-02	2.5E-02	4.7E-02	2.9E-05	9.2E-06	1.8E-02	2.1E-02	3.9E-02	2.5E-05	9.2E-06	1.5E-02	1.7E-02	3.3E-02	2.4E-05	9.2E-06	1.5E-02	1.7E-02	3.2E-02
Total Hazard Index	2E-03	3E-03	5E-02	6E-02	1E-01	1E-03	3E-03	5E-02	4E-02	9E-02	1E-03	3E-03	4E-02	4E-02	8E-02	1E-03	3E-03	4E-02	3E-02	8E-02

Notes:
^a EPCs for exposure to subsurface II soil (0 to 10 feet bgs) are used to evaluate the vapor inhalation pathway.

Abbreviations:
-- = not calculated.
B(a)P equivalent = Benzo(a)pyrene equivalent.
bgs = below ground surface.
COPC = Constituent of Potential Concern.
HI = Hazard Index
mg/m³ = milligrams per cubic meter.
na = Not applicable. Potential exposure to lead is evaluated using the United States Environmental Protection Agency (USEPA) Adult Lead Model (ALM). Please see text for discussion.
NA = Not applicable. Noncancer effects of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) are evaluated separately for each chemical (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene). Hexavalent chromium is not absorbed via dermal contact.
ND = Not detected.
NV = Not volatile.
PCB = Polychlorinated biphenyls.
TPH = Total Petroleum Hydrocarbons.
TEQ = Toxic Equivalent.

Table ICS-B2.5

Baseline Scenario Risk Evaluation for Lead in ICS Soil Using Area-Weighted EPCs: Long-Term Maintenance Worker

Soil Human Health and Ecological Risk Assessment

PG&E Topock Compressor Station

Needles, California

MODIFIED VERSION OF USEPA ADULT LEAD MODEL

CALCULATIONS OF BLOOD LEAD CONCENTRATIONS (PbBs) AND PRELIMINARY REMEDIATION GOAL (PRG)

EDIT RED CELL

Variable	Description of Variable	Units	0-0.5 feet below ground surface	0-3 feet below ground surface	0-6 feet below ground surface	0-10 feet below ground surface
PbS	Soil lead concentration	ug/g or ppm	29.3	28.9	23.1	17.9
$R_{\text{fetal/maternal}}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	ug/dL per ug/day	0.4	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8	1.8
PbB_0	Baseline PbB	ug/dL	0.0	0.0	0.0	0.0
IR_s	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100	0.100
$AF_{s,d}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12	0.12
$EF_{s,d}$	Exposure frequency (same for soil and dust)	days/yr	10	10	10	10
$AT_{s,d}$	Averaging time (same for soil and dust)	days/yr	365	365	365	365
PbB_{adult}	PbB of adult worker, geometric mean	ug/dL	0.004	0.004	0.003	0.002
$PbB_{\text{fetal}, 0.90}$	90th percentile PbB among fetuses of adult workers	ug/dL	0.01	0.01	0.01	0.00
PbB_t	Target PbB level of concern (e.g., 10 ug/dL)	ug/dL	1.0	1.0	1.0	1.0
$P(PbB_{\text{fetal}} > PbB_t)$	Probability that fetal PbB > PbB_t , assuming lognormal distribution	%	0%	0%	0%	0%

PRG90

3977

Notes:

Highlighted values are site-specific: soil ingestion rate (100 mg/day) consistent with United States Environmental Protection Agency (USEPA) recommendations for evaluating construction (i.e., soil contact-intensive) scenarios (USEPA 2016). Exposure frequency (10 days/year) is a site-specific value for long-term maintenance workers, based on 4 work hours per 8 hour work day, 20 days per year as shown in Table 5.1 of the main report.

References:

United States Environmental Protection Agency (USEPA). 2016. Frequent Questions from Risk Assessors on the Adult Lead Methodology (ALM). Last Updated on August 23, 2016. Available at <https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#ingestion%20rate>.

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